EATING YOUR WORDS: A LOOK AT THE CONTEMPORARY FOOD MOVEMENT AS SEEN THROUGH THE PERSPECTIVES OF FOUR LEADING AUTHORS AND ACTIVISTS

By

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Abstract

Food provides human beings with a connection to the natural world. This research helps to illustrate the interconnectivity of food and of the food movement as it relates to so many other social, ecological and cultural movements. I examined the works of four authors communicating important messages about our food; where it comes from, how it is grown, and what we need to change about our food habits. This research also asks: what are the implications of the food movement for environmental education and communication; have these authors discussed the implications of our food choices in a meaningful way; and, are these books, and other similar forms of media, indicative of a broader social movement or revolution? I believe that through food meaningful environmental messages can be transmitted to diverse audiences and that literature provides an effective medium in which to communicate those messages.
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Chapter One: Introduction

Background

Throughout human history, food has played a transformative role in the development and formation of our societies (Standage, 2009). It is through agriculture that settled, less nomadic, lifestyles were made possible. In many ways, the transition to an agricultural society is responsible for our civilization as we know it today (Standage, 2009). The industrial revolution brought people out of the fields and led them straight into factories and urban centers. In the United States, the industrialization of manufacturing and the dismantling of policies to help farmers survive economic uncertainties spurred the transition of farmlands to single-crop corn or soybean farms shortly after World War II (Kingsolver, 2007). “When we walked as a nation \(^1\) away from the land, our knowledge of food production fell away from us like dirt in a laundry-soap commercial” (Kingsolver, 2007, p. 12).

Food has acted as a tool for social organization and transformation, industrial development, military conflict, and economic expansion since human life on this planet began (Standage, 2009). Food cultures preserve and transmit collective wisdom about the land and the plants and animals that grow there (Pollan, 2006; Kingsolver, 2007). They are mores of survival, health, well-being, and control over-indulgence (Kingsolver, 2007). Food has been and remains a poignant influence on human affairs. It is no great surprise that as a constant influence on social organization and transformation, food has been the subject of many conversations. In recent years, food and the role it plays with regard to our relationship with the environment, has been increasingly covered by popular books, television, film and other forms of media.

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\(^1\) Although Kingsolver is referring to the American nation, her message can transcend geo-political boundaries and be applied to all of North America.
Food is a common medium to which every living being has some degree of connection. It “is one of the most important things you’ll ever buy. And yet most people never bother to think about their food and where it comes from” (Schlosser & Wilson, 2006, p.9). The problem we, in the prosperous Western world, face today is the increasingly superficial connection that people experience with their food. The mindless consumption of food and food related products, together with the ever growing distance between food consumers and food producers, has created a disconnect between people and what they eat (Kingsolver, 2007; Pollan, 2006; Schlosser, 2001; Schlosser & Wilson, 2006). The removal of food production, preparation and distribution from the everyday life of [most] people and the transition to an industrial food model has had a variety of environmental consequences. Whether our relationship with food is indicative of our relationship with the environment, or our relationship with the environment is indicative of our relationship with food, there is no question of the importance of both discourses.

Educators often wonder how we can create a message that resonates with the individual. I believe that through food, meaningful environmental messages can be transmitted to diverse audiences. By examining the work of four food activists, I hope to explore the different approaches taken by these individuals and the possible implications of these messages for environmental education and communication.

Research Purpose

As humans, our relationship with food has a rich and complex history. Currently, there are many voices declaring tenets of food behaviour. Media genres such as television, film, books and the internet are extremely popular outlets for food activists alike. As these voices seem to be getting louder it is important to understand the implications of these messages. In particular, I wanted to focus on the implications of the food movement for environmental education and
communication. In order to limit this exploration I have focused on books and in particular, on a single work from four different authors. The primary purpose of this research was to examine four approaches to communicating important messages about our food - where it comes from, how it is grown and made and what we need to change about our food habits. I explored the ways in which each author discussed food, its production and current role in Western society, asked how their work might be relevant for environmental educators and communicators and whether these books, and other similar forms of media, are indicative of a broader social movement or revolution.

My Journey

My interest in this topic arose from my own engagement and enthusiasm for both food and the environment. It has been my belief that there exists an opportunity to communicate environmental values through food and I thoroughly enjoyed exploring the ways in which this is currently being done via literature.

This experience has been a personal journey as well as an academic one, as I have come to know my own food ethic more intimately. I began this research in a state that I would now identify as ignorant optimism. I knew that eating organically and locally had become increasingly popular practices and topics of discussion, but I didn’t know whether this was due to a superficial interest in a trendy topic, or was, in fact, indicative of a more meaningful shift in food culture. As Schlosser and Wilson (2006) say “the food you eat enters your body and literally becomes part of you. It is of fundamental importance” (p. 9). Whether or not I felt this way before this research, I truly believe it now.

By allowing myself to become immersed in the works and words of four authors I feel as though I was able to take pieces of their message and integrate it into my own life. In this way I
think I have been able to be both the researcher and the research subject. The primary focus of this project has been on the research; however I have included some of my own reactions and comments throughout, as well as a more specific discussion of my experience and the effect that these books and this research have had on my life in the Epilogue.

Research Questions

In my quest to identify the connection between food and the environment through popular books, I reflected on three questions:

1) What are the implications (or opportunities) of these messages and their transmission via popular media for environmental educators?

2) Have these authors discussed the implications of our food choices in a meaningful way?

3) Is the growing interest in food indicative of a broader food revolution?

Need or Significance

It is my hope that this research will illustrate the way in which food can be used as a platform for communicating environmental messages (implicitly or explicitly). The industrial food complex that currently exists has many far reaching consequences (Kingsolver, 2007; Pollan, 2006) and I believe that food, as something we all connect to, is a wonderfully accessible avenue in which to explore environmental issues. As an avid reader myself, I was interested to know how literature was being used to facilitate this kind of communication. This research is an exploration of that world. One that, I hope, will provide some meaningful insights for the field of environmental education and communication.
Delimitations

This study was delimited by a variety of factors. The first delimiting factor was the definition of the food movement that I employed. As it is referenced in my research, it refers to the contemporary food movement which has been covered by popular texts, specifically Pollan’s *Omnivores Dilemma*, Kingsolver’s *Animal, Vegetable, Miracle*, Schlosser’s *Fast Food Nation*, and Standage’s *An Edible History of Humanity* which address a broad range of topics including organic and local food products, industrial food production, among others. Owing to the fact that media coverage of food has exploded relatively recently (within the last 10 years) and with coverage seeming to be on an upward trend, my research focused only on those materials from the year 2000 onwards. I also limited my research by focusing on written communication; specifically non-fiction books.

I did not intentionally limit my research geographically; however three of the four works were written by American authors and focused on the North American context. The fourth work was written by an English author and takes a global perspective. The topics discussed in this research did not include fish or seafood, which was due to the fact that the four core texts that were examined did not discuss those issues.

Researcher’s Perspective and Bias

As this research involves interpreting ideas as they are documented through written communication there exists the potential for interpretive inaccuracies (American Psychological Association, 2010). The perspective I hold as a researcher also affects the bias of my research. “There are no such things as bare facts (…) since facts emerge and are known by virtue of a form of thinking within which they can be received and accepted” (McCarthy, 1996, p. 18). Research requires a degree of flexibility as do the values, opinions and judgments held by those
conducting the research. Mutual respect for our different perspectives is a value I cherish in life and in research. “Each reality is equally valid, although not equally desirable in leading to a world we wish to live in” (Maturana & Poerksen, 2004, p. 39). I have tried to remain as flexible and respectful throughout my research as I possibly could.

As my research involves interpreting and representing beliefs, opinions and ideas from a diverse pool of individuals, there is the potential to for misrepresentation. In an attempt to avoid this, I have tried to maintain original language as much as possible and provide the context for terms used by authors (where appropriate). Further, I intend to remain cognizant of appropriate levels of specificity, use of labels and terminology throughout my research and writing (American Psychological Association, 2010).
Chapter Two: Literature Review

Food and the Environment

Increasingly we have seen a shift towards fast, convenient foods (CanWest Media Works Publications Inc., 2007), where convenience is understood to mean letting someone else do the work for you (Kingsolver, 2007). In response to this depressing food trend, a movement has been growing; a movement to reconnect people with their food. Driven by the curiosity to know where our food comes from, how it is processed, how it gets from the fields to our table and a desire to re-establish a local food economy, the current food movement is gaining momentum and has become a popular topic for multiple media outlets.

Food is part of everyday life. It unites people around the world through the universal need to eat and drink (Opal, Johnston, & Wilk, 2010). Unlike other issues like wilderness preservation, climate change, or animal protection, predictable patterns of dispute can be left behind in discussions of food as the act of eating transcends our race, gender, wealth and social status, and connects all living things universally. “Good food is potentially one of the most democratic pleasures a society can offer, and is one of those subjects, like sports, that people can talk about across lines of class, ethnicity, and race” (Pollan, 2010, p. 10). Food issues can appeal to any interest area (Opal, Johnston, & Wilk, 2010; Katz, 2010). “From ashes to ashes, dust to dust, diner to dinner – such is the circle of life in which food interacts with everything” (Roberts, 2011, para. 1).

Throughout history food has played a transformative role. The following is a list of Great Moments in Food created by CBC Documentaries in 2009 which illustrates the evolution of the North American food paradigm (CBC, n.d.).

1937 – Kraft Macaroni & Cheese is introduced.
1953 – Swanson debuts the TV Brand Frozen Dinner.
1959 – The Chinese gooseberry is renamed kiwifruit.
1973 – The Cuisinart means everyone now slices, dices and juliennes.
1978 – Balsamic Vinegar takes New York City by storm.
1980 – First Whole Foods Market opens in Austin, Texas.
1981 – Lean Cuisine: the TV dinner grows up.
1986 – PowerBars: Whole meals now come in candy bar form.
1987 – Earthbound Farm puts salad in a bag, revolutionizing the produce section.
2005 – The prestigious Michelin stars are awarded to a restaurant outside Europe for the first time.

It is clear that over the last eighty-four years human’s relationship with food has evolved. Many of these shifts are due in large part to 1) the media, 2) free-trade and globalization, and 3) the changing role of women (Standage, 2009).

Historically, the preparation, availability, and distribution of food dominated daily, economic and political life (Standage, 2009; Pollan, 2010). It has since evolved to also become a source of comfort and pleasure around which norms, customs, and cultures have grown (Holden Feinberg & Petersen, 2010). Today, we are faced with a bizarre paradox: one and a half billion people are overfed, while another billion are underfed or starving. Most bizarre is the fact that those overfed individuals can be both obese and malnourished at the same time (Holden Feinberg & Petersen, 2010). This paradox is the result of our current food paradigm; one that is based on an industrial model and which requires individuals in North America to spend a “smaller percentage of their income on food than any (other) people in history and a smaller amount of their time preparing it: a mere thirty-one minutes a day on average” (Pollan, 2010, p. 2).

What we eat has an impact on our happiness, health, culture, environment, and economy (David Suzuki Foundation, n.d.; Grylls, 2011; Kingsolver, 2007; Holden Feinberg & Petersen, 2010; Pollan, 2006; Standage, 2009; Schlosser, 2001). Most of us are familiar with comfort food, something we seek out in an attempt to compensate for a mood or emotional state. We often use food to influence our emotions, which in turns affects our happiness and even well-being in the
long term. The setting in which each meal is consumed also has an effect on our relationship with food. These days people often eat their dinner in front of the television, while historically dinner has been an occasion for social interaction (Kingsolver, 2007; Oliver, 2008). The culture of food has changed dramatically in the last 50 years. “Cooking is a dying art in our culture (...) No matter what else we do or believe, food remains at the center of every culture. Ours now runs on empty calories.” (Kingsolver, 2007, p. 126).

Environmentally speaking, our food choices and the farming practices of the industrial food chain are having numerous and profound effects on the ecological systems of this planet, ranging from deforestation and habitat destruction, to climate change and global warming.

Industrial farming practices and the industrial food model ensures that supermarkets have freezer aisles full of processed food, fresh fruit and vegetables from around the globe all year round, and a steady stream of novel food items (approximately 17,000 new ones each year) (Kingsolver, 2007; Pollan, 2006; Pollan, 2009, Berry, 2009, Pollan, 2010).

The Food Movement

During the 1970s, more public attention was paid to food as a result of price inflation and authors like Berry, Lappe and Commoner speaking out against industrial agriculture (Pollan, 2010). More recently, with the food safety scandals of the 1980s and 90s, when journalists and authors like Schlosser and Pollan began publishing exposes and writing books on the origin of our food, people started to pay more attention to what they were eating (Walsh, 2011; Schlosser, 2001; Pollan, 2010). “Food politics (...) possess a unique ability to unite widely different kinds of people around visions of delicious, sustainable and safe food” (Opal, Johnston, & Wilk, 2010, p. 251). This drive towards personal safety opens a space where we can examine the chain of events that connect “our plates to fields and pastures, enclosed animal pens and hydroponic greenhouses” (Opal, Johnston, & Wilk, 2010, p. 252).
The food journalism of the last decade has succeeded in making clear and telling connections between the methods of industrial food production, agricultural policy, food-borne illness, childhood obesity, the decline of the family meal as an institution and, notably, the decline of family income beginning in the 1970s (Pollan, 2010, p. 3). Journalism is a practice of investigating and reporting on a particular issue or event to inform a specific audience which has an has played, and will continue to play, an important role in the food movement as media coverage helps maintain the momentum of the movement and keep these issues and ideas on people’s minds.

The food movement is following a similar path to that of the global justice movement, which sought to encourage consumers to consider where their products are coming from and how they are made (Opal, Johnston, & Wilk, 2010). Such concerns about the origins of our food and the food production chain create opportunities to question the quality of information available to the public. It also allows for questions directed at corporations and their role in food manufacturing, the use of genetically modified food products (with or without consumer knowledge), the environmental impact of petroleum-based fertilizers, pesticides and herbicides, the resources that go into transporting food around the globe, and the working conditions and pay of the people who move food from the field to our grocery stores (Opal, Johnston, & Wilk, 2010; Pollan, 2006).

As the food we eat and the way it gets to our table touches so many different social, ecological and economic aspects of our lives, the food movement has become a collection of many smaller movements (Pollan, 2010). It encompasses farming, cooking, health, the environment, and business among many others (Walsh, 2011).

Food has a unique political power, for several reasons: food links the world’s richest consumers with its poorest farmers; food choices have always been a potent means of
social signaling; modern shoppers must make dozens of food choices every week, providing far more opportunities for political expression than electoral politics; and food is a product you consume, so eating something implies a deeply personal endorsement of it (Standage, 2009, p. 196).

It is because of the universality of food that it is such an important and unique arena which touches so many different aspects of our daily lives.

Food is a powerful and accessible site for critical analysis that lends itself to other important issues like the environment and social justice (Opal, Johnston, & Wilk, 2010).

What we mean when we say “food” reveals a complex set of land use and labor practices, corporate structures, public policy, plant and animal genetics, and human health impacts. (…) we (can) recognize a growing awareness among a diverse audience of the human, economic, and environmental impacts of industrial food (Opal, Johnston, & Wilk, 2010, p. 254).

The environmental movement has, and continues to, struggle to remain relevant in a somewhat hostile political climate in Canada and the United States, where the “environment”, and climate change in particular, are increasingly seen as taboo subjects. However, “as traditional environmentalism struggles, another movement is rising in its place, aligning consumers, producers, the media, and even politicians. It’s the food movement” (Walsh, 2011, para. 2).
Theoretical Framework

Hermeneutics

I situated my research in a hermeneutic framework. Hermeneutics is a theory of understanding and interpreting linguistic and non-linguistic communication (Follesdal, 2001; Hoy, 1980). The hermeneutic tradition reaches as far back as ancient Greek philosophy, although the term itself didn’t become part of common language until the 17th century (Ramberg & Gjesdal, 2005). ‘Hermeneutics’ is rooted in the Greek word *hermeneuein*, which means “to interpret” and was first introduced by Dannhauer in 1654 (Heracleous, 2004; Follesdal, 2001).

Emerging as a branch of Biblical studies in the Middle Ages and the Renaissance, which focused on law and theology, hermeneutics has evolved into a study that includes ancient and classic cultures and questions the nature of understanding and interpretation itself (Ramberg & Gjesdal, 2005; Heracleous, 2004; Follesdal, 2001; Bernard & Ryan, 2010). Thanks to the Stoics like Plato and Aristotle, a “methodological awareness of the problems of textual understanding” (Ramberg & Gjesdal, 2005, p. 2) was developed, thereby laying the foundation upon which hermeneutics is based.

Spinoza introduced the idea of the *hermeneutic circle* in the 17th century, which has since become a continuous hermeneutical theme. The circle is based on a larger perspective which sees our understanding of the whole hinging on our understanding of the parts of that whole, drawing parallels with modern systems thinking (Ramberg & Gjesdal, 2005; Meadows, 2008). However, hermeneutics was only established as a separate discipline by the German theologian and philosopher Schleiermacher in the late 18th century (Follesdal, 2001; Stelmach & Brozek, 2006). Schleiermacher also expanded hermeneutics to include the study of literary and philosophical text, in addition to legal and theological ones.
The hermeneutic circle was further explored by Meier and Ast, who reference the importance of context and the relationship between a text and its historical tradition, as well as culture at large (Ramberg & Gjesdal, 2005). The Romantic continuation of hermeneutics resulted in a more universal tradition that relates to linguistic meaning in general and not to a specific text (such as the Bible) (Ramberg & Gjesdal, 2005).

With Dilthey, the school of Romantic’s hermeneutics is adapted and replaced by a theory in which an initial hypothesis is formed and revised through critical, empirical investigation and historical comparison (Ramberg & Gjesdal, 2005). Dilthey saw a connection between hermeneutics and the humanities as the human sciences focused on understanding and meaning (Follesdal, 2001). Dilthey referred to hermeneutics as “the methodology of understanding” (Stelmach & Brozek, 2006, p. 168).

Heidegger and Gadamer then introduced ‘new’ hermeneutics which they interpreted as the ontology of understanding, where the focus is placed on gaining insight into man’s existence which is then applied to the interpretation of texts (Follesdal, 2001; Stelmach & Brozek, 2006). “When we read a text, our reading is shaped by anticipations we bring to our reading” (Follesdal, 2001, p. 377). With this transformation comes a revision of the hermeneutic circle. Where it was once thought of in terms of the interconnectivity between the whole and its parts, Heidegger’s hermeneutic circle refers to “the interplay between our self-understanding and our understanding of the world” (Ramberg & Gjesdal, 2005, p. 10). With this revision, hermeneutics now addressed the meaning, or lack thereof, of life. Building off of Heidegger’s paradigm, Gadamer argues that “it is through language that the world is opened up for us” (Ramberg & Gjesdal, 2005, p. 11).

According to Hermeneutics, we must approach a text with openness and awareness. If texts have meanings that are incompatible with our own, we must adapt our anticipations and make revisions until we find an interpretation that appears to be true, or seems reasonable...
(Follesdal, 2001). In cases where such conclusions cannot be reached, hermeneutics posits that the interpreter can claim that the view of the author is wrong, however in those cases it should also be explained how the author could have arrived at that view (Follesdal, 2001). This is what Gadamer called secondary understanding, which he contrasted with total agreement.

_Hermeneutics in Practice_

In practice, hermeneutics requires openness to the unknown and the possibility for uncovering the deeply unfamiliar in seemingly rational and true ideas. “We must systematically scrutinize our own hermeneutic prejudices” in order avoid filtering texts through our individual cultural, theological or philosophical frameworks and understanding (Ramberg & Gjesdal, 2005, p. 5). As the analyst studies a text, they must be aware of their own standpoint and what they bring to the analysis: their particular questions, expectation and prejudices, which may or may not be conscious (Follesdal, 2001; Hoy, 1980).

According to Schleiermacher, language references a common symbolic vocabulary, one that is interpreted and expressed by an author. The individuality of language refers to the literary style of the author in how they use and apply language. Therefore, to understand the meaning of someone else’s text, speech (etc), you must consider both language use and the individual application of language to a topic. To do this, “one must compare the text with other texts from the same period, from the same writer even, while continuously keeping in sight the uniqueness of the particular work” (Ramberg & Gjesdal, 2005, p. 6). This is what Schleiermacher calls a comparative approach.

**Using Hermeneutics**
As hermeneutics requires an understanding of one’s own perspective, I have tried to acknowledge my own opinions, biases, and experiences with this research as I summarized and analyzed these four texts. Speaking from my perspective as a researcher and interpreter of these texts, it is not only unavoidable in the context of this research, but also intentional. I have tried to balance these two roles throughout. This research has been grounded in the academic and non-academic literature that discusses food and the environment. By placing this research within the broader context of the food movement, I have had the opportunity to explore some of the social and cultural conditions which have contributed and helped shape the evolution of this movement. Using a comparative approach, I have discussed and compared four literary works, which address the topic of food. I am also a member of the broad North American tradition within which these authors locate their discussions. As such, I feel as though I can speak to some of the regional conditions and language that is used in discussions of food and the environment. Further, the medium being explored in this research (i.e. the written word) is a form of popular media in the North American context that any literate person can, or should have access to. All of which, I believe, has enabled a rich comparison; one that has demonstrated common themes, use of terms, and literary style, as well as distinct differences.
Chapter Three: Methodology

Methodology

My primary methodology is a literature review (Palys, 2003); however this approach has been supplemented by the methodologies employed in discourse analysis and genealogy and is placed within a hermeneutic framework, as described previously. Using a comparative approach and drawing from hermeneutics, I chose texts from the same time period (2000-present), each of which discusses some element of the food movement and does so via the same media outlet: a non-fiction book.

