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Changing What We Eat:
Corporate social responsibility, evolutionary theory, and the case of sustainable purchasing standards at McGill University, 2008-2011

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Dana Lahey

1. Introduction

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McGill University has an active student movement focused on food, on campus. In 2008, the McGill Food Systems Project was formed to work to improve the social, environmental, and economic sustainability of the food served in McGill's residence dining halls. Through discussions with the relevant administrative positions at the university, the founders decided that the best means to doing this was through setting sustainability standards for food purchasing. But over the first three years of the McGill Food Systems Project's work, the group experienced significant difficulty in setting and implementing effective standards.

The work being done on McGill's campus is part of a wider movement for local and sustainable food across North America. There is increasing public interest in the sustainability of the products used by food service providers and retailers, and food is a growing part of the corporate social responsibility (CSR) movement. Setting sustainability standards for purchasing is recognized as a leading method for taking action, not only by the businesses involved, but by the public and non-profit groups, and by the academics studying the movement.

1.1 Corporate social responsibility and the sustainable food movement

There is a large and diverse body of literature analyzing CSR, with authors coming from a range of disciplines including management, economics, geography, and sociology. Their contributions include theorizing on the historical development of CSR (Auld et al. 2007), its current effectiveness (Locke, , and future forms (Ward and Smith 2006). There is writing addressing the movement in industries from apparel to automotive to electronics, and now a growing amount of work on CSR in the food service industry.

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The development of a body of academic literature analyzing CSR in the food industry is still relatively recent and growing. This paper contributes to the field by identifying a selection of the common themes in existing literature, and testing them against a new case study, as well as a much older and well established, but equally relevant, body of theory. There are significant parallels between the specific current, local issues being faced in our food supply chains, and general ecological trends across cultures and throughout human history. I believe that viewing current experiences through an evolutionary framework can provide insight into the root causes of the problems being faced, and suggest new levels of analysis for designing effective solutions to them.

1.2 Evolution, evolutionary theories, and food

Evolutionary theory has a rich history of studying human diets, changing forms of subsistence, and the connection of these to the development of human social organization. Though research that I will focus on here is applicable to general ecological trends experienced by all species, not just dynamics of food collection and distribution for humans, the evolutionary literature argues that these general species-level trends operate across scales. In other words, the ideas discussed from this literature should, in theory, apply as well to explaining the dynamics of species as a whole as to the evolution of societies and the experience of specific communities — even the actions of individuals (Shennan 2008). To communicate this cross-scale focus, the term “agents” will be used to refer to the specific “decision-making units” experiencing the dynamics, recognizing that the dynamics could apply to species as a whole well as human individuals, and to the many levels of social organization in between. The environments agents are in, and the adaptations they produce in response, can therefore be physical, organizational, or cultural. In assessing the effectiveness of recent CSR literature in the food industry against writings in evolutionary literature, I will also be testing the ability of these evolutionary theories to bridge the conceptual gap from species-level dynamics to the current actions of organizations and individuals. The intricacies of food purchasing at McGill will provide the case-study for both these tests.

This paper will examine the ability of factors identified by both CSR and evolutionary literatures to explain the development of the sustainable food movement at

McGill. I will focus on the experience of one organization leading this movement, the McGill Food Systems Project (MFSP). Specifically, I will evaluate why, despite the significant growth and support of the MFSP's work, the group's founding purpose of developing and implementing sustainability standards proved so difficult over its first three years.

1.3 The development McGill Food Systems Project 2008-2010

The McGill Food Systems Project was founded as a collaborative initiative between students and administrators from the McGill Office of Sustainability and McGill Food & Dining Services to improve the sustainability of the food served on campus. The accomplishments and reception the MFSP has achieved in its first three years far exceeded the original vision of its founders. When the MFSP started its work in 2008 there was no system for labeling and tracking where McGill's food came from or how it was produced. No one had a clear picture of the sustainability of the campus's food sourcing, or had the time or resources to try and construct one (Glencross et al. 2009). There was little direct communication between students and the staff or administration that ran the dining halls, and the interactions that did occur were largely antagonistic and polarized. During the winter and summer of 2009, the MFSP worked to build strong personal relationships with administrators, professors, and students, and build a system for these actors to work together to research and implement improvements to the residence dining hall's purchasing. The coordinators established an overview of what

food McGill is ordering, how it is ordered, where it comes from, and why it comes from there (ibid.). They then used this baseline to develop pilot projects to improve upon the dining hall's sourcing practices, both through applied student research courses and through new purchasing initiatives. They developed recognition and credibility for the MFSP in the university community through sharing these insights and initiatives with the community at large through campus events, conference presentations, and public guides and reports. Building upon the coordinators' understanding of the people and processes behind food ordering at the institution, the MFSP's second phase was dedicated to strengthening and refining its existing pilot projects, deepening its collaboration with MF&DS, and expanding its scope outside the campus to partner with peer organizations in the region.

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1.4 Goals of the current study

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2. Literature Review

2.1 Corporate Social Responsibility in North America's food supply chain

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2.2 Evolutionary theory

There are three principles in the evolutionary literature which I believe are useful to understanding the difficulty of setting sustainability standards at McGill: the trade-off of specialization, the effect of competition on adaptation, and competition as a driver of institutional and subsistence specialization. The problem of a lack of capacity to create and implement sustainability standards can be seen, at its basis, as a difficulty of adapting to the requirements of a new environment. This is a recognized problem in evolutionary theory, which comes at its core from the conflict between the most productive way to survive in the short-term, and the ability to adapt to the demands of new situations as they change over the long-term. I will refer to this problem as the trade-off of specialization, a dynamic which is proposed to be experienced by agents at all scales of evolution.

Finding: The trade-off of specialization

Specialization allows agents to be the most effective at meeting their needs in their current environment. The process of developing the most productive way to survive in one's current environment is a process of becoming specialized. However, while this is most effective at meeting demands of the environment in the short term, it does not necessarily ensure the best means to succeed in the environment as it changes over the long term. Take a situation where the environment changes slowly and steadily in one direction for a long period of time, but is punctuated by periods of rapid shifts in the

opposite direction. In this situation, agents who adapt to the changes of the environment most closely over the long period of steady change may actually end up less adapted to the environment after