Literature Review

A literature review is an account and summary of the current state of knowledge; including relevant publications about a given topic (Taylor & Procter, n.d.; Writing Services, 2004). The purpose of a literature review “is to convey to your reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are” (Taylor & Procter, n.d., para. 1). It should be defined by a guiding concept, which in this case has been the connection between food and the environment. A literature review allows a researcher to both present information and to apply principles of analysis (Taylor & Procter, n.d.). It is also a means by which to look at the work of others and see how their work can be used to benefit further discussion or research (Palys, 2003). The scope of my own literature review, as my primary methodology, has been limited to non-fiction publications by four authors in particular. The topic of discussion in this case is food, however my own interest is in the connection between messages of food and environmental messages, and how these issues are being communicated.
Discourse Analysis

Discourses are ideas and well-established ways of describing and understanding things (Cowan & McLeod, 2004). They are also “ways of talking that influence and are influenced by ideas,” (Johnstone, 2008, p. 3) and which contribute to the construction of reality (Jorgensen & Phillips, 2002; Phillips & Hardy, 2002). A discourse reflects and manifests a culture and can be both verbal and non-verbal (Curt, 1996). “In many cases, underlying the word ‘discourse’ is the general idea that language is structured according to different patterns that people’s utterances follow when they take part in different domains of social life, familiar examples being ‘medical discourse’ and ‘political discourse’” (Jorgensen & Phillips, 2002, p. 1).

Discourse analysis is most commonly described as the study of language, where language is seen as a meaning-making process which embodies specific views of reality (Rogers, Malancharuvil-Berkes, Mosley, Hui, & O'Garro Joseph, 2005; Fowler, 1979). However, discourse analysis can also refer to the analysis and interpretation of systems of signs as they are used to communicate between humans (Traynor, 2004). It involves the selection of typical or unusual examples of language use, such as a book or newspaper article, examining it in some detail and draws from a variety of disciplines, including rhetoric, text linguistics, and psychology (Cowan & McLeod, 2004; Goldman and Wiley, 2004). Although “discourse” is most commonly understood to be a form of communication through language, there is room within discourse analysis to consider communication outside of language (i.e. music, photography, film etc.) (Johnstone, 2008; Maier, 2011).

Discourse analysis is frequently used as “a way to make sense of the ways in which people make meaning” (Rogers, et al., 2005, p. 366). It can also be used as a way to examine strategies for conveying certain messages, the ways in which visuals or examples are used for
instance (Cowan & McLeod, 2004). Discourse analysis is transdisciplinary; however it is based on social constructionism (Jorgensen & Phillips, 2002; Phillips & Hardy, 2002).

A discourse analyst is,

interested in what happens when people draw on the knowledge they have about language, knowledge based on their memories of things they have said, heard, seen, or written before, to do things in the world: exchange information, express feelings, make things happen, create beauty, entertain themselves and others, and so on. (Johnstone, 2008, p. 3)

Johnstone (2008) suggests that discourse is the source of the knowledge that people use to “do things in the world”, which includes making generalizations about language, and is also the result of knowledge as people take what they already know and apply it to a new discourse.

There are a variety ways in which to conduct a discourse analysis. Johnstone (2008) suggests two. The first is analogous to a chemical analysis, where a discourse itself is divided into smaller parts based on various criteria which allow for the analyst to look for particular characteristics of each part. A second approach is to look at a discourse in many ways, breaking it down still but less literally than the first approach. This type of analysis often involves a series of systematic questions, the application of multiple theoretical perspectives, or performing some series of tests (Johnstone, 2008).

Jorgensen and Phillips (2002), outline a few key premises of discourse analysis. Firstly, it should acknowledge that our knowledge of the world is not an objective truth. Secondly, that humans are both historical and cultural creatures (Jorgensen & Phillips, 2002). Our perception and understanding of the world is a product of historically and culturally situated interactions among people. As such, the ways in which we comprehend and represent the world are based on both history and culture. It is because of this that our worldviews and our identities change over
time, and could have been different had the historical and cultural circumstances been different (Jorgensen & Phillips, 2002). Thirdly, it should be acknowledged that social processes shape and perpetuate our ways of understanding the world and that our understanding of the world leads to various social actions, as knowledge and truth are socially constructed and have social consequences (Jorgensen & Phillips, 2002). Underlying these premises is the assertion that while knowledge and identities are contingent (in principle), in certain situations, they become relatively inflexible (Jorgensen & Phillips, 2002).

The systematic analysis of a discourse can “help illuminate facets of the communication process that are important and not immediately apparent” (Johnstone, 2008, p. 8). It is a means by which we can acknowledge the important role of talk and text in everyday life and provides a systematic process for comparing and analyzing texts (Goldman & Wiley, 2004). Discourse analysis is a methodology that facilitates an exploration of how we know the social world and provides a process in which one can ascertain clues as to the nature of a discourse and see how multiple texts interrelate to produce a discourse over time (Phillips & Hardy, 2002). In order to fully understand social interactions, the discourses that give them meaning must first be understood.

**Using Discourse Analysis**

According to Goldman and Wiley (2004), a “discourse analysis of written text is a method for describing ideas and the relationships among ideas” (p. 3). The application of discourse analysis to this research has been through the analysis and comparison of four texts, which communicate knowledge to the public through popular literary media. Each author represents their understanding of these issues, namely food and how it relates to broader social and ecological trends. The books, and the authors take on these issues, has been explored as separate but interrelated approaches. Each text has been summarized in order to provide a
framework for comparing and analyzing the relationship among the ideas expressed within. To ensure comparability, only non-fiction texts were selected. Discourse analysis allowed me to identify and describe many ideas, themes, and relationships that I was noticing as I read through each text. My discussions of common themes, experts, as well as language and usability were all a product of identifying and describing ideas, and relationships among ideas.

The emphasis in discourse analysis on sensitivity to language use has been integrated into my analysis via a discussion of language and accessibility. Discourse analysis has also been used to inform an exploration of how meaning can be created through the organization of information, the historical context of our relationship with food and how culture, or lack thereof, has greatly affected the current food discourse.

**Genealogy**

A genealogy is a history of a position or idea and its development in society over time (Encarta World English Dictionary, 2009). It is a critique of our time that is based on a historical analysis, also called a history of the present (Chan, 2001). Genealogy is a tool of analysis which Foucault (1926 –1984) used to focus his studies of the history of ideas (Chan, 2001). The history of ideas is a field of inquiry that “merges history with aspects of philosophy, where philosophy is understood as the study of the grammar of our concepts” (Bevir, 1997, p. 167). Traditionally, an idea is traced back to its founding moment when its fundamental meaning was first revealed. The ongoing development and evolution of the idea can then be followed over a period of time (Shiner, 1982).

Foucault defined genealogy as “the union of erudite knowledge and local memories which allows us to each establish a historical knowledge of struggle and to make use of this knowledge tactically today” (as cited in Wilson, 1995, p. 157). A genealogical approach
incorporates Foucault’s earlier concept of archaeology, an implicit historical approach, while also allowing for an appropriate examination of the causes of a transition from one way of thinking to another (Gutting, 2008; Shiner, 1982; Jorgensen & Phillips, 2002). This kind of approach places the focus of analysis on why the events of history occurred, where the sequence of events is incorporated but not overly emphasized (Bevir, 1997; Pearce, 1948). Genealogy focuses on descent, as events and ideas unfold, as opposed to the origin of an idea or its founding moment. According to Foucault, this allows for a more appropriate treatment of power which can account for the sudden shifts that we often see throughout history (Shiner, 1982; Jorgensen & Phillips, 2002). “It is in power that our social world is produced and objects are separated from one another and thus attain their individual characteristics and relationships to one another. [Accordingly], truth is embedded in, and produced by, systems of power” (Jorgensen & Phillips, 2002, p. 6). The purpose of a genealogical study is to demonstrate how a particular system of thought occurred as a result of a turn in history and was not produced as a result of an inevitable trend but a shift in power.

**Using Genealogy**

By embracing four accounts of the food movement, this research seeks to explore the commonalities in these accounts, without precluding the possibility for conflicting stories or explanations. For those texts which take a historical approach, genealogy also comes into play as these texts illustrate the current state of these issues, which according to genealogy would be the manifestation of the past, but which also draws from the present (Wilson, 1995).

I have also used genealogy to inform my discussion of a potential food revolution and whether we are, in fact, seeing a revolution in addition to those events or moments which have spurred on the shift to a new way of thinking about food. As opposed to attempting to identify the moment or origin of this revolution, I have placed the focus of my discussion on the
dissemination of ideas, as represented through popular texts, and the possible causes for a transition from one way of thinking (industrial food) to another (local, organic, sustainable food).

**Research Design**

Throughout this research, I explored the ways in which each author discussed food, its production, distribution and current role in our Western society; how their work might be relevant for environmental educators and communicators, and whether these books are indicative of a broader social movement or revolution. My intention was to evaluate the coverage of this topic through the focused lens of four authors.

As I have drawn on the experience and expertise of many different fields – framing this research methodologically using discourse analysis and genealogy, and theoretically through hermeneutics – there are no established rules or guidelines to follow. My research focused on popular non-fiction books which have each contributed to the modern food movement. Popular media in general has a considerable influence on the way in which we access and explore ideas in our modern culture and for this reason it is the focus of my research. I also kept a journal to record my own impressions and reactions to this research. I wanted to document my own personal journey as I read these books and explored issues of food and the environment more deeply.

I employed a comparative approach and analyzed four core readings. I focused on the common themes, any references the authors make to other individuals, experts, or organizations as well as the implications that each of these approaches, and their specific discussions of food may have for environmental education and communication. Drawing on genealogy, I also explored the transition that we are seeing to a new food paradigm and assessed the role popular media is having in this “revolution.”
Sampling Method

I defined the food movement as a contemporary movement which discusses food and the implications of food choices on the health and well-being of society and the environment and which covers a broad range of topics including organic and local food products, fair trade food and goods, farmers markets in cities, and vegan and vegetarian diets.

Seeing that the contemporary food movement is so broad, the primary issue I faced when beginning my research was how to define the limits of my sample. In order to try to combat this I informally surveyed as many people as I could to solicit book suggestions. Based on these suggestions I sifted through the numerous possible texts using a set of criteria. My criteria for inclusion was as follows:

- The individual must be defined as a food movement activist\(^2\);
- Has a published non-fiction book;
- Was suggested by two or more people;
- Their work was published after the year 2000; and,
- To demonstrate widespread acceptance and accessibility, and to identify the book as part of the realm of popular media, it must be accessible in a major book store (i.e. Chapters, Indigo, Barnes and Nobles).

Based on this criterion, I selected four core readings.


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\(^2\) For the purpose of this research I have adopted a definition of food activism that is used by the *Agricultural Society* (http://agriculturesociety.com). They define a food activist as, “someone who cares about where our food comes from and who makes a conscientious effort to support local and sustainable agriculture whether it be to become an actual sustainable farmer or food producer, or to be a consumer of sustainable products. A food activist also becomes involved in some way with education and dissemination of information about sustainable living and food to the public and wider communities” (Agricultural Society, 2009, para. 3).


By following four voices, I feel that I was able to analyze different literary approaches to communicating messages about food. I explored how each of these authors communicated their message, their use of language and terminology, who they are referencing as “experts”, and how these approaches might be valuable to environmental educators and communicators.

**Data Analysis**

Prior to reading each text, I created a set of search criterion, namely key themes, terminology, possible quotes and experts; however, as I read each text additional criterion emerged. I completed my initial review of each text and in addition to the aforementioned items I identified historic events mentioned, food facts, cooking tips, nutritional information, farming facts, resources and any explicit or implicit reference to the environment. I then compiled this information in an Excel based evaluation matrix (see Appendix A). This matrix was divided into four components: general information, comparison, environmental connection, and language and usability.

Under “General” I recorded information regarding the expressed purpose of each text, the primary topic of discussion, whether the author identified a particular problem (i.e. fuel consumption, environmental degradation, health problems, etc.), the year the text was published, the accessibility of the book to a general audience (i.e. where it can be purchased), the intended audience, and the geographic focus. Under “Comparison” I looked at commonly mentioned
experts and terms that were mentioned in two or more books. I also looked at specific themes including: local food, organic food, vegetarianism and/or meat production, farming or agricultural production, technology, growing tips or farming facts, health, nutrition, general food facts, the global or social implications of food choices, the history of food, and environmental impacts. In addition, I looked at whether the author included message(s) for the individual or offered an alternative food paradigm.

Under “Environmental Connection” I looked at whether the author connected their discussion of food with the environmental impacts of the food system, either implicitly or explicitly and whether the book outlined specific environmental consequences, and if so, what they were. Under “Language and Usability” I looked at whether the author used accessible language, if they assumed a certain level of pre-existing knowledge of the topic being discussed, whether an educated, yet uninformed, person would understand what the author wrote. I also looked at whether the author defined terms, what the intended outcome of the book is (i.e. behaviour change, knowledge, etc.), whether the author uses personal stories or anecdotes, and if the book has a clear and simple message, or an index. I also documented if the information in the book is presented in a logical and effective order, uses images or diagrams, include cooking tips or recipes, as well as the total length of the text.

An evaluation matrix (Appendix A) allowed me to draw out commonalities and overarching themes from each of the four texts. I defined a commonality as something that was identified in two or more texts. Only those items were deemed noteworthy and were explored in greater detail. This analysis was framed around my three research questions
Chapter Four: Results and Findings

Popular media are an important source of information and unit of analysis. Its analysis provides insights into the power of certain messages, the pleasure of participating in something via the media, and how media has commercialized so many of our basic necessities, like food (Lindenfeld, 2010). There is no denying the explosion of media coverage around the issues of food in the last ten years. Films, television, books and talks are increasingly popular; however despite the growing coverage, some are questioning whether these sources are connecting the interest in food with the impacts of the food system in a meaningful way (Lindenfeld, 2010). The following sections provide an overview of content and focus, and will facilitate a comparison and discussion of commonalities, differences and usability in subsequent sections.

Animal, Vegetable, Miracle

Animal, Vegetable, Miracle was written by Barbara Kingsolver and documents her and her family’s experience with growing and preserving their own food and learning to live with only that which the local environment can provide. Known as a fiction writer, Kingsolver has created a personal narrative with Animal, Vegetable, Miracle. The book documents a family’s transition from the urban to the rural in their quest to limit consumption, re-connect with the land, and participate more fully in what gets eaten and how it gets to the table.

It is a story of a year in which we made every attempt to feed ourselves animals and vegetables whose provenance we really knew. We tried to wring most of the petroleum out of our food chain, even if that meant giving up some things. Our highest shopping goal was to get food from so close to home, we’d know the person who grew it (Kingsolver, 2007, p. 10).
Kingsolver describes everything from genetic modification to plant reproduction and turkey breeding. The main voice is that of Kingsolver herself; however her husband Steven L. Hopp also includes his opinions and insights into the issues being discussed through a series of side-bars, as does their daughter Camille who offers her perspective on eating locally, and provides nutritional information, recipes, and seasonal meals plans. The book is organized by the months of an annual cycle as foods become available in a temperate climate.

Imbedded within this story is a discourse on the environmental, social, and economic implications of our food choices. “Eaters must understand, how we eat determines how the world is used” (Kingsolver, 2007, p. 211). In the context of her family’s food choices, Kingsolver draws to light the reality of the current food paradigm where convenience, quantity, ignorance, and price dominate one’s food choices. Looking at food from a sustainability perspective, Kingsolver (2007) acknowledges an imbalance between the energy that is used to produce, package, and ship food and the nourishment (i.e. energy calories) that we received from it. She also writes of the enormous environmental implications of the global food system.

We have the illusion of consumer freedom, but we’ve sacrificed our community life for the pleasure of purchasing lots of cheap stuff. Making and moving all that stuff can be so destructive: child labor in foreign lands, acid rain in the Northeast, depleted farmland, communities where the big economic engine is crystal meth. We often have the form of liberty, but not the substance (Kingsolver, 2007, pp. 152-153).

The industrial food model has severed any connection that people have had historically to food production.

Throughout history, societies have evolved around food. With the green revolution, when it became possible to increase crop yields without increasing land used for agriculture, people walked away from the land and into urban centers. This movement off the farm is still occurring
at an average rate of 300 farmers a week in the United States (Kingsolver, 2007). With that move, people’s knowledge of food production has all but disappeared (Kingsolver, 2007). The shift away from the land has prompted many counter movements, including the back-to-the-land movement of the 1960s and 70s and the more recent push for local, organic and free-range products. However, this shift has also “renders us a nation of wary label-readers, oddly uneasy in our obligate relationship with the things we eat” (Kingsolver, 2007, p. 10).

Kingsolver points out the current lack of a distinctive food culture. Even a basic understanding of seasons as they pertain to food production is increasingly rare. Despite the fact that the school year in North America (beginning around Labor Day and finishing in early June) was developed due to agricultural cycles most children do not spend their summer working on the farm anymore. These days “it is good enough for us that somebody, somewhere, knows food production well enough to serve the rest of us with all we need to eat, each day of our lives” (Kingsolver, 2007, p. 9).

As a result of the migration from the land to the factory, agricultural knowledge has become a thing of the past. Since World War II, corn and soybeans have become a standardized raw material for a new extractive industry, not so different from logging or mining. (…) This new industry made piles of corn and soybeans into high-fructose corn syrup, hydrogenated oils, and thousands of other starch – or oil base chemicals. Cattle and chickens were brought in off the pasture into intensely crowded and mechanized CAFOs (concentrated animal feeding operations) where corn – which is no part of a cow’s natural diet, by the way – could be turned cheaply and quickly into animal flesh (Kingsolver, 2007, pp. 13-14).

Now, 70 percent of agricultural land is used for corn and soybean production and consumption of “added fats” has increased by one-third since 1975 (Kingsolver, 2007, p. 14). Children in
particular are targeted as consumers of fats and sugars, and now childhood obesity is just one of the many consequences of the commodification of agriculture. This has also occurred in other countries around the world. However strong culture and customs have succeeded in controlling excess caloric intake. “Strong food cultures are both aesthetic and functional, keeping the quality and quantity of foods consumed relatively consistent from one generation to the next” (Kingsolver, 2007, p. 15).

We cannot know what we haven’t been taught, Kingsolver says. “When we walked (…) away from the land, our knowledge of food production fell away from us” (Kingsolver, 2007, p. 12). The food choices we make are, whether we like it or not, politically charged and “affect arenas from rural culture to international oil cartels and global climate change” (Kingsolver, 2007, p. 19). The conscious choice to feed a family only with those “animals and vegetables whose provenance we really knew” was an attempt to shed light on the life of the things we eat (Kingsolver, 2007). In the spirit of finding a food culture, “this book tells the story of what we learned, or didn’t; what we ate, or couldn’t; and how our family was changed by one year of deliberately eating food produced in the same place where we worked, loved our neighbors, drank the water and breathed the air” (Kingsolver, 2007, p. 20).

This book is not a “how-to” guide. Rather, it tries to communicate to the reader some knowledge about food, how it grows, how to cook it and where to find it, whether that reader is an urbanite, suburbanite or retired farmer. As Kingsolver writes, “it is not at all necessary to live on a food-producing farm to participate in [a] food culture. But it is necessary to know such farms exist, understand something about what they do, and consider oneself basically in their court” (Kingsolver, 2007, pp. 20-21).

Driven by the desire to experience tangible, healthy pleasures, Kingsolver acknowledges her hope that a year away from industrial food would taste so good that there would be no desire
to revert back to the agribusinesses of the industrial food chain. “Food is the rare moral arena in which the ethical choice is generally the one more likely to make you groan with pleasure. Why resist that?” (Kingsolver, 2007, p. 22)

Although this was a project which expired after a year, Kingsolver and her family continue to remain dedicated to eating locally (Kingsolver, n.d. b). Once the book was released in 2007, the whole family went on a book tour, and now, four years later, each family member has their own projects, including an expansive garden and a new business called The Meadowview Farmers’ Guild (http://www.meadowviewfarmersguild.com/), which is “a restaurant devoted to local goods and a general store supplied with local hand-made goods from more than 120 different individuals” (Kingsolver, n.d. b, para. 5).

**The Omnivore’s Dilemma**

The *Omnivore’s Dilemma* (Pollan, 2006) is an exploration of the tension between the logic of nature and the logic of human industry. It explores three food systems: the industrial, the organic and the hunter-gatherer. “Different as they are, all three are systems for doing more or less the same thing: linking us, through what we eat, to the fertility of the earth and the energy of the sun” (Pollan, 2006, p. 7). So what is the dilemma that we, as omnivores, face? It is the question that has plagued human beings since their inception: what’s for dinner? The problem today is that we, in North America, do not have a strong food culture and it is our lack of food culture which has brought about the return of the omnivore’s dilemma.

The book is broken into three parts. The first part explores the industrial food chain, focusing on a single plant *Zea mays* (a.k.a. corn), what Pollan refers to as “the keystone species of the industrial food chain” (Pollan, 2006, p. 8). The second part of the book focuses on the pastoral food chain, exploring some of the alternatives to the industrial food chain such as local,
organic, and biological. The last section of the book is titled Personal and focuses on the hunter-gatherer food chain through the lens of Pollan’s own experience with hunting, gathering and growing a meal.

**The Industrial Food Chain**

Pollan (2006) defines industrial food as “any food whose provenance is so complex or obscure that it requires expert help to ascertain” (p. 17). Countless items or, debatably, all items on supermarket shelves (with the exception of fresh produce) fall under this definition. The common element that connects a huge majority of industrial food is corn. More than a quarter of all supermarket items in the average grocery store contain corn in some form (Pollan, 2006).

The success of corn is due to its ability to store energy as calories (Pollan, 2006). Further helping this plant to essentially take over the food world is its versatility, allowing it to act as both a source of food and as a commodity. “Corn is the protocapitalist plant” (Pollan, 2006, p. 26). It has learned to grow upright, adapting itself to human machines, to increase its yield, tolerate petrochemical fertilizers, as well as other synthetic fertilizers, and for the first time in the plant world it has become a form of intellectual property (Pollan, 2006). Pollan argues that with the ability to put large quantities of cash into farmer’s pockets, corn has done more to transform agricultural practices than any other plant in the history of farming.

Contributing to the power of corn was the invention of synthetic fertilizer. Haber and Bosh created a process of fixing nitrogen in the early 1900s (Pollan, 2006). When humans discovered how to fix nitrogen, this forever changed how food was grown. No longer was the farmer limited by the energy from the sun; a new relationship with fossil fuels now dictates crop yields. Liberated, the farm is free to be an industrial enterprise (Pollan, 2006). “If, as has sometimes been said, the discovery of agriculture represented the first fall of man from the state
of nature, then the discovery of synthetic fertility is surely a second precipitous fall” (Pollan, 2006, p. 45).

A connection between the farmer and the consumer can hardly be said to exist in the industrial age. “The invention of commodity grain severed any link between the producer of a foodstuff and its ultimate consumer” (Pollan, 2006, p. 60). The current system keeps production high and prices low. The result of which is an excess of organic matter. Today, what’s involved in absorbing all this excess biomass goes a long way toward explaining several seemingly unconnected phenomena, from the rise of factory farms and the industrialization of our food, to the epidemic of obesity and prevalence of food poisoning in America (...) Such is the protean, paradoxical nature of the corn in that pile that getting rid of it could contribute to obesity and to hunger both” (Pollan, 2006, p. 63).

In fact, it is in the factory farm where cattle now consume the majority of the now surplus corn (Pollan, 2006).

Concentrated Animal Feeding Operations (CAFOs) are now home to the bulk of cattle production in the United States. Industrial logic guided the creation of these operations and now dictates how they are run. Their purpose is to bring a cow to its maximum weight in the shortest amount of time, which is approximately fourteen to sixteen months (Pollan, 2006). To achieve this end, cows are fed a mixture of plant matter, namely corn, and pharmaceuticals, to ensure the animal can “tolerate” its feed. This mixture has obvious repercussions for the health of the animal and, by extent, human beings as well (Pollan, 2006).

The corn that isn’t fed to cattle is run through a complex milling process and will end up as either cornstarch or some variety of sweetener, most likely high-fructose corn syrup (HFCS) (Pollan, 2006). The ability to refine corn into HFCS has implications beyond food production in the strictest sense. The starch is now modified for different uses in adhesives, coatings, sizings,
plastics for industry, stabilizers, thickeners, gels and “viscosity-control agents” for food (Pollan, 2006). This diversity of applications has opened up a world of processed food that before World War II had never been seen. We now have margarine, juice drinks like Tang, Cheez Whiz, Cool Whip, not to mention the entire length of the cereal aisle.

The Pastoral Food Chain

This section of the book focuses on the practices of Polyface Farm - proof, Pollan claims, that there is an alternative to the industrial food chain. Polyface raises chickens, beef, turkey, eggs, rabbits, pigs and grows tomatoes, sweet corn, and berries on its one hundred acre plot (Pollan, 2006). The foundation of this whole operation, according to owner and farmer Salatin, is grass. “More nutrients are produced – protein and carbohydrates – in an acre of well-managed pasture than in an acre of field corn” (Pollan, 2006, p. 199).

The plants and animals raised on Polyface farm are the result of “an intensive rotational dance on the theme of symbiosis” (Pollan, 2006, p. 126). The efficiency of this farm is the result of co-evolutionary relationships and reciprocal loops. Salatin describes his farm as a “holon”, an “entity that from one perspective appears a self-contained whole, and from another a dependent part” (Pollan, 2006, p. 215). This farming system is designed around natural predilections of the animals that are being raised, rather than the demand of a production system (Pollan, 2006). According to Salatin, by “practicing complexity” a farmer has little to no need for fertilizers, chemicals or machinery.

Salatin’s farm offers consumers the opportunity to reconnect with the source of their food, which can be a very powerful idea for a lot of people. The price of the meat and produce isn’t what draws people to Polyface; it is relationship marketing that allows for many different kinds of information to travel up and down the food chain, which keeps people coming back (Pollan, 2006). By contrast, the current food system is dependent on the consumer knowing as
little as possible about the source of their food. “Cheapness and ignorance are mutually
reinforcing” (Pollan, 2006, p. 245).

**The Personal/Hunter-Gatherer Food Chain**

This section of the book details Pollan’s experience preparing a meal from ingredients
that he had hunted, gathered or grown himself (Pollan, 2006). Humans have been hunter-
gatherers for 99% of their time on the earth. Hunting and gathering presents a different set of
concerns to the individual – most pressingly is the omnivore’s dilemma. I can eat a great variety
of things, but which ones are safe? To help combat this dilemma, human beings have developed
a complex toolkit, both sensory and mental, to help us determine which foods are safe for
consumption and which are not (Pollan, 2006). Such tools include taste, smell, and cooking.
Although “our senses can help us draw the first rough distinctions between good and bad foods,
we humans have to rely on culture to remember and keep it all straight” (Pollan, 2006, p. 295).

Without a strong food culture, people are at a loss for what they should or should not eat.
In the case of North America, the response has been to eat anything and everything that food fads
and diets tell us to (Pollan, 2006). The French, on the other hand, have a very stable food culture
which guides them and has allowed them to navigate the omnivore’s dilemma so successfully
that they are, in fact, healthier for it. This is also called the French Paradox.

Imagine for a moment if we once again knew, strictly as a matter of course, these few
unremarkable things: What it is we’re eating. Where it came from. How it found its way
to our table. And what, in a true accounting, it really cost. We could then talk about some
other things at dinner. For we would no longer need any reminding that however we
choose to feed ourselves, we eat by the grace of nature, not industry, and what we’re
eating is never anything more or less than the body of the world (Pollan, 2006, p. 411).
Fast Food Nation

Fast Food Nation is a book about “fast food, the values it embodies, and the world it has made” (Schlosser, 2001, p. 3). It paints a picture of the history of American food culture, which is told through individual stories and histories. Looking at the 1950s through to today, Fast Food Nation examines the revolutionary force that fast food has proven to have on western culture. These days, people spend half of the money that is allocated to food at restaurants, generally fast food restaurants (Schlosser, 2001, p. 3).

More than any other fast food restaurant, McDonald’s has shaped the way that people live and eat today. “The McDonald’s Corporation has become a powerful symbol of the American service economy, which is now responsible for 90 percent of the country’s new jobs” (Schlosser, 2001, p. 4). The basic thinking behind fast food is now the predominant business model for today’s retail economy – brand names, franchises, automation and familiarity are the markers of success. The entire fast food industry is now America’s most popular cultural export (Schlosser, 2001).

Thanks in large part to the revelations of the fast food industry, “what we eat has changed more in the last forty years than in the previous forty thousand” (Schlosser, 2001, p. 7). The enormous food-industrial complex that now controls American agriculture is the result of certain political and economic choices that placed such considerable power in the hands of the fast food industry. This industry now dictates the standards for beef production, meatpacking, potato farming and many health and safety regulations (Schlosser, 2001).

The car culture that emerged in Southern California during the 1940s lent itself to the creation of a relatively novel industry: the drive-in. To be successful, fast food restaurants must catch the attention of people passing by and draw them in (Schlosser, 2001). Shortly after World War II, Richard and Maurice McDonald revolutionized the way food was prepared when they
created a system to increase the speed of food production, lower food prices and raise sales (Schlosser, 2001). The Speedee Service System was born. It was also during this time that the iconic golden arches were placed on the roof of the first McDonald’s restaurant, only to become the world’s most famous corporate logo (Schlosser, 2001). Thanks to a salesman by the name of Ray Kroc, McDonald’s began to spread across America and a fast food empire was born.

During the 1980s, advertising to children became extremely popular. The idea of “brand loyalty”, which begins at a very young age, became a huge motivation for the industry (Schlosser, 2001). Today, the fast food industry’s marketing effort directed at children starts with television commercials but goes as far as corporate “playlands”, promotional links with toy manufacturers, children’s clubs and child entertainers. Public schools in the United States now have fast food ads in their hallways and textbooks, in addition to lunchroom franchises (Schlosser, 2001). Teenagers also dominate the fast food workforce. All tasks have been “de-skilled” and the kitchen equipment is designed to work only one way. Zero training is the ideal of the fast food industry (Schlosser, 2001). Employees work for minimum wage, have no benefits or unions and are scheduled for work on an “as needed” basis.

The globalization of fast food requires a universal sameness. The same look, feel, and aesthetic of each restaurant and the same taste of each menu item are a necessity. This “sameness” is largely achieved by the addition of “natural flavour”. Natural flavour is a man-made additive that gives processed food its iconic taste. “The flavour industry emerged in the mid-nineteenth century, as processed foods began to be manufactured on a large scale” (Schlosser, 2001, p. 123). Shortly thereafter colour additives were also added to foods, as studies found that the way a food looked, its colour in particular, affects how its taste is perceived (Schlosser, 2001). The natural flavour and colour created by scientists in a lab is what allows for the universal taste of the McDonald’s french fry.
In order to respond to the growing demand for fast food ingredients, mainly beef and chicken, cattle ranchers and chicken growers have had to adjust. The price of chicken and beef is determined by meatpacking companies and chicken processors. The chicken grower and cattle rancher have no power over the price of their product. McDonald’s, the largest purchaser of beef, has reduced the number of beef suppliers to five, giving the power to determine the price of meat to the meatpacking industry that has an obvious stake in keeping costs down. If a chicken grower or cattle rancher is unhappy with the demands of the meatpacking industry or the amount of money that is being paid for their work, they have little power to do anything about it (Schlosser, 2001).

The meatpacking industry is the most dangerous profession in the United States (Schlosser, 2001). Similar to the fast food industry, workers are underpaid, mistreated and considered disposable and the industry is dominated by migrant labour forces, as recent immigrants are willing to work for lower wages and are less likely to join unions (Schlosser, 2001). Beyond the affect on these workers, the way food, and meat in particular, is processed can be associated with a growing number of foodborne diseases and pathogens. The current meat packing system, which was created to satisfy the demands of the fast food industry, is also a very effective system for spreading disease (Schlosser, 2001). “Escherichia coli O157:H7 is a virulent and potentially lethal foodborne pathogen (...) whose spread has been facilitated by recent social and technological changes” (Schlosser, 2001, pp. 193-196).

Instead of focusing on the primary causes of meat contamination – the feed being given to cattle, the overcrowding at feedlots, the poor sanitation at slaughterhouses, excessive line speeds, poorly trained workers, the lack of stringent government oversight – the meatpacking industry and the USDA (the United States Department of Agriculture) are
now advocating an exotic technological solution to the problem of foodborne pathogens.

They want to irradiate the nation’s meat (Schlosser, 2001, p. 217).

Despite their role in the creation of a system that spreads bacterial contamination and foodborne pathogens, the fast food industry has access to some of the cleanest ground beef available in light of their enormous buying power (Schlosser, 2001).

McDonald’s is now the world’s most recognized brand and “represents “Americana and the promise of modernization”” (Schlosser, 2001, p. 230). The result of which is a homogenization of the world, what sociologist Barber calls the “McWorld” (Schlosser, 2001). Fast food, unlike any other commodity, is a form of Americana that people actually consume. The United States has the highest rates of obesity in the world, and increasingly we are seeing people from around the world looking more and more like this version of the American dream (Schlosser, 2001). Instead of being role models for people on the global stage, “the eating habits of Americans (...) are widely considered a good example of what other countries must avoid” (Schlosser, 2001, p. 243).

In response to this concerning reality, Schlosser (2001) says that congress should: ban all advertisements aimed at children; require fast food chains to provide job training to their workers; mandate safer food at school cafeterias; create a single food agency with sufficient authority to protect public health; improve the working conditions and food safety standards in all meatpacking plants; and, acknowledge and address the needs of independent farmers and ranchers who are “a unique source of innovation and long-term stewardship of the land” (Schlosser, 2001, p. 266). In the absence of these changes, Schlosser (2001) suggests that people should make smart choices as consumers and apply pressure to the fast food industry. “A good boycott, a refusal to buy, can speak much louder than words. Sometimes the most irresistible force is the most mundane” (Schlosser, 2001, p. 269).
An Edible History of Humanity

In *An Edible History of Humanity*, Tom Standage (2009) looks at history and the role that food has played in transforming human society. Standage creates a narrative that is based on the stories of food that span the length of human history. Throughout history, food has been and will remain a source of wealth and power. It is also a tool for social organization as societies have always been based on systems of food production and distribution. As Standage points out, at every transformative moment in history, food has played a pivotal role. From economic development through to industrialization, trade and globalization, food has been, and still is, a battlefield for the issues that face societies of yesterday and today. *An Edible History of Humanity* is an account of the “intersections between food history and world history” (Standage, 2009, p. xii).

Throughout most of human history, cultivation and farming as we know it today did not exist. It wasn’t until 11,000 years ago that humans started to deliberately cultivate food (Standage, 2009). The three most significant plants to be domesticated were wheat, rice and maize (Standage, 2009). “They laid the foundations for civilization and continue to underpin human society to this day” (Standage, 2009, p. 4). With all three of these cereal grains there has been a common genetic theme that has resulted in more convenient but less resilient plants (Standage, 2009). This same theme also holds true for the domestication of animals.

The genetic engineering that took place to create domesticated plants and animals also created a plentiful food supply which allowed for the development of more complex societies and cultures (Standage, 2009). Interestingly, the switch from foraging to farming was not particularly advantageous to humans and, as such, the reasons behind the switch are rather mysterious. A few possible reasons for this shift include: climate change, greater sedentism, population growth, and food insurance (Standage, 2009). Farming, according to Standage (2009),
is “profoundly unnatural. It has done more to change the world, and has had a greater impact on the environment, than any other human activity. (...) And yet, it is the basis of civilization as we know it today” (p.27).

Shortly after the advent and intensification of farming, socially stratified urban centers emerged. Surplus food created fewer demands for farmers and divisions between the rich and poor, rural and urban, rulers and farmers emerged (Standage, 2009). The social stratification of cities did nothing to abate the correlation between food and power. Not only was food used to sustain people, it was also used as a currency and source of wealth. Food was also integrated into religious practices around the world. In many cases, “religious practices provided cosmological justification for the elite’s right to levy taxes” (Standage, 2009, p. 53). The social pact between farmers and rulers, that sacrifices and offerings made to the gods are channeled back to mankind through the maintenance of the agricultural cycle, reinforced a social and cultural order (Standage, 2009).

Today, the connection between food and wealth is less direct; however, the once-central economic role of food can still be seen in many words and customs. The main earner in a family is called the “breadwinner”, for example, and other customs such as dinner parties are a form of social currency as the host will expect an equally lavish meal from their guests in return (Standage, 2009).

Once agriculture was firmly in place in societies around the world, people began to seek out the more extraordinary and unusual foodstuffs. Spices were highly sought after, their appeal stemming from their unknown origins, their representation of status, their utility as preservatives, and their taste and smell (Standage, 2009). “The pursuit of spices helped (...) to illuminate the full extent and geography of the world, and motivated European explorers to seek direct access to the Indies” (Standage, 2009, p. 67). With the advent of trade routes to transport spices,
languages, social customs, new inventions, religions, and physical goods were also carried around the world. “Ideally suited as they were to long-distance freights, spices led to the wiring up of the first global trade networks” (Standage, 2009, p. 102).

“From the dawn of prehistory to the beginning of the nineteenth century, almost all of the necessities of life had been provided by things that grew on the land” (Standage, 2009, p. 129). Malthus, an English economist who published An Essay of the Principle of Population in 1798, argued that populations will double every twenty five years (approximately) if unchecked and will continue in a geometric ratio (Standage, 2009). Malthus concluded that eventually the population would be limited when it encountered the ecological limit of the land; also called the Malthusian trap (Standage, 2009). The Industrial Revolution ushered in a new phase of human existence: a switch from agriculture to industry (Standage, 2009). “Instead [of hitting the ecological wall], it [Britain] vaulted over it and broke free of the constraints of the “biological old regime” in which everything was derived from the produce of the land. (…) Britain became the first industrialized nation in the world” (Standage, 2009, p. 129).

The twentieth century also brought with it the “green revolution.” That is, the scientific and industrial expansion of food production, its availability and its dissemination (Standage, 2009). Between 1910 and 1938 the world’s consumption of fertilizer tripled. After World War II, global fertilizer production capacity had grown exponentially, as did the use of artificial fertilizers in food production processes. The ability to synthesize ammonia on a large scale allowed for the expansion of the food supply, which also made it possible for the population to boom.

In response to a population that was growing as fast as the food supply, Norman Borlaug, an agronomist, created a high-yield dwarf variety of wheat in 1962, which in turn inspired other agronomists to do the same with rice. These varieties produced yields five times as much as the
traditional strains, and as much as ten times when fertilizer was applied (Standage, 2009). The result was the ability to grow more than enough food for the fast growing population. As of 2008, the Haber-Bosch process of producing ammonia, and therefore nitrogen, was responsible for feeding almost half the world’s population – also known as the “offspring of the green revolution” (Standage, 2009, p. 220). “For better or for worse, there is no question that the green revolution did more than just transform the world’s food supply in the second half of the twentieth century; it transformed the world” (Standage, 2009, p. 201).

Today, food has become an arena for social and political debates. History, particularly warfare, has demonstrated how food can be used as a weapon. Wars have been won and lost based on the availability of food and fodder. It wasn’t until the invention of canned food and mechanized transportation (i.e. the railway and steam locomotive) that food took on a new role as an ideological weapon. Food is now a battlefield for larger political fights. “For almost any political view you want to express, there is a relevant food stuff to buy or avoid” (Standage, 2009, p. 194). Environmental concerns, for example, can be expressed by purchasing local or organic products. Protests can also be made against large multinational corporations or government via food. The first food boycott of this kind took place in Britain in 1791 when consumers refused to buy sugar in order to demonstrate their opposition to slavery (Standage, 2009).

The technologies of the green revolution have had a variety of consequences. “High-yield seed varieties, which require artificial fertilizers, other agricultural chemicals, and large amounts of water, have caused environmental problems in many parts of the world” (Standage, 2009, p. 232). Conversely, many argue for the benefits of the green revolution, particularly its ability to produce large amounts of food on a relatively small amount of land. Organic farming is often
cited as the alternative to green revolution technologies, however many doubt the ability of fertilizer-free methods to supply food to today’s global population.
Chapter Five: Discussion

The goal of a discourse analysis is to create a description or summary, thereby providing a basis for comparison, and which facilitates a search for meaning (Goldman & Wiley, 2004). The previous section summarizes the content of each book and attempts to represent each author’s ideas and approach to issues of food and broader social and ecological trends. As such, these summaries establish a framework for comparing how each author has used food as a means to communicate information and certain values. From a genealogical perspective, all four of these texts offer an account of the current state of food issues, which are both a manifestation of the past and an illustration of the present. I have focused the following discussion on the common themes that I discovered, as well as commonly referenced experts, and the language and usability of the four texts.

Common Themes

I defined a “common” theme as a topic of discussion that was shared by two or more of the reviewed authors. The following section discusses seven themes: vegetarianism; the environmental impact of food choices; organic and local food; the fast food industry; technology; health; and food culture.

Vegetarianism

In three of the four books, vegetarianism and/or meat production was discussed. The exception in this case was An Edible History of Humanity. In Animal, Vegetable, Miracle the choice to eat, or not eat, meat was discussed by Kingsolver. “Our family decided if we meant to eat anything, meat included, we’d be more responsible tenants of our food chain if we could participant in the steps that bring it to the table” (Kingsolver, 2007, p. 89). The meat-eating question is addressed in more detail by her daughter Camille. She considers the pros and cons of
vegetarianism and acknowledges that not all meat is created equally. The nutrition of the meat produced in feedlots is considerably different than the meat that is raised in fresh air, eating grass. The other nutritional component she discusses is the different nutrients that are found in plants and vegetables verses meat and how vegans in particular need to rely on supplements or fortified foods to prevent certain vitamin deficiencies. She also points to the naturally adapted omnivorous diets of human beings and concludes that those who are not strict vegetarians will find more choices in their local food scene.

Vegetarianism is discussed again in *Animal, Vegetable, Miracle*, and this time from the perspective of Kingsolver. She raises concerns about the animal killing that goes with vegetal foods via pesticide use and habitat removal. She also writes,

To envision a vegan version of civilization, (...) erase civilization, brought to you by the people who learned to domesticate animals (and) (...) rewrite our evolutionary history, since *Homo sapiens* became the species we are by means of regular binges of carnivory” (Kingsolver, 2007, p. 222).

In *The Omnivore’s Dilemma*, Pollan (2006) points out that humans, for the bulk of their existence, have needed meat to survive and although we can now survive without it (by consuming things like tofu, beans and legumes) we evolved the capacity to eat meat in order to survive.

In *Fast Food Nation*, Schlosser (2001) recounts the case of a devout Jain contacting McDonald’s to inquire whether their French fries contain animal products. This man discovered that some of their fries do in fact contain beef content, the consumption of which goes against his religious beliefs. Outraged, he wrote an article in *India-West* which prompted a class-action lawsuit against the McDonald’s Corporation for misleading vegetarians about the true content of their French fries.
In their discussions of vegetarianism, Kingsolver (2007) and Schlosser (2001) both rebuke the farm-liberation fantasy: the idea that cows and chickens could live freely and happily in a safe-haven where they can die at a ripe old age from natural causes, which Kingsolver says reflects a modern cultural confusion about farm animals. As Schlosser (2001) points out, “cattle that are not eaten by people, that are simply allowed to grow old and weak, still get eaten – by coyotes and turkey buzzards, and it’s not a pretty site” (p. 257). Most people who aren’t farmers only interact with three categories of animal life: people, pets and wildlife (Kingsolver, 2007). The idea of killing any animals from any of these categories is unthinkable to most, however, those animals that are raised outside of CAFOs are processed in a way that is valued as an important ritual as it provides an opportunity “to reconnect with the purpose for which these animals were bred” and is done from a position of respect (Kingsolver, 2007, p. 223). In the context of suffering, there are many ways in which people can choose to lighten the world’s load. “Giving up meat is one path; giving up bananas is another” (Kingsolver, 2007, p. 225).

Pollan (2006) also says that “what’s wrong with eating animals is the practice, not the principle” (p. 328) and proposes that…

…all it would take to clarify our feelings about eating meat, and in the process begin to redeem animal agriculture, would be to simply (…) (make) the walls of our meat industry (…) transparent, literally or even figuratively. (…) We’d probably eat a lot less of it too, but maybe when we did eat animals we’d eat them with the consciousness, ceremony, and respect they deserve” (Pollan, 2006, pp. 332-333).

Despite these statements by Pollan and Kingsolver, there is an important point to remember. “Nobody wants to be told what church to attend or how to dress, and people don’t like being told what to eat either. Food is one of our most intensely personal systems of preference, so obviously it’s a touchy subject for public debate” (Kingsolver, 2007, pp. 238-239).
Eating meat in particular can be an ethically and morally contentious issue. An animal rights philosopher like Peter Singer question the moral grounds for eating meat, even when that meat has not been raised in a factory feedlot (Singer and Mason, 2006). Both Singer and Mason (2006) ask how humane is humane enough to eat? Singer and Mason (2006) also write that, “even if it is ethically acceptable to eat animals who have been well-cared for during their lifetimes and then killed without experiencing pain or distress, for those unable to raise their own animals, it is difficult to be sure that the meat you buy comes from such animals” (p. 255). In cases where you cannot raise your own animals, why not hunt them?

Hunting, Pollan (2006) says, puts “questions about who we and the animals are, and the nature of our respective deaths, squarely before the hunter (...) hunting plunges us into the intertwined enigmas of death and animals, enigmas that admit of no easy answers or resolution” (p. 358). It also demonstrates that the animality of the human condition is alive and well, a reality that many feel ashamed to confront or acknowledge. However, “when compared to factory-farmed chickens that most people eat in such vast numbers, the wild birds shot by hunters have a far better life and usually a much quicker death” (Singer & Mason, 2006, p. 258). Nevertheless, arguments against hunting say that any killing of an animal takes it away from its independent existence (Singer & Mason, 2006).

Some say that becoming a vegan, someone who doesn’t consume any animal products, is the only sure way to completely avoid participating in the abuse of farm animals, if you cannot raise those animals yourself (Singer & Mason, 2006; Pollan, 2006). It is true that humans no longer need meat to survive, although cultural traditions are deeply entwined with our omnivorous history (Pollan, 2006). In colder climates in particular, vegetarian and vegan diets are not sustainable as meat is often the primary source of protein and nutrition in places where there is limited to no local vegetation.
Clearly, there is no simple answer to these concerns. It is up to each of us individually to decide what to eat. “The more we know about our food system, the more we are called into complex choices. It seems facile to declare one single forbidden fruit, when humans live under so many different kinds of trees” (Kingsolver, 2007, p. 225). I believe it is the hope of these authors that that choice is not made from a position of ignorance or misinformation. Rather, is informed by knowledge and experiences.

The environmental impact of our food choices

In all four books, the environmental impact of our food choices is discussed both implicitly and explicitly, although, each author approaches the topic of environmental concerns differently. Kingsolver focuses her environmental discussion on the individual, and the choices that we can each make to change our relationship with food and the environment (Kingsolver, 2007). Pollan includes many environmental facts throughout his book. His discussion focuses primarily on the connection between industrial agriculture and the environment. The majority of the environmental implications that can be drawn from Schlosser’s Fast Food Nation are inferred through his discussions of the fast food and meat packing industries, as there is little explicit mention of the environment throughout the book. Standage (2009) includes a variety of environmental implications in his discussion of food and its role in shaping human history.

As a primary concern, Kingsolver (2007) identifies a disconnect between human beings and natural processes. She writes that today, knowledge of how food grows has almost disappeared and has “rendered us a nation of wary label-readers, oddly uneasy in our obligate relationship with the things we eat. We call our food animals by different names after they’re dead, presumably sparing ourselves any vision of the beefs and porks running around on actual hooves” (Kingsolver, 2007, p. 10). Pollan (2006) similarly acknowledges this disconnect that we each feel from our food and points to farming’s role in global warming and climate change:
If the sixteen million acres now being used to grow corn to feed cows in the United States became well-managed pasture, that would remove fourteen billion pounds of carbon from the atmosphere each year, the equivalent of taking four million cars off the road. We seldom focus on farming’s role in global warming, but as much as a third of all greenhouse gases that human activity has added to the atmosphere can be attributed to the saw and the plow (p. 198).

Standage (2009) remarks on how “farming has led to deforestation, environmental destruction, the displacement of natural wildlife, and the transplanting of plants and animals thousands of miles away from their original habitats” (p. 27). He further emphasizes the dramatic environmental consequences of the Industrial Revolution and the Neolithic Revolution (i.e. the adoption of farming).

Agriculture led to widespread deforestation, and industrialization has produced vast quantities of carbon dioxide and other greenhouse gases that have started to affect the world’s climate. In this sense the industrialized countries have not escaped Malthus’s trap after all, but have merely exchanged one crisis, which the limiting factor was agricultural land, for another, in which the limiting factor is the atmosphere’s ability to absorb carbon dioxide (Standage, 2009, p. 139).

Standage (2009), Kingsolver (2007) and Pollan (2006) all discuss the environmental impact of industrial agriculture. “Industrial farming methods, where ever they are practiced, promote soil erosion, salinazation, desertification, and loss of soil fertility. The UN Food and Agriculture Organization estimates that over 25 percent of arable land in the world is already compromised by one or more of these problems” (Kingsolver, 2007, p.18). As Berry (2009) writes, the shift to fossil fuel energy in farming radically changed our understanding of agriculture. There are now manufacturers, a complex marketing structure, and food preparation
industries which all serve to increase the distance between the consumer and the producer. This is a system that has been artificially expanded for profit (Berry, 2009). “Global-scale alteration from pollution didn’t happen when human societies started using a little bit of fossil fuel. It happen after unrestrained growth, irresponsible management, and a cultural refusal to assign any moral value to excessive consumption” (Kingsolver, 2007, p. 345).

Industrial animal food production is also discussed by both Kingsolver (2007) and Pollan (2006). Concentrated Animal Feeding Operations (CAFOs) are the most dramatic manifestation of this food system. These intensely managed factory farms produce cheap meat, fed on corn, that matures quickly (Pollan, 2006; Kingsolver, 2007). This method of meat production has immense repercussions. CAFOs are often accused of the mistreatment of animals. In such close quarters, these confined animals have little room to turn around, are physically stressed and are routinely fed antibiotics to mitigate the transmission of disease, which in turn breeds new health threats for humans (Kingsolver, 2007). CAFOs have also contributed to a fair share of environmental problems, including polluted air and water due to waste storage and water quality problems, toxic waste, and novel and deadly pathogens (Pollan, 2006).

Standage, Kingsolver and Pollan’s discussions on industrial agriculture also focus on corn and its role in transforming the world of agriculture. Corn is currently being used as feed for cattle, pigs, chicken and some species of fish. It constitutes the foundation of almost all processed foods and has found multiple applications in nonfood items such as cleansers, batteries, disposable diapers and garbage bags (Pollan, 2006). This industrial production of corn has a high ecological price tag. "When you add together the natural gas in the fertilizer to the fossil fuels it takes to make the pesticides, drive the tractors and harvest, dry and transport the corn, you find that every bushel of industrial corn requires the equivalent of between a quarter
and a third of a gallon of oil to grow it - or around fifty gallons of oil per acre of corn" (Pollan, 2006, p. 45).

The infiltration of corn into the industrial food chain is the direct result of the development and application of petrochemical fertilizers, which was also accompanied by a bred tolerance for synthetic pesticides (Pollan, 2006). “Hybrid corn is the greediest of plants, consuming more fertilizer than any other crop” (Pollan, 2006, p. 41). The application of synthetic fertilizer also created the ideal circumstances for monoculture (Pollan, 2006). Farming has become a process in which fossil fuels are converted into food.

The wide spread application of synthetic fertilizers and pesticides is not without its consequences. “The use of pesticides has resulted in over 500 species of insects and mites that can resist chemical control. Further, 25 percent of the chemicals that are used are considered carcinogenic in humans” (Kingsolver, 2007 p. 165). The high yield seed varieties that are now commonly used, and which require artificial fertilizers and significant amounts of water, cause numerous environmental problems (Standage, 2009).

Nitrogen-laden runoff from agricultural land has created “dead zones” in some coastal areas, stimulating the growth of algae and weeds and reducing the amount of oxygen in the water and thereby affecting fish and shellfish populations. In some cases high-yield varieties proved to be less resistant than traditional varieties to pests or diseases. This necessitated a greater use of pesticides, overuse of which can contaminant the soil and harm beneficial insects and other wildlife, reducing biodiversity. Pesticides can also cause health problems for farm workers (Standage, 2009, p. 230).

Interestingly, Standage (2009) also point to the unseen benefits of high yield farming.

The environmental problems associated with high-yield farming must also be weighed against its unseen environmental benefits, in the form of damage to ecosystems that
would otherwise have been done in order to increase food production. High-yield varieties have enabled food production to multiply with only a marginal increase in land use. (...) Global agriculture in 1900, using almost no chemical fertilizer, supported about 1.6 billion people on an area of about 850 million hectares, according to the University of Manitoba’s Vaclac Smil, an expert on the nitrogen cycle. Farming using fertilizer-free (that is, organic) methods on today’s 1,500 million hectares would support only 3.2 billion people on mostly vegetarian diets, he estimates, or half of today’s global population (p. 231-2).

It is not the intention, from what I can tell, of these authors to villainize all those who have participated in the industrial food chain. Although some do include value-laden statements rich with guilt and sometimes a little blame. For instance, Kingsolver (2007) writes,

the Hohokam and Pima were the last people to live on that (Arizona) land without creating environmental overdraft. When the Spaniards arrived, they didn’t rush to take up the Hohokam diet craze. Instead they set about working up a monumental debt: planting orange trees and alfalfa (particularly thirsty crops), digging wells for irrigation, withdrawing millions more gallons from the water table each year than a dozen inches of annual rainfall could ever restore (p. 5).

Using phrases like “gasoholic” (Kingsolver, 2007, p. 6) also implies a certain wrongness about consuming fossil fuels as the parallel being drawn is to alcoholism - not something that is generally looked upon fondly. Despite some of these value-laden statements, it seems that the primary purpose here is to highlight the realities of the industrial food chain and perhaps acknowledge how we can or already do play a role in that system.

There are many variations within the industrial agricultural system and perhaps it is worth noting those cases in which farmers who maintain their participation in this system are
simultaneously trying to do so in a way that conserves the land and sustains their way of life. Schlosser (2001) includes a story of a cattle rancher who is trying to bridge the gap between the vilified cattle industry and environmentalists. In his view, a well run ranch had less of an impact of the environment than most city-dwellers. Berry (2009) describes his own dealings with this issue, one in which he frames as the cooperation between the wild and the domestic. The question, he says, is “how, in the human economy, their (wild and domestic) indissoluble and necessary connection can be properly maintained” (p. 69). Conservationists, regardless of what they believe, still need to eat and therefore should have a positive interest in farming; farmers are good conservationists because they live and work in “the meeting place of nature and the human economy” (Berry, 2009, p. 73). In this view, there is no safe disassociation between the economy and ecology. The industrialized farmer has too often made the misguided assumption that nature could somehow be subordinated by the might of their technology. “A great many of the health and environmental problems created by our food system owe to our attempts to oversimplify nature’s complexities, at both the growing and the eating ends of our food chain” (Pollan, 2006, p. 9).

**Technology**

Technology has played a fundamental role in the evolution of human beings relationship with food. The Haber-Bosh process for fixing nitrogen fundamentally changed the way in which the food system functioned. This process is discussed by both Standage (2009) and Pollan (2006). Prior to this invention, the amount of useable nitrogen was limited. The process of “fixing” nitrogen involves the splitting and joining of nitrogen atoms with hydrogen, thereby combining the two elements in such a way to make them useful to living things (Pollan, 2006). This process was discovered in 1909 by a German scientist named Haber who found a way to use nitrogen from the air and hydrogen extracted from coal to produce large amounts of
ammonia (Standage, 2009). Bosh, the other half of the inventions title, gets credit for the commercialization of Haber’s idea (Pollan, 2006). This invention facilitated the growth of the human population. It is estimated that without this invention two of every five people would not be alive today (Pollan, 2006). “When humankind acquired the power to fix nitrogen, the basis of soil fertility shifted from a total reliance on the energy from the sun to a new reliance on fossil fuel” (Pollan, 2006, p. 44).

Interestingly, this process was also used by the German army to supply its troops in the First World War with ammunition. “The war highlighted the way in which chemicals could be used to both sustain life or to destroy it” (Standage, 2009, p. 211). This parallel “embodies the paradoxes of science: the double edge to our manipulations of nature, the good and evil that can flow not only from the same man but the same knowledge” (Pollan, 2006, p. 44). Haber himself developed chemical weapons during the war, and oversaw the use of them in April 1915, when chlorine gas was used against the French and Canadian troops at Ypres, killing some five thousand soldiers (Standage, 2009). Haber was then awarded the Nobel Prize in Chemistry in 1918 for his work on the synthesis of ammonia. “The fact remains that the man who made possible a dramatic expansion of the food supply, and of the world population, is also remembered today as one of the fathers of chemical warfare” (Standage, 2009, p. 212).

The application of scientific and industrial methods to agriculture is also known as the “green revolution.” The green revolution led to the expansion of the world’s food supply and directly contributed to the boom in the global population (Standage, 2009). It started in the 1960s when chemical fertilizers and high-yield seed varieties were introduced in the developing world. The consequences of this “revolution” have been significant and it is therefore considered to be highly controversial. As Kingsolver (2007) points out “the Green Revolution promised that industrial agriculture would make food cheaper and available to more people. Instead, it has
helped more of us become less healthy” (p. 19). Critics of the green revolution contend “that it has caused massive environmental damage, destroyed traditional farming practices, increased inequality, and made farmers dependent on expensive seeds and chemicals provided by Western companies” (Standage, 2009, p. 200).

Often, critics suggest a return to, or a reinvigoration of, traditional agricultural techniques such as those used by organic farmers. However, there is evidence to suggest that organic farming cannot support the burgeoning global population without extreme alterations to the amount of land dedicated to agriculture (Standage, 2009). Standage (2009) suggests that:

the long-term answer is to embark upon a new effort to increase agricultural production in the developing world, by placing new emphasis on agricultural research and the development of new seed varieties, investment in the rural infrastructure needed to support new farmers, greater access to credit and the introduction of new crop-insurance schemes (…) in essence a call for a second “green revolution” (…) taking into account the lessons learned since the 1960s (p. 235-6).

**Organic and Local Food**

According to Kingsolver (2007), it is possible to reduce oil consumption by over 1.1 million barrels a week simply by eating one meal a week from local and organic sources. The argument here is that small changes can have a big impact. In three of four books, both organic and local food is discussed at length (*Fast Food Nation* being the exception).

**A Local Conversation**

What was once a network established to provide exotic foods to the elites is now our global food system (Standage, 2009). With so much fossil fuel going into the production, packaging, and distribution of food around the world we are increasingly seeing a shift back to a more local food economy – or at least the rumblings of a possible shift. Although, “by definition
local is a hard thing to sell in a global marketplace. Local goods, as opposed to organic, implies a new economy as well as a new agriculture – new social and economic relationships as well as new ecological ones.” (Pollan, 2006, p. 257). According to Berry (2009), “in a local food economy, dealing in fresh produce to be prepared in the home (thus eliminating transporters, manufacturers, packagers, preparers, etc.), the energy budget would be substantially lower, and we might have both cheaper food and higher earnings on the farm” (p. 61).

Standage (2009) examines the arguments for and against local food. Today’s “locavores” often propose a shift to local food on environmental grounds; however there are many elements to consider with this argument. First of all, local food is often produced using more resources than those produced in other countries (e.g. tomatoes grown in a heated greenhouse) (Standage, 2009). Second, transportation related emissions only account “for 11% of energy used in the food chain, compared with 26% for processing and 29% for cooking” (Standage, 2009, p. 103). There are social arguments for and against local food as well. On the one hand local food is said to promote social cohesion and encourage people to connect with their food, something Pollan (2006) identified as “relationship marketing” which facilitates on-farm sales thereby reducing the number of middlemen in food distribution. On the other hand, local foods neglect the farmers in developing countries who grow cash crops for export (Standage, 2009). According to Standage (2009), we must remember that localism can be taken too far. The world we know today, both good and bad, is the result of the exchange and redistribution of food crops which created a thriving network of commercial and cultural exchange. He argues that “it is far too simplistic to suggest that the world faces a choice between organic fundamentalists on the one hand and blind faith in biotechnology on the other. The future of food production, and of mankind, surely lies in the wide and fertile middle ground in between” (Standage, 2009, p. 237).

An Organic Conversation
The word “organic” has become an extremely powerful word in the supermarket (Pollan, 2006). It conjures up what Pollan (2006) termed the Supermarket Pastoral. A rich invocation of the family farmer, standing in opposition to the villainous agribusinessman. However, many corporate organic producers are now using that association to sell their product. “Like overused slang, the term has been muddled by rising popularity” (Kingsolver, 2007, p. 170). The evolution of the organic movement into the industrial organic is seen by many as a shift away from the original heart of the movement: to keep biological and human communities healthy over time (Kingsolver, 2007). “The early organic movement sought to establish not just an alternative mode of production (the chemical-free farms), but an alternative system of distribution (the anticapitalist food co-ops), and even an alternative mode of consumption (the “countercuisine”)” (Pollan, 2006, p. 143). Over time, and as a result of increasing demand, the industrial organic industry has emerged. Organic is now an implied lifestyle, with magazines and brands of clothing to match (Kingsolver, 2007). All of which begs the questions: is industrial organic ultimately a contradiction in terms (Pollan, 2006)?

The term “organic” was first applied to food and farming in the 1940s. *Organic Gardening*, a magazine about agricultural methods and the benefits of growing food without added chemicals, was launched by Rodale in 1942 (Pollan, 2006; Singer and Mason, 2006). In 1969, the *Whole Earth Catalogue* brought this magazine to the attention of people (better known as “hippies”) who were trying to figure out how to grow food without “patronizing the military-industrial complex” (Pollan, 2006, p. 142). “The original stated purpose of organic agriculture was not just to protect the quality of food products, but also to safeguard farm environments and communities through diversified, biologically natural practices that remain healthy over time” (Kingsolver, 2007, p. 122).
With its roots in sixties’ radicalism and the counterculture that emerged during that time, the $11 billion organic industry is now the fastest growing sector of the food economy (Pollan, 2006). This industry has responded to increase demand. Subsequently, organic farmers have had to place themselves on the same industrial scale. Questions now arise about the merits of organic verse non-organic food when you ask whether an industrial organic farm is better or worse than a sustainable non-organic farm (Pollan, 2006). “I would much rather use my money to keep my neighbourhood productive and healthy than export my dollars hundred miles away to get ‘pure product’ that’s really coated in diesel fuel. There are a whole lot more variables in making the right decision than does the chicken feed have chemicals or not” (Pollan, 2006, p. 132). It is still important to note that “growing food organically uses about a third less fossil fuels than growing it conventionally” however those savings may be compromised by transportation related emissions (Pollan, 2006, p. 183). Standage (2009) also points out that the lower yields of farming organically will result in more land needed for agriculture, which already requires two to three times as much land as conventional agricultural practices. Conversely, Kingsolver (2007) argues that…

Numerous field trials in both the United States and the United Kingdom have shown that organic practices can produce commodity crop yields (corn, soybeans, and wheat) comparable to those of industrial farms. By using cover crops of animal manures for fertilizer, these practices improve soil fertility and moisture-holding capacity over seasons, with cumulative benefits (p. 18).

There will always be those arguing for and against organic food; however the choice whether to eat the organic industrial food or the chemical laden food is one that each person must make on their own.
Advocates of organic food argue that organic produce, regardless of how it is produced, has better nutritional value than conventional produce (Kingsolver, 2007). Pollan quotes Salatin’s opinion on organic food:

“We don’t have to beat them,” Joel patiently explained. “I’m not sure we should even try. We don’t need a law against McDonald’s or a law against slaughterhouse abuse – we ask for too much salvation by legislation. All we need to do is empower individuals with the right philosophy and the right information to opt out en masse. (…) Deciding whether that future should more closely resemble Joel’s radically local vision or Whole Foods’ industrial organic matters less than assuring that thriving alternatives exist (Pollan, 2006, pp. 260-261).

The fast food industry

The fast food industry is the main focus of Fast Food Nation (Schlosser, 2001), although the industry is also discussed by Pollan (2006) and Kingsolver (2007). Schlosser (2001) discusses how fast food has been a revolutionary force in American life. As of 2001, American’s are spending $110 billion on fast food. There is no question about this industry’s success in infiltrating every aspect of American, and North American, society. “The whole experience of buying fast food has become so routine, so thoroughly unexceptional and mundane, that it is now taken for granted” (Schlosser, 2001, p. 3).

Interesting, as Schlosser (2001) points out, is how powerful the idea of familiarity is. A brand name, logo, jingles, and merchandize offer consumers familiarity and the assurance that fast food products are the same everywhere. One of the many less fortunate consequences of this branding is the subsequent reluctance people have to support the local food economy. Beyond arguments about costs and convenience, “a successful food economy implies not only a new kind
of food producer, but a new kind of eater as well, one who regards finding, preparing, and preserving food as one of the pleasures of life rather than a chore” (Pollan, 2006, p. 259).

The power of this industry and the effect it has had on our relationship with food is nothing less than profound. As Pollan (2006) points out, “without such a thing as fast food there would be no need for slow food (…). Food would be (...) what it always was, neither slow nor fast, just food. (...) (p. 411). Fast food is also connected with increasing rates of obesity, diabetes, cardiovascular disease, joint problems, and many cancers (Kingsolver, 2007; Pollan, 2006, Schlosser, 2001). “One out of every three dollars we spend on health care (…) is paying for the damage of bad eating habits” (Kingsolver, 2007, p. 116). The popularity of fast food is hard to avoid. It is one of America’s “most prominent cultural exports” (Schlosser, 2001, p. 10). Pollan (2006) also points out that the thing the industrial food chain does best is to obscure the histories of food, what they are made of and where they come from, processing them to the extent that they are unrecognizable and are “products of culture rather than nature. Where does it come from? It comes from McDonald’s” (p. 115).

Health

The health implications of food choices are not, one might think, difficult to comprehend. Although, the increasing incidence of diet related health concerns like obesity and diabetes seems to say otherwise. Discussions of health were present in all four books. As Kingsolver (2007) points out, “our profit-driven, mechanized food industry has narrowed down our variety and overproduced corn and soybeans” (p. 54). The result of which is an industry devoted to finding new ways to get people to consume more and more calories (aka biomass and organic matter). “When food is abundant and cheap, people will eat more of it and get fat” (Pollan, 2006, p. 102). The result is the growing epidemic of obesity that we are witnessing throughout North America (Standage, 2009). “About a third of all our calories now come from what is known, by
community consent, as junk food” (Kingsolver, 2007, p. 15). The prevalence of obesity and Type II Diabetes, which is increasingly seen in children, is what you might expect to see in an animal “whose environment has overwhelmed its metabolism with energy-dense foods” (Pollan, 2006, p. 107).

Also connected to the mechanized food industry is the growing prevalence of food poisoning (Pollan, 2006). *E. coli* O157:H7, a powerful toxin that attacks the lining of the intestine, has caused considerable harm throughout North America and Europe. Other foodborne illnesses are also being attributed to the ways in which food is being produced (Schlosser, 2001).

Mad cow disease is another example of how food has affected people’s health. The disease is the human variant of Creutzfeldt-Jakob disease, also known as bovine spongiform encephalopathy (BSE), which can be fatal for both cows and humans (Kingsolver, 2007). The disease became infamous during the 1980s, when more than a hundred people died in the UK from eating BSE infected beef. The practice of feeding animal parts to other animals spreads BSE, which is why it was banned in the United Kingdom shortly after the outbreak (Pollan, 2006). Social customs and mores of food were created to prevent the spread of diseases like BSE – clearly not all protein is created equally. In the United States, unlike in Britain, feeding ruminant protein to ruminants has yet to be banned outright as blood products, fat and other non-ruminant animal products are still fed to cows (Pollan, 2006; Kingsolver, 2007). Detection practices are also questionable. As of 2006, only one-tenth of one percent of all cows that are slaughtered were tested for BSE (Kingsolver, 2007). It is interesting to note that of all the BSE cases ever recorded, there has never been one found in cattle that were raised and finished on pasture grass or organic feed (Kingsolver, 2007). As Schlosser (2001) points out, BSE is a powerful symbol of what is wrong with the industrialization of farm animals.

**Food Culture**
Culture is the collection of knowledge, beliefs and behaviours that govern groups of people and promote certain customs, values and norms (Encarta Dictionary, 2008). A food culture perpetuates and distributes a population’s collective wisdom about what to grow and eat in a given time and place (Kingsolver, 2007). “It arises out of a place, a soil, a climate, a history, a temperament, a collective sense of belonging” (Kingsolver, 2007, p. 17). The human omnivore, according to Pollan (2006), is faced with a complex decision each and every time we eat something. “When you can eat just about anything nature has to offer, deciding what you should eat will inevitably stir anxiety, especially when some of the potential foods on offer are liable to sicken or kill you” (Pollan, 2006, p. 3). To combat this dilemma, humans have sense, memory and the advantage of culture.

(Culture) stores the experience and accumulated wisdom of countless human tasters. (…) Our culture codifies the rules of wise eating in an elaborate structure of taboos, rituals, recipes, manners and culinary traditions that keep us from having to re-enact the omnivore’s dilemma at every meal (Pollan, 2006, p. 4).

In the absence of a distinctive and steadying food culture people become wrought with confusion and anxiety about what to eat it, leaving them vulnerable to other influences spouting so-called nutritional wisdom. “Our bewilderment in the supermarket is no accident; the return of the omnivore’s dilemma has deep roots in the modern food industry, roots that, I found, reach all the way back to the fields of corn growing in places like Iowa” (Pollan, 2006, p. 5).

In the United States and Canada there has never been a stable national cuisine. As nations of many cultures, you will see food from places around the world although there has never been a single unified food culture strong enough to keep the national diet very steady (Pollan, 2006). It is no wonder that we see so many food fads and diets take hold throughout North America.

Commonly Referenced Experts
There are six different individuals who were mentioned in two or more of the reviewed books. Each was referenced based on their expertise on a particular subject ranging from local cuisine, to crop ecology, to farming and chemistry. The six individuals were: Waters, Rodale, Grandin, Shiva, Berry, and Haber.

Alice Waters is a chef, author and founder of Chez Panisse. “Alice and Chez Panisse are convinced that the best-tasting food is organically and locally grown and harvested in ways that are ecologically sound by people who are taking care of the land for future generations” (Chez Panisse, n.d., para. 5). J.I. Rodale was an author and pioneer for sustainable agriculture and organic farming. He founded the Rodale Institute a “nonprofit dedicated to pioneering organic farming through research and outreach” (Rodale Institute, n.d., para. 5). Dr. Temple Grandin is a “designer of livestock handling facilities and a Professor of Animal Science at Colorado State University” (Grandin, n.d., para. 1). Dr. Shiva is a physicist and activist. Her work “highlights the fundamental connection between human rights and the protection of the environment. Dr. Vandana Shiva offers solutions to some of the most critical problems posed by the effects of globalization and climate change on the poorest and most populous nations” (Shiva, n.d., para. 3). Berry is an author, teacher and activist who famously wrote, “eating is an agricultural act” (Berry, 2002, p. 321). Fritz Haber was a German scientist who received the Nobel Prize in 1918 for his work on the fixation of nitrogen (The Nobel Foundation, 1966).

As with common themes, these commonly referenced individuals have been identified to highlight the varied expertise upon which each of these authors draws and which contributes to their discussion of food. Although one might be able to anticipate references to Rodale, Waters, and Berry, the outliers, if I can call them that, Grandin, Shiva and Haber, are also interesting to note. Their inclusion here illustrates the varied nature of food issues, as they connect to advancements in technology, implications for vulnerable populations, as well as human and
animal rights, in addition to ecological sustainability. This helps to illustrate the interconnectivity of food and of the food movement as it relates to so many other social, ecological and cultural movements.

**Language and Usability**

When looking at each of these texts as a source of information about the relationship between food and the environment, questions of language, structure and style are very relevant since effective communication is a crucial element of education. Further, a comparison and analysis of written texts requires an exploration of both content, which can be seen in the summaries and identification of common themes, and structure, which looks at both language and usability (Goldman and Wiley, 2004).

Despite the fact that all four books were non-fiction book focusing on food, the ways in which these authors communicate their messages are all very different. Some I found to inspire action through story and emotion, while some I found focused on straight content, which at times bogged me down with information and unclear messages as to what I, as the reader and concerned individual, should do with all this information. Length also varied and contributed to the accessibility of the book. The shortest book, *An Edible History of Humanity*, had 242 pages, not including acknowledgements, sources, or the index; while the longest book, *The Omnivore’s Dilemma*, had 411 pages, not including referencing, the index, or acknowledgments. The other two texts fell within that range (242-411 pages). According to discourse analysis (Goldman and Wiley, 2004), length is an important consideration as it affects the transmission of information, via text, and the comparability of different texts from within the same genre. In this case, the range of text lengths was quite varied, however I believe that their comparability remains intact.
as they still fall within the same genre (i.e. a non-fiction book) and only one is more than 100 pages longer than the rest.

While it was not possible to conduct a detailed word frequency count or to analyze the readability of these texts using some form of a readability formula, such as lexile (www.lexile.com), some basic writing guidelines can be applied and used to inform a discussion of language and usability. For instance, does the author clearly state the purpose of their work? Would an educated, yet uninformed, person understand what the author wrote? Is the message simple and clear? Are illustrations, figures, or tables used to communicate certain messages? Do they define terms where necessary? Is the information presented in a logical and effective order? (Royal Roads University Writing Center)

Although all books four state a purpose, I found that the most telling question was whether an educated, yet uninformed, person would understand what the author wrote and if the book had a simple and clear message. In my opinion the most successful book in this regard was *Animal, Vegetable, Miracle*. This book is written using very clear and simple language, any terms that are used are defined and often further explained (via side-bars written by Kingsolver's husband), and while there isn’t a heavy use of visuals, the integration of recipes and cooking tips makes the book more applicable to the everyday life of the reader. When visuals are used, they are quite effective (i.e. the vegetannual).

Another important element of this book in particular, was the integration of the author’s personal story into the text (Bernard & Ryan, 2010). This is reflective of both her the authors writing style and experience as a fiction writer, where story is the primary communication tool. I think this is the great success of the book and contributes to a clear and simple message: eat deliberately and participate, as best you can, in the creation and preparation of your food. Speak up, she says, ask questions and find appropriate forums to promote local food.
I feel that an author’s personality, opinions and feelings should be included in a book. It adds a human element to the facts, engages the reader, and illustrates the author’s passion or drive for what they are writing about. When there isn’t a strong storyline that keeps the reader coming back for more, it is the connection they feel with the author and what they are saying that does. In a non-fiction book, I believe that the importance of this connection is magnified.

While Fast Food Nation and An Edible History of Humanity also used accessible language and would likely be understood by an uninformed, yet educated individual, they both often lacked a clear message, especially one that relates to the individual. In the case of The Omnivore’s Dilemma I found this also to be the case; however I also found that the language used was not particularly accessible, nor did I feel that an uninformed, yet educated, individual would necessarily understand the terms and phrases used throughout the book. Despite the fact that terms were often defined, confusion often resulted from the use of explanatory words that were overly complex. For instance, Pollan (2006) writes “as the Whole Earth encomium suggests, the counterculture had married the broader and narrower definitions of the word “organic” (p.142). The word that stands out in this case is “encomium”, which is defined as a “text expressing high praise” according to the Encarta English Dictionary (2007). The choice of terminology here seems overly complex and inaccessible. Another example can be seen in the following sentence: “building processed food out of a commodity like corn doesn't completely cushion you from the vicissitudes of nature, but it comes close” (Pollan, 2006, p. 95). Vicissitudes has been used here to describe variability or unexpected changes. Again, this seems overly complex and likely inaccessible for many audiences.

When trying to communicate a message about a particular issue it is important to “talk about values, not just facts and figures; to use simple language, not technical language; and to appeal to emotions” (Lakoff, 2010, p. 73). The use of complex terminology detracted from the
accessibility of *The Omnivore’s Dilemma* as a whole. However, in what might be seen as an effort to combat this, Pollan released *The Omnivore’s Dilemma for Kids: The Secrets Behind What You Eat* in 2009. According to michaelpollan.com, (2010) “this young readers edition of Michael Pollan’s bestseller *The Omnivore’s Dilemma* includes a brand-new introduction and afterword, an exclusive author Q&A, and a variety of fresh visual “evidence.”” This edition is also approximately 100 pages shorter than the original. Schlosser similarly released *Chew on This: Everything You Don’t Want to Know About Fast Food* in 2007 that was aimed at young adults.

It seems that both of these authors, with the release of their best-sellers now aimed at younger audiences, were responding to a need to educate children and youth about food. It is unlikely that younger audiences would respond to language like “hunter-gatherer”, which might be why Pollan changed that section heading to the “Do-It-Yourself-Meal”. Another really interesting point that this raises is the role of children and youth in the food movement. The *Slow Movement*, for example, is integrating ideas of slow schools and slow education with slow food, which “aims to preserve cultural cuisine and in so doing preserve the plants and seeds, domestic animals and farming within an ecoregion” (Slow Movement, 2011). Considering the disintegration of non-structured learning (Slow Movement, 2011) and the fundamental lack of food knowledge that is so prevalent in western societies today (Kingsolver, 2007; Pollan, 2006; Standage, 2009; Schlosser, 2001), educating children and youth about food is crucial for the long-term sustainability of our food systems. While the entire school system was originally structure around growing seasons, the seasonality of our social customs seems to have been lost, similar to our knowledge of where our food comes from and how to grow it. I believe that re-establishing this connection between education and broader social, ecological and food systems is fundamentally important in moving toward a desirable, safe, and sustainable future.
Drawing from my experience with these four texts, I found that the most influential books were those that integrated the human element into their messages. In the context of her family’s experience, Kingsolver speaks to many of the same messages that Pollan outlines in his book. However, for me, the former instilled a greater sense of motivation than the latter. That isn’t to say that there aren’t those who have found Pollan’s book and his message more motivating than Kingsolver’s. Rather, speaking from my own perspective, in order to change something I do or believe I need to feel inspired and have some kind of personal connection to the words in a book for me to keep picking it up and reading what the author has to say. The integration of factual information with personal stories is a winning combination in my mind. As Berry writes, “one of the most essential roles of the ecologist is to create the language in which a true sense of reality, of value, and of progress can be communicated to society (as cited in Perkowitz, 2010, p. 67). Effective communication requires those communicating to know and appeal to their audience and to effectively bridge the conceptual, temporal and spatial gaps between the reader and the issue at hand (Pike, Doppelt, & Herr, 2010).

Suggestions for Future Research

As I conducted this research I came to realize numerous opportunities for further research beyond the scope of this project. A few of these opportunities include: an investigation of the origins of the ideas expressed in each text and how they evolved over time; explore the relationship between language and gender, or discourse and gender more fully, when dealing specifically with communicating about food and the environment; look at the topics that were not covered and why; and perform a content analysis of various forms of media, (television, local or national newspapers, hits on websites) over the last ten years to see whether there has in fact been a significant increase in public interest in these issues.
A Personal Journey

Throughout this process, from research through to analysis and writing, I have kept a journal and recorded my own thoughts and reflections. In many ways this project was a personal journey in which I explored my own relationship with food. Food and cooking was always something I felt passionate about but I didn’t know as much as I wanted to about it. This project was an opportunity to integrate a personal passion, cooking, with my academic explorations. I knew going into this that my relationship with what I eat was going change. What I hadn’t anticipated was how much it would change and how many people would come on this journey with me. I’ve been humbled by what I didn’t know and encouraged by what I did.

Growing up in the city, I didn’t have the chance to spend much time on a farm, or even to grow my own fruits or vegetables in a garden (except for a raspberry bush in the backyard). Regardless, I’ve always loved to cook and thought I had a fairly firm grasp of food – what it looks like while growing, how to prepare and cook, the different growing seasons for different food etc. I’ve since realized the many things I didn’t know - I couldn’t tell you what a potato looks like in the ground or when was a good time to hunt for morels. Since conducting this research, and subsequently altering my own relationship with food, I’ve had the opportunity to learn a lot more about where my food comes from and the many factors that play into my food choices. Surprisingly, I also came to realize what I did know about food. I knew, but perhaps never thought about, the first things that come into season here in Ontario, that the raspberry bush in our backyard was fullest in late august, and that the most delicious corn you’ll ever taste is ready at the end of the summer. The produce that becomes available during the summer months, from peaches, corn, new potatoes, to raspberries, blackberries and blueberries, was so integrated into my idea of summer that it never really occurred to me that these were the components of my local food economy.
Since conducting this research, I have learned so much about food and as such have made the following changes to my own food choices: I am completely committed to buying organic milk, eggs, cheese, butter, and yogurt (almost all of the dairy I consume); I will not buy meat unless I know that the animals have been fed well, raised humanely, did not come from conventional animal feed lots and were raised on organic farms; I always look for Canadian produce, or better still, Ontario produce; I grow my own herbs and lettuce on my balcony; and, I try to visit my local farmers markets on a regular basis. This means that some of my food is more expensive; however I have also found that I am eating less meat, one of the most expensive products, and therefore have not noticed a significant increase in my weekly food bill.

I think that fundamentally this research has changed my food philosophy. Instead of regulating or restricting what I eat to lose weight or save money, my food choices are now governed by a desire to have a healthy and sustainable relationship with my food. It has become about sustainable choices, sustainable from an environmental perspective, but also sustainable from a personal perspective. I want to start making food choices that I can carry with me for the rest of my life. In many ways, this has been easier to adhere to than any low-fat, low-cal diet I have ever tried as this commitment is much more meaningful to me.

There have been many experiences in my life which have brought me into environmentalism; however compared to most I entered this arena relatively late. It was only after taking a mandatory science requirement in my undergrad that I realized in what I wanted to major. Since then, I have often felt the need to justify my identity as an environmentalist. I can’t tell you the name of most tree species, I have only been camping a handful of times in my life, and sometimes I get scared by things in nature. I’ve always known that I cared; I just haven’t always been able to articulate what it is that I care so much about. With this research I feel like I have found something into which I can integrate myself. Compared to most of my other
experiences with environmental issues, my moments of feeling overwhelmed by all the things that I do not know are few and far between compared to my moments where I feel inspired and engaged with the food I am eating, cooking, and sharing with the people in my life. Overall, it has been a rich experience which has taught me a lot about myself, the things I cherish and value in life and the things for which I am willing to make sacrifices. Due to this highly personal experience, I feel that as a communicator I can honestly speak to my own perspective; which I think has allowed me to convey important messages about food in a meaningful way to a wide variety of people in my life. That, I think, is the most significant thing I walk away with from this research project.

**Implications for Environmental Education and Communication**

Each of us comes to have an appreciation of nature in different ways. Some of us experience nature through outdoor adventures, exploring the woods and forests, or through swimming in lakes and ponds; others experience nature through gardening, food and farming. Each of these avenues provides an opportunity to explore and experience the natural world. Food is one such avenue of exploration. We can experience the natural world through what we eat. In their own ways, each of these authors speaks to a connection (or lack thereof) to food. Conventionally, it has been through food that human beings have come to know the land we depend on for life. The connection between food and human history is, as Standage (2009) would point out, no coincidence. Food is a life-force; a fundamental part of being a living creature.

Our relationship with our food is in many ways indicative of our relationship with the natural world. Food provides human beings with a connection to the plants and animals that share this planet. Where a meaningful connection is lacking, greater problems often follow.
Whether the disconnect we now often see between people and their food is the result or cause of the numerous environmental problems we are currently experiencing is up for debate. The purpose of this discussion is not to draw any grand conclusions. The point, I think, is to acknowledge the transformative role that food can have in generating a meaningful connection between people and the natural world.

To quote Richard Louv (2011), “Martin Luther King Jr. taught us, by word and example, that any movement — any culture —will fail if it cannot paint a picture of a world that people will want to go to. As others have said, his speech was not called “I Have a Nightmare”” (para. 1). In one possible future world, a key element would be for each individual to have a meaningful connection with his or her food, and by extension the natural world. “Imagine a future in which our intelligence and creativity, our ability to feel and be fully alive is enhanced by more frequent contact with the natural world” (Louv, 2011, para. 10). For those who wish to have a more meaningful connection to the environment, or even for those who don’t, food is an integral part of all life and, as such, a connection with it is a connection to the natural processes that make our lives possible. Unfortunately, participating in the production, preparation, or distribution of food has become something that stands outside the daily routine of the modern individual. Reconnecting with that routine is something which we need to advocate and take action towards. Through their literary work these authors provide the information, and in some cases the inspiration, to work towards reestablishing this connection to what we eat and, by extension, the natural world.

On the one hand there is the connection we can draw between food and the natural world; on the other, there is the effect that our current relationship with food is having on the environment. All four of these authors acknowledge, whether implicitly or explicitly, the environmental implications of our food choices. What is interesting to note is how each author
offers, or doesn’t offer, a means to repair this unhealthy relationship. I would argue that Pollan (2006) and Kingsolver (2007) do the most to provide alternatives, or at least a discussion of alternatives. Schlosser (2001) and Standage (2009) place the focus of their discussions elsewhere; on the fast food industry in the first instance and on the leading role of food throughout human history in the second.

Whether or not the intention of these authors was to draw out the connection between food and the environment, the connection is there regardless and can be seen in each of these texts. The discussions that are weaved throughout all of these books, those identified as common themes, each in their own way touch upon an environmental discourse. In discussions of vegetarianism, health, organic and local food, technology and food culture there is room for discussions of the environment, in addition to those whom explicitly mentioned environmental implications. Food, as an avenue for communication, offers the opportunity to integrate pieces from a variety of social movements, including environmentalism. In many ways, the food movement is about making sure the food we eat tastes good and is good for us.

The food movement has directly jacked into that other great (…) obsession – health – in a way that distant concerns about climate change (and other environmental issues) have largely failed to do (…) food is present in our lives in a way that endangered species, deforestation or Arctic melting simply aren’t. We buy food, we cook food (though less and less frequently) and three times a day, we eat food (Walsh, 2011, p. 2). The food movement, as it continues to evolve and expand, is an effective vehicle for communicating important environmental messages and goals. Promoting sustainable and safe agricultural practices has implications beyond better tasting and healthier food. Agricultural reform and sustainable food can positively contribute to climate change mitigation, that is the
cumulative actions to reduce the intensity and future effects of climate change, and can help to reduce water and air pollution and contamination (Walsh, 2011).

The principles which promote organic and local food are intended to ensure a healthy food system, which is as much an environmental cause as it is a health cause. Reforming the food system and modifying agricultural practices to rely on solar energy alone, is increasingly being embraced by the environmental movement as an important action to undertake. Many environmentalists and environmental groups have come to realize that “a diversified, sustainable agriculture – which can sequester large amounts of carbon in the soil – holds the potential not just to mitigate but actually to help solve environmental problems, including climate change” (Pollan, 2010, p. 5). By merging the food movement with other movements, such as the environmental or health movements, the expertise and experience of each can be lent to the other. Collectively, these movements can work towards a shared vision of the future that is about community, identity, health, and sustainability. “Food can serve as “an edible dynamic”- a means to an (...) end that is only nominally about food itself” (Pollan, 2010, p. 8).

**Media as an agent for communicating about food and the environment.**

There is a growing body of media discussing these issues. Scholarly work has also begun to focus on food and the media as sites for cultural work (Lindenfeld, 2010). Increasingly, documentaries, in addition to literary media, are addressing these issues, looking beyond the Hollywood lens which “fetishizes” food and investigating where our food comes from and the implications of our consumptions habits on human and ecological health (Lindenfeld, 2010). “The emergent body of documentary films seeks to encourage citizens to act as political agents through cultural engagement. Film, in this case, serves as the basis for engaging individuals as political, economic, and cultural citizens” (Lindenfeld, 2010, p. 380). These films are building on the knowledge and information presented in books like *The Omnivore’s Dilemma* and *Fast Food
Nation, yet films can reach audiences who may not yet be engaged in this body of discourse (Lindenfeld, 2010). Visual media, such as films or television shows, are highly accessible sources of information, even more so than books or other articles. Both literature and film are increasingly common sites for communicating information about food to a broad audience.

There is no denying that media’s coverage of food is an ever increasing body of knowledge, however more often than not environmental implications are weaved into these discussions rather than identified as important issues of their own (Lindenfeld, 2010). In spite of this, media coverage of food and the environment can have an important role to play in communicating to audiences and facilitating action (Lindenfeld, 2010). Popular media is just that, it is a popular source of information. For better or worse, the majority of people in Canada and the United States are spending fifty hours a week, 8.5 hours on any given day, in front of screens (TV’s, computer’s, video games) (Stelter, 2009; Irvin, 2011). Media has the potential to be a very effective vehicle for communicating key messages about our food system to a wide and diverse audience. I think it offers communicators the opportunity to disseminate their messages quickly and effectively, without the audience having to seek out specific information on these topics. Sparking interest in these issues, through exposure, is an important part of an effective communications strategy and media provides a highly useful outlet.

**Have these authors discussed the implications of our food choices in a meaningful way?**

Meaningful, in this case, has been interpreted to mean both valuable, as in adding value and/or significance to the decisions we make about our food, and inspirational in the sense of providing alternatives, actions, or details for the reader which can inform individual choices. In the context of this discussion, whether these authors have discussed food and the choices we
make in a meaningful way was established by examining the information and inspiration provided by the author through their communication.

In using this definition, I have tried to integrate some of the ways in which the human brain processes information, which in turn affects the kind of knowledge that is retained, deemed meaningful and then applied to the decisions and actions of everyday life. According to the Center for Research on Environmental Decisions (CRED), the human brain has difficulty balancing long-term concerns with more immediate ones (Center for Research on Environmental Decisions, 2009). It “has two different processing systems: the experiential processing system, which controls survival behavior and is the source of emotions and instincts (e.g., feeding, fighting, fleeing); and the analytical processing system, which controls the analysis of (...) information” (Center for Research on Environmental Decisions, 2009, p. 20). When trying to influence food choices and our individual relationship with the environment, it is important to maintain a balance between the two kinds of information. Facts, statistics, and scientific data can be useful tools for providing information; however they often fail to instill a sense of urgency or inspire action (Center for Research on Environmental Decisions, 2009). Evidence from the social sciences suggests that the experiential processing system is better at motivating action. Personal and anecdotal experiences or stories can evoke strong emotional responses in individuals and can create more memorable communications, even if they come from strangers (Center for Research on Environmental Decisions, 2009). It is therefore important to maintain a balance between the two kinds of communication when trying to influence attitudes and behaviour in others. It is for this reason that my definition of meaningful incorporates the addition of value to decision and actions, via information, as well as inspiration, through personal stories and experiences.

In the case of people’s food choices, we see a lack of understanding about where our food comes from, and how our choices will affect our health, environment and social well-being. I
think it is important to provide individuals with both the knowledge to make different and more informed choices, as well as those tangible and inspirational actions that will have a large impact collectively. In looking at each author and whether they have discussed the implications of our food choices in a meaningful way, I would say that the biggest difference between the four authors is in their approach.

In my mind one author, Barbara Kingsolver, tries to inspire the individual to make small differences in their lives (eat local or organic for one week, grow some herbs in the windowsill, visit a farmers market, eat organic dairy products, etc.) while providing information about why those are important choices to make. The information, for me, was almost secondary to the inspiration, via the story of her family, their experiences, their recipes and their choices within a year. It was their story and the actions that they took individually which provided the best case for me to change the way that I obtain, view and consume my food. The other three authors provide the information that, I would assume, they feel is sufficient to make an informed decision about what to eat. Perhaps in an attempt to avoid prescriptive actions, these authors each chose a topic, fast food, industrial food, history and food and wrote about them. The individual focus was lacking in all three and left me feeling more overwhelmed by all the information that was presented rather than inspired by a story or experience.

One of the four approaches provides an inspirational story, while the others (if I were to group the three books together) are approaches that provide information one might need to make an informed decision. Perhaps this approach stems from a belief that if you provide the facts to people they will use that information to make the ‘right’ decision (Lakoff, 2010). Or, perhaps this reflects the professional background of each of these authors: Kingsolver is a fiction writer and storyteller by trade, Pollan, Schlosser and Standage are all journalists (See Appendix B for more about the authors). What I would argue is lacking from the fact-based approach is the
motivation to actually make a different choice based on stories, experiences, actions or specific
details about how to go about facilitating some kind of change. Even though one other author,
Pollan, does provide a case for a different kind of relationship with food it is extreme and likely
unrealistic for most people (those who aren’t about to take up hunting). For the most part, these
authors present all the ways in which the current food paradigm misrepresents the food we put
into our bodies. However, as a reader I was left wondering how am I, just one person, going to
make any difference? Sometimes by providing a lot of information you can overwhelm your
audience, who may ultimately remain apathetic. If the view of the world that is shown to a reader
is one of despair, then how can they feel inspired to do anything about it? It is for this reason that
I think that storytelling, which integrates emotions and personal connections, is such an
important communication tool.

One could argue that the different approaches represented in this small sample represent a
much wider divide, or dualism, between emotion and reason.

The binary oppositions engendered in this form of Western thought are not a coincidence:
binaries are not neutral, equivalent pairs but represent hierarchical relations in which one
term is valued more than the other. The dualism of reason/emotion is no exception: in the
history of Western philosophy, emotion has more often than not been maligned and
neglected (Boler, 1997, p. para. 3).

On the one hand there is a rational discourse, as represented by Pollan (2006), Schlosser (2001)
and Standage (2009), where reason and truth structure the transmission of ideas and information.
Emotions are permitted in this discourse when they are channeled into a rational debate. “We
speak of “passionate or “heated” debate; the speaker who “felt strongly” about his position”
(Boler, 1997, para. 8). On the other hand, there is an emotional discourse, which is represented
by Kingsolver (2007) and the story she tells about her and her family. According to Lakoff
the use of emotional language is indicative of the different roles that men and women play in society. Although further exploration of issues of language and gender are beyond the scope of this research, I believe that the connection between emotions and story is very telling in this case as it is through this connection that both meaning and inspiration can be found. “By telling stories, we allow people to use their brains to decipher what information is of value to them and what is not” (Carlson, 2007, para. 2).

Do we have a food revolution?

Accompanying the declining relationship and awareness of food has been a growing social movement; a food movement that has spurred the development of literature, television, film and other media popularizing these issues. The food movement itself has been through many iterations, pioneered and driven by Rodale in the 1940s and 50s and Berry, Lappe, Commoner, Gussow and Waters in the 1970s and which is now being carried forward by the four authors identified in this research among many, many others including, local gardeners, farmers market attendees, restaurant owners, family farmers, schoolteachers and children practicing food-growing curricula (Kingsolver, 2007).

The more recent revival of interest in food has spurred questions as to whether this renewed interest is, in fact, indicative of a broader food revolution. A revolution can be defined as some kind of major change. A food revolution would imply a major shift in the ways in which the western world views and consumes food. A major change of this kind could achieve a great many things due to the fact that food touches so many different aspects of our lives, social structures, and ecological systems. With a renewed emphasis on sustainable lifestyles, a food revolution implies a healthier relationship with the natural world, not to mention healthier people and societies.
Do we have a revolution on our hands? Ross (2011) writes that “people (…) are more aware than ever that food is about more than calories, health and corporate profits. It involves our economic, social, environmental and spiritual lives” (Ross, 2011). Some say that the popularity of organic produce, farmer’s markets, community-supported agriculture (CSA), Slow Food, 100-Mile Diet Challenges, and local produce answers this question with a clear “yes!” (Click & Ridberg, 2010; Martin, 2009; Kingsolver, 2007).

Consumers increasingly seek out organically produced food, for reasons that range from an ethical concern for the environment to a desire to avoid ingesting pesticides and the conviction that organic food tastes better than food from conventional sources. Today, organic foods can easily be found in supermarkets and is the fastest growing section of the food industry” (Singer & Mason, 2006, p. 4).

There is a growing market for alternative kinds of food and people are now having a conversation about food and agriculture that may have been difficult to even imagine not too long ago (Pollan, 2009). “From the rural routes to the inner cities, we are staring at our plates and wondering where that’s been. For the first time since our nation’s food was ubiquitously local, the point of origin now matters again to some consumers” (Kingsolver, 2007, p. 17).

So, why is it that we are beginning to see a shift and what are some of the causes of this so-called revolution? Much of the popularity of the food movement can be credited to media. Take, for instance, the story of two Canadians, Smith and MacKinnon. In 2005, these two individuals took on a challenge to see if they could eat within a 100-mile radius for one year. Inspired by their experience, they then wrote a book entitled The 100-Mile Diet: A Year of Eating Locally, which was released in 2007. “Their 100-Mile Diet struck a deeper chord than anyone could have predicted, inspiring thousands of individuals, and even whole communities, to change the way they eat” (100milediet.org). The Food Network then aired a television series
called the *100-Mile Challenge*, documenting the experience of six families trying to live locally (The Food Network, n.d.). Both the show and the book were extremely successful and have spurred on dialogue around local and sustainable food both in Canada and the United States and this is just one example of how media has acted as an agent for change, disseminating and popularizing the pillars of a food revolution. Genealogically speaking, this could be seen one of many moments which have spurred a shift to thinking about food differently.

Growing knowledge, acceptance and understanding of global climate change is also creating a dialogue about fossil fuels and our oil based economy and is having an effect on people’s relationship to food. More and more people are starting to understand the global impact of their behaviours and consumer choices. Organizations such as *Local Food Plus, Mama Earth Organics, Stewards of Irreplaceable Land (SOIL), The Stop Community Food Centre, Little City Farm, Sustain Ontario,* and *Food Secure Canada,* among many others, are working to connect people to food in meaningful ways as they work to create a sustainable and healthy food system. So, are we seeing a revolutionary shift to a food-based economy that links what we eat to our health and the health of the environment?

It seems, unfortunately, that there is no clear answer. There are those who argue that there is a revolution, and those that argue that there is none (Ross, 2011). However, whether acknowledging that there is a revolution or calling for one, people are speaking out and demanding change. Pollan has been quoted saying that we need a “reform of the entire food system” calling on the American presidential administration to focus on diversified, regional food networks (Martin, 2009). Food activists of today are being likened to the environmental movement of the 1960s; however the difference is that modern food activists have their foot in the door (Martin, 2009). The movement of today has gained “commercial heft, with the rapid success of organic and natural foods in the last decade, and the celebrity cachet, with a growing
cast of chefs, authors and even celebrities like Oprah Winfrey, [Jamie Oliver] and Gwyneth Paltrow who champion the cause” (Martin, 2009). People are asking where their food comes from and are frequently wary of ingredients that cannot be pronounced or even identified as animal, vegetable, or mineral (Kingsolver, 2007). Collectively, these events and moments are causing people to pause and reconsider how their food choices will have an effect on their health today, and the health of the environment in years to come.

Conversely, there are those that question the integrity of the recent insurgence of food in mainstream media (Lindenfeld, 2010). Critics suggest that the popular advice to change the food system through individual consumer choices (i.e. buying local or organic), also called individualistic consumer-oriented strategies, is too individually focused and lacks the necessary force to make a meaningful change to the global food system (Click & Ridberg, 2010). Some also say that food movement activists lack political savvy (Martin, 2009). Others, like Ruiz of Forbes Magazine, critique the food movement for having an incomplete argument. Whether it is in people’s best interest to become more aware and responsible food consumers, the larger question, she writes, is how much will it cost to shift the scale of production to a more conscientious model (Ruiz, 2009)?

Despite these criticisms, the food movement is gaining momentum. Thanks in part to the growing awareness of health related concerns.

Perhaps the food movement’s strongest claim on public attention today is the fact that the American diet of highly processed food laced with added fats and sugars is responsible for the epidemic of chronic disease (…) most of which are preventable and linked to diet: heart disease, stroke, type two diabetes, and at least a third of all cancers. (…) Diet is the direct (even if unintended) result of the way that our agriculture and food industries have been organized (Pollan, 2010, p. 6).
Although some may criticize the industrial organic, the industrialization of organic farming methods has enabled corporate giants and major grocers like Wal-Mart to carry organic, natural and local products (Martin, 2009). “Organic growers, farmers’ markets, and small exurban food producers now comprise the fastest-growing sector of the U.S. food economy” (Kingsolver, 2007, p. 21). The very existence of this choice in mainstream supermarkets, I think, is something quite revolutionary. Indicating the increasingly mainstream nature of the food movement, Smyth, former senior vice president at H.J. Heinz, says, “consumers are looking for more authentic foods” (Martin, 2009). Kingsolver, Pollan, Schlosser and Standage are just four names among a growing group of authors and activists that are discussing food in this context.

Even industry seems to be seeking change. Responding to consumers threat to stop purchasing McDonald’s meat due to the mistreatment of animals, “McDonald’s acted decisively and hired Temple Grandin – one of the nation’s foremost experts on animal welfare and proper livestock handling - to devise an auditing system for the slaughterhouses that provide the chain’s beef and pork” (Schlosser, 2001, p. 282). The McLibel case in Britain also shows how some people are willing to challenge the giant corporations (Schlosser, 2001). Schlosser has been quoted saying that, “there is no question that meaningful reform has begun” (PBS, 2009). “Food is invisible no longer and, in light of the mounting costs we’ve incurred by ignoring it, it is likely to demand much more of our attention in the future, as eaters, parents and citizens” (Pollan, 2010, p. 12).

In the most recent edition of Alternatives Magazine (March-April 2011), Ross speaks to the momentous response they received to the call for articles in this issue. To quote Gladwell’s closing remarks in The Tipping Point, “look at the world around you. It might seem like an immovable, implacable place. It is not. With the slightest push – in just the right place - it can be
tipped” (Gladwell, 2002, p. 259) Perhaps that is what the food movement needs. With the right amount of pressure, in the right place, at the right time; the world will change.

**Conclusion**

We know that the messages of this movement are nothing new. Even before contemporaries like Berry began to explore these issues, there was a time when the distinction between organic and non-organic food did not exist, everything was organic as everything is made up of organic matter. There was once a time when all those who lived on this planet had some understanding of how to grow, gather, or hunt for their dinner. There was a time when the family meal was the most important social gathering of the day (and still is, in some places). Although it is unlikely that the food activists of today are advocating for a journey back in time, I think it is important to acknowledge the fact that some of these ideas (local, organic, sustainable) have had to be created in our society as we have become so far removed from the natural world and natural processes.

The mainstreaming of what was once a counter-culture, debatably, has both pros and cons. What is less debatable is the growing presence of a food discourse in everyday conversations, behaviour and media. As one journalist put it, “2010 was the year of home-grown changes” (Bonoguore, 2011, para. 2). Readers all over the country are picking up books on sustainable food and self-sufficiency. Books on food are even outselling books on climate change in some places (Bonoguore, 2011). People are looking for guidance on regional issues, like growing, raising, and ethically consuming food. The shift from knowledge-based literature to more practically minded books, such as handbooks, cookbooks, and how-to’s, I think, is reflectively of the need to inspire change at a more personal level. The most important thing that I have learned during this past year is that effective communication, particularly about the relationship between food and the environment, is more than just a matter of providing
information, via books or other forms of media. It is about finding ways to inspire people to make different choices.

Inspiration can come from anywhere and I believe that all four of the books that have been discussed here offer their own forms of inspiration; however those that are more successful in this regard are the ones that make it personal. Despite the fact that many people who read these books may not be looking to fundamentally alter their food philosophies, I think it can be said that neither the presence nor the absence of the intent to change negates the possibility for revolutionizing one’s relationship with food.

However these issues are communicated, (via books, film, television, academic articles or internet blogs), significant change will happen when people want it (Kingsolver, 2007). It would seem that the growing interest in these issues, spurring further media coverage and discussion, indicates that an increasing number of people want it. What is still up for debate is how far this desire for change will take us away from the current industrial food system and whether it will result in a stronger connection to the natural world.

**Epilogue**

When I submitted my thesis proposal I had no way of knowing what the next year would have in store. Since beginning my research my stepdad was diagnosed with colon cancer. The doctors said that it was likely brought on by many years of stress and instructed him to transform his lifestyle, including what he eats, while he underwent treatment. Although his prognosis was good, he felt extremely overwhelmed by all the things he knew he had to change. His initial reaction was that he would never get to eat something delicious again in his life, although, as expected, that reaction was soon tempered. I started to explain to him how I thought this was an opportunity to reformulate his relationship with food. On the eve of his surgery as we celebrated he and my mother’s marriage (after being together for a decade) with a luxurious meal of beef
bourguignon and French onion soup, I gave him *Animal, Vegetable, Miracle* and said he should plan all the things he wants to do when he recovered. I told him that I’d teach him to cook and that we can make mozzarella cheese, plant a vegetable garden, and go to farmers markets on the weekends. It is now three months since his surgery and he has recovered extremely well. Doctors have told him that he is cancer free! The vegetable garden is flourishing and I’m now asking him for recipes.

The most profound thing that I am taking with me from this research is the knowledge of the transformative role of food. I can’t calculate the exact impact that this knowledge has had on my life, both personally and professionally, however what I do know is that, for me, food is universally important and connects so many different people, places, and movements. I have seen how it can heal someone, how it can bring someone joy, excitement and countless experiences. As I look ahead, I can see myself taking on the things I have discovered throughout my research and integrating them into my personal and professional paths. In many ways, I think this research has simply whet my appetite. I feel as though I am now on a personal quest for more knowledge and more meaningful engagement with this movement.
References


### Appendix A: Excel Evaluation Matrix

#### General

<table>
<thead>
<tr>
<th>Does the author express a <strong>purpose</strong> for the book? If so, what is it?</th>
<th>What is the primary <strong>topic</strong> being discussed (i.e. local food, organic food, fast food etc)?</th>
<th>Does the author identify a particular <strong>problem</strong>? (i.e. unsafe drinking water, env degradation, health problems, etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;From our family’s gas-station beginning we have traveled far enough to discover ways of taking charge of one’s food, and even knowing where it has been. This is the story of a year in which we made every attempt to feed ourselves animals and vegetables whose provenance we really knew. We tried to swing most of the petroleum out of our food chain, even if that meant giving up some things. Our highest shopping goal was to get our food from so close to home, we’d know the person who grew it.” p.9-10 &quot;This book tells the story of what we learned, or didn’t; what we ate, or couldn’t; and how our family was changed by one year of deliberately eating food produced in the same place where we worked, loved our neighbours, drank the water, and breathed the air” p. 20</td>
<td>living and consuming locally derived plants and animals - to eat deliberately.</td>
<td>The consumption of fossil fuels and a lack of knowledge about where our food comes from.</td>
</tr>
<tr>
<td>&quot;The Omnivore's Dilemma Is about the three principal food chains that sustain us today: the industrial, the organic, and the hunter-gatherer. Different as they are, all three food chains are systems for doing more or less the same thing: linking us, throughout what we eat, to the fertility of the earth and the energy of the sun. (...) As ecology teaches, and this book tries to show, it's all connected” p. 7 “The ultimate destination of the journey I'd been on since traveling to an Iowa cornfield: to look as far into the food chains that support us as I could look, and recover the fundamental biological realities that the complexities of modern industrialized eating keep from our view” p. 281</td>
<td>organic food, industrial agriculture</td>
<td>The omnivore's dilemma: &quot;When you can eat just about anything nature has to offer, deciding what you should eat will inevitable stir anxiety, especially when some of the potential foods on offer are liable to sicken or kill you.” (p.3) In addition to the way in which industrial agriculture relies on fossil fuels</td>
</tr>
<tr>
<td>&quot;&quot;This book is about fast food, the values it embodies, and the world it has made. Fast food has proven to be a revolutionary force in American life; I am interested in it both as a commodity and as a metaphor.” p. 3</td>
<td>Fast food</td>
<td>The impact of McDonald’s (and the subsequent Fast Food Nation of today) on the way we live.</td>
</tr>
<tr>
<td>&quot;Draws on a range of disciplines, including genetics, archaeology, anthropology, ethno botany, and economics, (this account) concentrates specifically on the intersections between food history and world history. To ask a simple question: which foods have done the most to shape the modern world, and how?&quot; p. xii &quot;Looks at history as a series of transformations caused, enabled, or influenced by food” p. ix</td>
<td>Takes a long-term historical approach to illuminate debates about food, i.e. genetically modified organisms, the relationship between food and poverty, the rise of the local food movement, the use of crops to make biofuels, the effectiveness of food as a means of mobilizing political support for various causes and the best way to reduce the environmental impact of modern agriculture.</td>
<td>(Perhaps) an ignorance about the transformative role food has played throughout human history</td>
</tr>
<tr>
<td><strong>Animal, Vegetable, Miracle</strong></td>
<td>Provides a case where a family tried an alternative and (I think) suggests that similar alternatives are available to everyone, everywhere.</td>
<td>2007</td>
</tr>
<tr>
<td><strong>The Omnivore's Dilemma</strong></td>
<td>Attempts to trace the primary food chains “from the earth to the plate” and to see the role humans currently have in those chains. Posits that how an individual participates in that chain determines “what kind of creature we are” p. 6</td>
<td>2006</td>
</tr>
<tr>
<td><strong>Fast Food Nation</strong></td>
<td>Attempts to reveal truths about the fast food and meatpacking industries with the intention of informing consumers to make different food choices. He hopes that this will put pressure on industry and congress to change.</td>
<td>2001</td>
</tr>
<tr>
<td><strong>An Edible History of Humanity</strong></td>
<td>Illustrates the connection between food and history. This book acts as an introduction.</td>
<td>2009</td>
</tr>
</tbody>
</table>
**Comparison**

<p>| Animal, Vegetable, Miracle | Wendell Berry, Alice Waters, Vandana Shiva, J.I. Rodale | Concentrated animal feeding operations (CAFOs) French Paradox Genetic modification Corn and soybeans High fructose Corn syrup (HFCS) The Green Revolution Organic food Local food (&quot;locavore&quot;) Free trade Synthetic fertilizers Slow food (&quot;slowies&quot;) Community supported agriculture (CSAs) Mad Cow McDonald’s Agribusiness | Main theme of the book (p. 9-10, 24, ). Specific discussions are also included: barriers to a local-food culture (p. 31, 117), locally grown (p. 123, 151), local eating and environmental and agricultural responsibility (p. 262), local food in schools (p. 324) | Discusses the term organic (p. 170), barriers to purchasing organic food (p. 115, 117), organic certification (p. 120-22), organic dairy (p. 134), organic practices to produce commodity crop yields (p. 18) | Discusses industrial animal food production (p.90), the choice to eat (or not eat) meat (p. 97, 222-5, 238-9) and concentrated animal feeding operations (p. 14, 91, 228). |
| The Omnivore’s Dilemma | Wendell Berry, Alice Waters, Vandana Shiva, Temple Grandin, Fritz Haber, J.I. Rodale | French Paradox Organic Local Genetically modified organisms High fructose corn syrup Haber-Bosch process Synthetic fertilizers Concentrated animal feed operations (CAFOs) Manure lagoons Slow food Community supported agriculture (CSAs) Corn Soybeans McDonalds Chicken McNugget Fast Food Hunter-Gatherer Slaughterhouse Feedlots Mad cow Agribusiness | Discusses alternatives to the industrial food chain (i.e. local) (p.8), the local food movement (p. 240-45, 247-49, 252-54, 257-59). Implications of local food (i.e. requires new agricultural practices ) (p. 251) | Discusses the industrial organic dilemma (p. 139, 161, 176), the organic empire (p. 131), the organic counter culture (p. 143), organic food and factory farms (p. 156-169), use of the term &quot;organic&quot; (p. 168-69), &quot;Big Organic&quot; chapter (p. 134-184), taste of organic tomatoes (p. 176) | Discusses the life a cow set for slaughter (steer #534)(p. 66, 69,71-3, 77-84, 114,195-96, 250, 304, 329-30), CAFOs (p. 67), hunting (and gathering) at length (Part III Personal - The Forest) (p.277-411) and vegetarianism in particular (p. 118, 305, 313-315, 319, 325-27, 362), Animal suffering (p. 315-318) and animal happiness (p. 319-325). We no longer have any rituals which govern either the slaughter or eating of animals anymore (p. 331), |
| Fast Food Nation | Temple Grandin | Chicken McNugget McDonalds Fast Food Manure lagoons Slaughterhouse Feedlots Mad Cow | No | No | Meatpacking (p. 142, 152-55, 160-1, 169-183), Slaughterhouses (p. 150), rules, regulations and laws (p. 205-18), interesting ‘meat philosophy’ s, 257, vegetarianism/Jainism/McDonald’s French fries p. 278 |
| An Edible History of Humanity | Fritz Haber | Hunter-Gatherer Corn Green revolution Local food (locavores, food miles) Haber-Bosch process | Provides an anti-local argument (p. 102), mentions local products as a way to express environmental advocacy (p. 194) | mentions organic products as a way to express environmental advocacy (p. 194), pros and cons of organics (P. 232) | No |</p>
<table>
<thead>
<tr>
<th><strong>Animal, Vegetable, Miracle</strong></th>
<th><strong>Does the author discuss</strong></th>
<th><strong>Does the author discuss</strong></th>
<th><strong>Does the author discuss</strong></th>
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<td><strong>farms or agricultural production?</strong></td>
<td>Includes discussions of industrial farming (p. 18), general farming practices (p. 162-3, 166)</td>
<td>The green revolution (p.19), genetic modification (p. 47)</td>
<td>Includes growing tips for leafy greens (p.57), germination (p. 64), mushrooms (p. 79), onions (p.81), tomatoes (p.101), mulching (p.112), greenhouse growing (p. 119-120), weeding (p. 173), potatoes (p. 265), and garlic (p.269).</td>
<td>Discusses obesity and the French Paradox (p. 15), being overfed but undernourished (p. 54), the connection between cheaply produced fast food leads to weight gain, diabetes, cardiovascular harm, joint problems and many cancers, connections between food culture and mental health (briefly, p. 124), Mad Cow disease (p. 230-31)</td>
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<tr>
<td><strong>The Omnivore's Dilemma</strong></td>
<td>Discusses alternative agriculture (e.g. Polyface Farm, &quot;All Flesh is Grass&quot; chapter (p.123) and &quot;Grass&quot; chapter (p. 185) (p. 143-45, 249-50), industrial agriculture (p. 148, 220), evolution of Iowa farming (p. 38), the transition to mono-crop farming (p. 39-40), USDA policy to get corn in animal feed(p. 74), &quot;protein is protein&quot; = feeding animals to animals (P. 75-76),</td>
<td>The Haber-Bosch process (p. 43)</td>
<td>Includes farming facts on crop yield (p. 37), rotating crops (p. 42), grass (p. 129), a lactating cow eats twice as much as a dry one (p. 190).</td>
<td>Type II diabetes (p. 107), Mad cow (p. 75-6, 152, 237), obesity (p. 62-63, 100-102, 107-108, 117, 201).</td>
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<tr>
<td><strong>An Edible History of Humanity</strong></td>
<td>domestication of crops - corn in particular (p. 3-10) and animals (p. 11), the switch from hunter-gatherer to agriculture (p. 19-22)</td>
<td>The green revolution (p. xi, 200, 219, 221, 230), the Haber-Bosch process (p. 211), lodging and shuttle breeding (p. 213-214)</td>
<td>farming has done more to change the world than any other human activity (p. 27)</td>
<td>Discusses the health of hunter-gathered societies by comparison to agricultural ones and susceptibility to infectious diseases (p. 17-19), pesticides (p. 230)</td>
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<td><strong>Does the author include nutritional information about food?</strong></td>
<td>Yes. Nutritional facts are given for spinach (p.59), lactose (p.136), factory farmed vs. Pastured meat and eggs (p. 239-40), garlic (p. 269), potatoes (p.272) and omega-3 fatty acids (p.300).</td>
<td>Yes. Nutritional information is provided for corn (p. 75), corn fed cattle (p. 81), margarine (p. 88), HFCS (p. 104), effects of supersizing (p. 106), humans inclination towards sugar and fat (p. 106), Chicken McNuggets (p. 113), vegetarianism and eating &quot;low&quot; on the food chain(p. 118), nutrients in food from alternative agriculture (p. 199, 266-67).</td>
<td>Yes. Nutritional information is provided for corn (p. 75), corn fed cattle (p. 81), margarine (p. 88), HFCS (p. 104), effects of supersizing (p. 106), humans inclination towards sugar and fat (p. 106), Chicken McNuggets (p. 113), vegetarianism and eating &quot;low&quot; on the food chain(p. 118), nutrients in food from alternative agriculture (p. 199, 266-67).</td>
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<th>Does the author include <strong>food facts?</strong></th>
<th>Does the author discuss fast food?</th>
<th>Does the author discuss global or social implications of food choices?</th>
<th>Does the author discuss the history of food? (continued ➔)</th>
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<tr>
<td><strong>Animal, Vegetable, Miracle</strong></td>
<td>Yes, on asparagus (p.40-41), vegetable varieties in stores (p. 48), genetically modified crops (p. 50), flowering plants and the vegetannual (p. 63), germination (p. 64), morels (p. 78), poultry hatchlings (p. 88), cheese (p. 133, 138), organic dairy (p. 134), controlled microbe growth (p. 135), squash (p. 199), canning and botulism (p. 200), food chain (p. 221), pesticide exposure (p. 221), Mad cow (p. 230), and potatoes (p. 273).</td>
<td>Discusses junk food (briefly) p.6 and mentions fast food in relation to health problems (p. 116).</td>
<td>Discusses social justice and the global equation (p. 66), the social role of eating and food culture (p. 16, 125, 155, 288), gendered food roles and responsibilities (p. 126), fair trade (p. 262)</td>
<td>The notion of non-local and serving food items out of season (p. 48), the transition to only few vegetable varieties (p.49), tobacco farming (p. 75), the transition of women into the workforce did not replace the expectation that they were still responsible for cooking and cleaning,</td>
</tr>
<tr>
<td><strong>The Omnivore's Dilemma</strong></td>
<td>Yes, on hybrid corn (p. 41), corn (p. 85-86, 89), preserving food (p. 90), nutritional implications of soil composition (synthetic vs. Composted) (p. 131), sweet alyssum as a pest control (p. 165), the Cornish Cross chicken (p. 171), taste of organic food (p. 176), the process of hydrogenating oil (p. 268), fungi (p. 374) Oyster mushrooms (p. 377).</td>
<td>In general (p. 109-111, 115-119), supersizing (p. 105-6, 110, 117), the chicken McNugget (10, 95, 110, 111-118), his own fast food meal (109-119)</td>
<td>Discusses the organic counter culture (p. 143), marginal cases (311-12)</td>
<td>Fixing nitrogen/producing synthetic fertilizers (p. 43), institute a corn grading system in 1856 (p. 50), creation of corn syrup and then High Fructose Corn Syrup (p. 88-9), food processing technologies (p. 90), finding new ways to consume surplus food items (i.e. alcohol and fat) (p. 101), when obesity rates started to rise (p. 102), 1980 the year corn became the first ingredient in Coca-Cola (p. 104), the Chicken McNugget (p. 114), creation of Concentrated Animal Feeding Operations (c. 126), organic movement (p. 131, 138, 142-3), introduction of chemical agriculture in England (p. 148), the &quot;Alar Scare&quot; (p. 152), federal recognition (US) for organic agriculture and set rules (p. 154, 157), how corn became so powerful (p. 200), progressive history of agriculture (brief) (p. 214), evolution/development of human nutrition (p. 267)</td>
</tr>
<tr>
<td><strong>Fast Food Nation</strong></td>
<td>Main theme of the book. Discusses history of the industry (p. 13-91), its connection with Disney (p. 33-42), targeting kids (p. 42-46), advertising in schools (p. 51-57), workforce (p. 68-74, 78-87), franchising (p. 94-102), flavour industry (119-129)</td>
<td>Meatpacking workers are almost entirely migrant labour (p. 162-4), lack of unionization in fast food restaurants (p. 75-78), unsafe working conditions in slaughterhouses (p. 183-86), bad meat in schools (p. 218-21), global realization and branding (p. 229-234), &quot;Americanization&quot; (p. 239-243), McLibel (p. 243-249)</td>
<td>The history of fast food in particular. Fast food and Richard Nixon (p. 8), WWII and the industry boom (p. 18), 1948 McDonalds revolutionizes (p. 19), Golden Arches were born (p. 20), Fast Food Chains (p. 22), Franchising of McDonalds (p. 35), McDonalds Bill in Congress (p. 37), Advertising to kids (p. 42), white emigration from Colorado Springs (p. 64), Fare Labour Standards Act (p. 73), McDonalds closes so it wouldn’t be unionized (p. 77), Legislation for Franchises (p. 101), French Fries (p. 114), Industrialization of agriculture (p. 119), transition to a chicken based diet in US (p. 139), introduction of Chicken McNuggets (p. 140), First slaughterhouse for fast food (p. 153), Workers compensation laws in Colorado (p. 184), the hamburger (p. 197-199), Roosevelt reacting to Upton Sinclair study (p. 204-5), E. Coli (p.207), Meat inspection policy (p. 215), McLibel case (p. 246), Mad Cow (p. 272), and the year 2000 was the first year that the fast food industry did not gain any new customers (p. 280).</td>
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<tr>
<td><strong>An Edible History of Humanity</strong></td>
<td>Wheat, rice and maize provide the bulk of the calories consumed today and in the world’s earliest civilizations (p. 26), almost none of the food we eat today can be truly described as natural (p. 26), all domesticated plants and animals are man-made technologies, aquatic species are the only exception (p. 26), spices (p. 65-68), even if an army camped on a field of potatoes the farmer could still harvest them (p. 121), Preserving/Canning food (p. 159-163), food purchases are now a ways to express a political view (p. 194)</td>
<td>No</td>
<td>the intensification of agriculture allowed for a switch from small egalitarian villages to larger socially stratified cities = intensification (p. 31-2), food as power (p. 32, 49), food as currency (p. 50), food and religion (p. 53-56), agriculture and inequality (p. 57-59), the interplay between trade and the transmission of knowledge (p. 75), social benefits of local food (p. 103-4), food as the fuel of war (p. 145-159), food as a political weapon (p. 194-6), the green revolution has destroyed traditional farming practices, increased inequality, and made farmers dependent on expensive seeds and chemicals provided by Western companies (p. 200)</td>
<td>This is the entire premise of the book. Discusses the revolutionary and civil wars in the U.S. (p. XI), the origins of farming (p. 19), the intensification of agriculture (p. 31), the pursuit of spices and the creation of global trade routes (p. 67-68), puts into perspective of distance worldwide i.e. mapping (p. 76), the Black Death plague (p. 81), crop globalization (p. 111), spread of maize (p. 113), connection between slavery and sugar (p. 114), by 1800 the potato was established as an important food stuff (p. 122), Britain’s ‘Industrial Revolution’ (p. 129-142), Ireland’s ‘potato famine’ (p. 136), the industrial revolution as an energy revolution (p. 139), the invention of canned food (p. 159), the development of the tank (p. 169), the Great Leap Forward (p. 187), using food to make a political point i.e. British boycott of sugar due to slavery (p. 195), the first production of liquid ammonia and the green revolution (p.199-200), 21st C = the Asian century (p. 223), human population reaches 1 billion (p. 2270).</td>
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<td>(continued)</td>
<td>Does the author discuss environmental impacts?</td>
<td>Does the author target a message for the individual?</td>
<td>Does the author offer an alternative food paradigm?</td>
<td>Other themes</td>
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<tr>
<td><strong>Animal, Vegetable, Miracle</strong></td>
<td>The fossil fuel used to produce food (p. 5). The environmental impact of food choices (including eating meat) p224-225. Also discusses ways animals can be used to reduce negative env. Impacts on farms (p. 226-7). Basic components of responsible eating (p. 348)</td>
<td>What an urbanite can do (p. 10, p.37 Community-supported agriculture (CSA), p.180 “Home Grown’) and an appeal to non-cooks (p. 129)</td>
<td>Small family farms instead of big industrial farms (p. 76), choosing to thinking of mealtimes as a creative opportunity, not a chore (p. 127, 131), the thoughtful management of ecosystems instead of chemical-intensive farming (p. 174)</td>
<td>Advertising to kids P. 15</td>
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<tr>
<td><strong>The Omnivore's Dilemma</strong></td>
<td>Farming has a role to play in global warming (p. 198), farming and fossil fuels (p. 83-84, 182-84, 249), synthetic nitrogen in the environment (p. 46-47)</td>
<td>Via Joel Salatin - empower people to opt out of the current food paradigm</td>
<td>alternative agriculture (not necessarily organic) p. 143-145, 249-250. In Food Rules says people should “eat food, not too much, mostly plants.” Also discusses awareness of the source of the food we eat, what it is and where is comes from (p. 411), transparency on the part of food producers (i.e. farmers and industry), and trying to re-connect food with family and culture. Personally, i didn’t find the book had a clear message as far as things i could do as an individual. the French paradox p. 300</td>
<td>Disgust (p. 357) Omnivore's have a complex set of sensory and mental tools to navigate the food landscape (taste, disgust, cooking)p. 291, but also rely on culture to remember the more complicated nuances of food choices p. 295 American food culture p. 299 saying grace (p. 407)</td>
</tr>
<tr>
<td><strong>Fast Food Nation</strong></td>
<td>Less of a message for the individual and more of a message for Congress. 7 Recommendations (p. 262-66). The individual is targeted through a message to consumers (p. 267-270)</td>
<td>“there is nothing inevitable about the fast food nation that surrounds us” p. 260 Quote: Whatever replaces the fast food industry should be regional, diverse, authentic, unpredictable, sustainable, profitable - and humble. It should know its limits. People can be fed without being fattened or deceived. P. 288</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td><strong>An Edible History of Humanity</strong></td>
<td>Farming has led to deforestation, environmental destruction, the displacement of natural wildlife, and the transplanting of plants and animals thousands of miles away from their original habitats (p. 27), local and global food (p. 102-3), using food crops for fuel is a step backward (p. 142), the green revolution and its problems (p. 200, 230)</td>
<td>Use less fertilizers, aka integrated pest management P. 231</td>
<td>We need new ways to harness solar energy beyond growing crops of digging up fossil fuels. Solar panels and wind turbines are the most obvious example, but it may also be possible to tinker with the biological mechanism of photosynthesis to produce more efficient solar cells, or to create genetically engineered microbes capable of churning out biofuels. The trade-off between food and fuel has resurfaced in the present, but it belongs in the past.” p. 142</td>
<td>Food as a tool for social organization. Food as a battlefield for trade, development and globalization in modern times. Religion and food (p. 13-15)</td>
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Environmental References

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<tr>
<th>Did the author connect their discussions of food with the environmental impacts of the food system in a meaningful way? (yes, no, somewhat)</th>
<th>Explain</th>
<th>Does the book outline specific environmental consequences of food production?</th>
<th>Consequence and page number</th>
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<tr>
<td><strong>Animal, Vegetable, Miracle</strong></td>
<td>Yes</td>
<td>The connections made be Kingsolver focus on the individual and the things that one can do to change their relationship with food and the environment. Facts are not being spewed out, they are drawn out via the experiences and stories of the author and her family.</td>
<td>Yes</td>
<td>Water - in Tucson all the water used comes from a fossil aquifer that is dropping - a non-renewable source p. 3</td>
</tr>
<tr>
<td><strong>The Omnivore's Dilemma</strong></td>
<td>Somewhat</td>
<td>Due to the lack of a clear message and disconnect between the content of the book and the author, any environmental connection that was made seemed more superficial. It wasn't grounded in anything emotional or personally important. Felt more like &quot;cold&quot; reasons why someone should care.</td>
<td>Yes</td>
<td>Fixing nitrogen and the creation of synthetic fertilizers - &quot;shifted from a total reliance on the energy of the sun to a new reliance on fossil fuel&quot; (p. 44).</td>
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<tr>
<td><strong>Fast Food Nation</strong></td>
<td>Somewhat</td>
<td>The environmental implications of Schlosser's discussion were inferred. There was little to no explicit mention of environmental consequences, implications, etc.</td>
<td>No, only indirectly.</td>
<td>The ripple effect when corporations influence education. Teaching that clear-cut logging is good for the environment, fossil fuels don’t create environmental problems and alternative energy is too expensive, dismissing the greenhouse effect and saying that the earth will benefit from an increase in carbon dioxide. P. 55</td>
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<td><strong>An Edible History of Humanity</strong></td>
<td>Yes</td>
<td>While emphasizing the implications and role of food throughout human history, Standage identifies the impact that our relationship with food has had on the environment.</td>
<td>Yes</td>
<td>farming has led to deforestation, environmental destruction, the displacement of natural wildlife, and the transplanting of plants and animals thousands of miles away from their original habitats (p. 27)</td>
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<tr>
<td>Animal, Vegatable, Miracle</td>
<td>Disconnect with natural processes - Knowledge of how food grows has almost disappeared and has <code>rendered us a nation of wary label-readers, oddly uneasy in our obligate relationship with the things we eat. WE call our food animals by different names after they</code>re dead, presumably sparing ourselves any vision of the beings and porks running around on actual hooves`` p. 10</td>
<td>`Industrial farming methods, wherever they are practiced, promote soil erosion, salinazation, desertification, and loss of soil fertility. The UN Food and Agriculture Organization estimates that over 25 percent of arable land in the world is already compromised by one of more of these problems`` p.18</td>
<td>The pollution that is caused by concentrated animal feeding operations (CAFO) as a result of huge volumes of manure - conversely, animals raised on pasture help to enrich the soil p. 91</td>
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<tr>
<td>The Omnivore's Dilemma</td>
<td>the triumph of the economy over ecological sense p. 46</td>
<td>When excess is created in the natural world, creatures step forward to consume in and may create new food chains in the process. This is nature`s way of dealing with any surplus biomass. P62</td>
<td>CAFOs contribute to polluted water and air, toxic waste and novel and deadly pathogens. P. 67</td>
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<td>Fast Food Nation</td>
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<td>Growing meat (cattle) on grass diets makes the most sense ecologically. It is a &quot;solar powered food chain that produces food by transforming sunlight into protein&quot; p. 70</td>
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<td>An Edible History of Humanity</td>
<td>Switching from wood to coal for fuel. This allowed areas that were previously used as sources of firewood to be turned to farming lands. The actual consumption of coal by 1800 was about ten millions tons a year, providing as much energy as would otherwise have required ten million acres to be set aside for fuel production. Rather than relying on living plants to trap sunlight to produce fuel, coal provided a way to tap vast reserves of past sunlight, accumulated millions of years ago and stored underground in the form of dead plants. p. 131-132</td>
<td>There have been dramatic environmental consequences (of the Industrial Revolution and the Neolithic revolution (i.e. the adoption of farming)) in both cases: Agriculture led to widespread deforestation, and industrialization has produced vast quantities of carbon dioxide and other greenhouse gases that have started to affect the world<code>s climate. In this sense the industrialized countries have not escaped Malthus</code>s trap after all, but have merely exchanged one crisis, which the limiting factor was agricultural land, for another, in which the limiting factor is the atmosphere`s ability to absorb carbon dioxide. p. 139</td>
<td>The best-guess figures suggest that burning a gallon of corn ethanol (biofuel) produces only about 30 percent more energy than was needed to produce it, and reduces greenhouse-gas emissions by about 13 percent compared with conventional fossil fuel. P. 140. Opponents of biofuels like to point out that the maize needed to fill a vehicle`s twenty-five-gallon tank with ethanol would be enough to feed one person for a year. Since maize is also used as an animal feed, its higher price makes meat and milk more expensive, too. p. 141</td>
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<td>The green revolution<code>s many social and environmental side effects have made it hugely controversial. Its critics contend that it has caused massive environmental damage, destroyed traditional farming practices, increased inequality, and made farmers dependent on expensive seeds and chemicals provided by Western companies.</code> p. 200</td>
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### Animal, Vegetable, Miracle

- **Consequence and page number:** The original purpose of farming organically was to preserve the farm environments and communities through "diversified, biologically natural practices which remain healthy over time" p.122
- **Consequence and page number:** The use of pesticides has resulted in over 500 species of insects and mites that can resist chemical control. Further, 25% of the chemicals that are used are considered carcinogenic in humans p. 165
- **Consequence and page number:** "An estimated 67 million birds die each year from pesticide exposure on U.S. Farms" p. 221
- **Consequence and page number:** Consumption habits of urban areas (p. 250)

### The Omnivore's Dilemma

- **Consequence and page number:** "One fifth of America's petroleum consumption goes to producing and transporting our food" p 83
- **Consequence and page number:** Milling corn - every step in the process requires vast amounts of water and energy. "For every calorie of processed food it [wet milling] produces, another ten calories of fossil fuel energy are burned" p. 88
- **Consequence and page number:** Waste - the "industrial digestion of corn" creates a lot of waste, while the natural digestion of corn by animals creates no waste p. 90
- **Consequence and page number:** Growing only corn drains the soil of its nutrients, affects the quality of local water, the biodiversity of the landscape, and the health of everyone and everything that lives up or downstream of its production, not to mention the affect it has on the animals it is fed to. p118

### Fast Food Nation

- **Consequence and page number:** High-yield seed varieties, which require artificial fertilizers, other agricultural chemicals, and large amounts of water, have caused environmental problems in many parts of the world. Nitrogen-laden runoff from agricultural land has created "dead zones" in some coastal areas, stimulating the growth of algae and weeds and reducing the amount of oxygen in the water and thereby affecting fish and shellfish populations. In some cases high-yield varieties proved to be less resistant than traditional varieties to pests or diseases. This necessitated a greater use of pesticides, overuse of which can contaminant the soil and harm beneficial insects and other wildlife, reducing biodiversity. Pesticides can also cause health problems for farm workers. " p. 230
- **Consequence and page number:** The environmental problems associated with high-yield farming must also be weighed against its unseen environmental benefits, in the form of damage to ecosystems that would otherwise have been done in order to increase food production. High-yield varieties have enabled food production to multiply with only a marginal increase in land use. (...) Global agriculture in 1900, using almost no chemical fertilizer, supported about 1.6 billion people on an area of about 850 million hectares, according to the University of Manitoba’s Vaclav Smil, an expert on the nitrogen cycle. Farming using fertilizer-free (that is, organic) methods on today’s 1,500 million hectares would support only 3.2 billion people on mostly vegetarian diets, he estimates, or half of today’s global population" p. 231-2
- **Consequence and page number:** To ensure an adequate supply of food as the world population heads toward its peak and climate change shifts long-established patterns of agriculture, it will be necessary to assemble the largest possible toolbox of agricultural techniques.’’ p. 237

### An Edible History of Humanity

- **Consequence and page number:** The use of pesticides has resulted in over 500 species of insects and mites that can resist chemical control. Further, 25% of the chemicals that are used are considered carcinogenic in humans p. 165
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<td>&quot;Global climate change has created dramatic new weather patterns, altered the migratory paths of birds, and shifted the habitats of disease-carrying organisms, opening the season on catastrophes we are ill-prepared to predict&quot; p.304</td>
<td>&quot;Global-scale alteration from pollution didn’t happen when human societies started using a little bit of fossil fuel. It happen after unrestrained growth, irresponsible management, and a cultural refusal to assign any moral value to excessive consumption&quot; p. 345</td>
<td>&quot;If the sixteen million acres now being used to grow corn to feed cows in the United States became well-managed pasture, that would remove fourteen billion pounds of carbon from the atmosphere each year, the equivalent of taking four million cars off the road. We seldom focus on farming's role in global warming, but as much as a third of all greenhouse gases that human activity has added to the atmosphere can be attributed to the saw and the plow&quot; p. 198</td>
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<tr>
<td>The Omnivore's Dilemma</td>
<td>The disconnect that we each feel from out food has created a longing to know that our food is safe and to have a connection to the earth and animals that we depend on. Playing on this desire to &quot;engage in authentic experiences&quot; a genre which Pollan calls the Supermarket Pastoral has emerged. p. 137</td>
<td>Organic prewashed lettuce (80 calories) consumes 4,600 calories of fossil fuel energy via growing, chilling, washing, packaging and transporting it. P. 167</td>
<td>Industrial organic food is also drenched in fossil fuels. These are &quot;the cost of our compromises&quot; P. 182-3</td>
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<td>Fast Food Nation</td>
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<td>An Edible History of Humanity</td>
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<tr>
<td>Title</td>
<td>Does the book use accessible language?</td>
<td>Qualify</td>
<td>Does the author assume a certain level of pre-existing knowledge of the topic being discussed?</td>
<td>Would an educated, yet uninform ed, person understand what the author wrote?</td>
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<tr>
<td>Animal, Vegetable, Miracle</td>
<td>Yes</td>
<td>Reads like a novel</td>
<td>No. Any topic or concept that is introduced is accompanied by a basic explanation, and often a reference to further reading material or resources.</td>
<td>Yes. The book reads like a story that anyone could understand/relate to.</td>
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<tr>
<td>The Omnivore's Dilemma</td>
<td>No, often uses terms that I had to look up.</td>
<td>Reads like a textbook, with a few interspersed personal anecdotes</td>
<td>Yes. As I read the book it felt as though he assumed I already cared and knew about these topics. The author references many other materials, perhaps it is assumed that the reader might read those texts simultaneously/first</td>
<td>No, I do not believe so. The language is overly complicated at times. When reading I often felt that there must be a simpler way to say this!</td>
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<tr>
<td>Fast Food Nation</td>
<td>Yes</td>
<td>Reads like a history book. Stories about individuals are included throughout.</td>
<td>Assumes a certain degree of familiarity with fast food in general (that the reader has at least tried it at one point)</td>
<td>Yes. I felt that the book is very accessible and easy to understand. The only caveat would be the assumed experience that the reader has with fast food.</td>
</tr>
<tr>
<td>An Edible History of Humanity</td>
<td>Yes</td>
<td>Reads like a history book. Stories about individuals are included throughout.</td>
<td>No. Any topic or concept that is introduced is accompanied by a basic explanation.</td>
<td>Yes. The language is generally very clear and simple.</td>
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<td></td>
<td>Does the author use <strong>personal stories or anecdotes?</strong></td>
<td>Is the message <strong>simple and clear?</strong></td>
<td>Does the book have an <strong>index?</strong></td>
<td>Is the information presented in a <strong>logical and effective order</strong>?</td>
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<tr>
<td><strong>Animal, Vegetable, Miracle</strong></td>
<td>Yes. The entire book is a story about the author’s family. Events that occurred during the year that is documented in the book are reflected in its 352 pages.</td>
<td>I felt that it was (and non-judgmental)</td>
<td>No, however one has since been created and is available on the A, V, M website. You can download a subject index, a plant and animal varieties index, recipes and referenced websites index.</td>
<td>Yes. It is the progression of the family's one year experience - organization by month.</td>
</tr>
<tr>
<td><strong>The Omnivore's Dilemma</strong></td>
<td>Some. Personal experiences are included (i.e. farming, seeing the CAFO, finding Steer 534, hunting and gathering).</td>
<td>Not really. In many cases I was left wondering what it was that I was supposed to do with his message. A lot of these questions were clarified in another one of his books &quot;Food Rules&quot; so perhaps the assumption is that you would read them both?</td>
<td>Yes. This was extremely helpful after the fact. Knowing that the author discussed something but not knowing exactly where it was can be frustrating, the index helped overcome this.</td>
<td>I felt that the order was logical, however the last section (Personal: The Forest) was the most engaging and it isn't until page 277. So perhaps one could argue to include to more engaging piece at the beginning to draw in the reader...</td>
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<tr>
<td><strong>Fast Food Nation</strong></td>
<td>No.</td>
<td>At the end yes, however throughout the book I often wondered what I was supposed to do about the things he discussed. Perhaps a clear message could be better integrated throughout the book.</td>
<td>Yes. As the book is very much a history book, it is organized chronologically for the most part. When it isn't organized chronologically, the order is progressive. From the field to the fast food restaurant.</td>
<td>Yes.</td>
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<tr>
<td><strong>An Edible History of Humanity</strong></td>
<td>No.</td>
<td>1) to understand the connection between food and history - this message is very clear. 2) what this means to me as the reader? This isn't clear.</td>
<td>Yes. The book paints a picture of history and as such is organized chronologically. This is both logical and effective.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Book</td>
<td>Does the book use images or diagrams to communicate certain messages?</td>
<td>Does the book include cooking tips?</td>
<td>Does the book include recipes?</td>
<td>What is the length of the book?</td>
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<tr>
<td>Animal, Vegetable, Miracle</td>
<td>There is an image at the beginning of each chapter and a drawn diagram of the vegetarian</td>
<td>Yes. Asparagus (p.41), greens (p. 57), morels (p.79), cheese (p.139)</td>
<td>Yes. They are scattered throughout the book.</td>
<td>352 pages</td>
</tr>
<tr>
<td>The Omnivore's Dilemma</td>
<td>No.</td>
<td>Not really. There is a discussion of the meal Pollan cooked with the ingredients he hunted and/or gathered (In the Kitchen p. 399) but there isn't any specific recipes or tips per se.</td>
<td>No.</td>
<td>411 pages (not including references, index or acknowledgements)</td>
</tr>
<tr>
<td>Fast Food Nation</td>
<td>There is an image at the beginning of each chapter</td>
<td>No.</td>
<td>No.</td>
<td>288 (not including notes, photo credits, bibliography, acknowledgments or index)</td>
</tr>
<tr>
<td>An Edible History of Humanity</td>
<td>Yes, there are a few pictures and diagrams throughout the book</td>
<td>No.</td>
<td>No.</td>
<td>242 (not including acknowledgments, sources or index)</td>
</tr>
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Appendix B: About the Author(s)

Barbara Kingsolver

Kingsolver was born in 1955 in rural Kentucky. She has worked as a writer since 1985, publishing her first book, *The Bean Trees*, in 1988. In 2000, she received the *National Humanities Medal*, which is the highest honour for service through the arts in the United States. She has two daughters, Camille (born in 1987) and Lily (1996). Her husband, Steven Hopp, teaches environmental studies. Since June 2004, Barbara and her family have lived on a farm in southern Appalachia. Barbara believes her best work is accomplished through writing, raising her children, and being an active citizen of her own community (Kingsolver, n.d. a).

When a fiction writer, like Kingsolver, produces something like *Animal, Vegetable, Miracle*, she has the advantage of appealing to an already established audience, which may or may not have a pre-existing interest or concern in these issues. Her novels frequently sell millions of copies (the *Poisonwood Bible* sold over two million copies) which indicates a substantial reading audience (Duluth Public Library, 2010). The clout behind a name like hers allows for a wider dissemination of her book as people recognize her name and popularity as a fiction writer. When *Animal, Vegetable, Miracle* was published in 2007, the New York Times ranked it as number 9 on their hardcover nonfiction list (DePauw University, 2007).

Michael Pollan

Pollan was born in 1955 in Long Island. He currently lives in the Bay Area with his wife, Judith Belzer, and son, Isaac. He has been a writer for the past twenty-five years, publishing numerous articles and books “about the places where nature and culture intersect: on our plates, in our farms and gardens, and in the built environment,” including four *New York Times*
bestsellers (Pollan, n.d.). In 2010, Pollan was named in the *Time Magazine*’s list of the world’s 100 most influential people (Pollan, n.d.).

Although not known for fiction work, Pollan has become a leading character in the food movement. He has appeared on the “Oprah Winfrey” show on her “Do you know where your food comes from?” special and again for her “One Week Vegan Challenge”; Amazon.com lists *The Omnivore’s Dilemma* as number 49 in its top 100 best selling nonfiction books (see [http://www.amazon.ca/gp/bestsellers/books/927734#3](http://www.amazon.ca/gp/bestsellers/books/927734#3)); and Penguin Publishers said that Pollan is one author that has “Led the Industry in Maximizing the Success of Multi-Million Copy Selling Authors by Creating Franchises Across Formats with three *New York Times* bestsellers in 2009: *In Defense of Food* (Penguin), on *The New York Times* trade paperback bestseller list for 27 weeks; *The Omnivore's Dilemma* (Penguin), on *The New York Times* trade paperback bestseller list for more than two years; and *The Omnivore's Dilemma for Kids* (Dial Books for Young Readers), which was also a *New York Times* bestseller” (Penguin Group, 2010).

**Eric Schlosser**

Schlosser was born in 1959 in Manhattan. He currently lives in California with his wife Shauna Redford and their two children (Wikipedia, n.d.). Schlosser is increasingly well known as a nonfiction writer and journalist. *Fast Food Nation* began as a two-part article in *Rolling Stones Magazine* and the book was on the *New York Times* bestsellers list for nearly two years (Drury University, 2010). In 2006, *Fast Food Nation* was made into a Hollywood film. Schlosser and Linklater (Director) co-wrote the screenplay that was loosely based on the book. The response to the movie seemed to be mixed with the film only generating $0.9 million, which in the grand scheme of film making is not a significant sum. Some argued that the fictionalized version of the book didn’t have the same kind of impact and some said that it might have been more successful as a documentary as opposed to a fiction film (Rotten Tomatoes). Schlosser also
acted as a co-producer for the film Food Inc. and co-wrote *Chew on This* with Wilson in 2007 as an adaptation of *Fast Food Nation* for younger audiences. Schlosser is quickly becoming known as an expert on industrial food.

**Tom Standage**

Standage is a journalist based out of London, England and works for *The Economist* as a digital editor (www.tomstandage.com). He has authored five history books, including *An Edible History of Humanity* (2009) and *A History of the World in Six Glasses* (2005). Probably the least well known of these four authors, Standage does not have the kind of popularity in North America as Pollan or Schlosser as food activists, however he does have an audience following as a well-known history author. He has also published articles in *Wired, The New York Times*, and *The Daily Telegraph*.

Each of these authors comes at this discussion from their own unique perspective. The diversity of their experience and expertise in many ways represents the varied and interdisciplinary nature of both environmental and food issues.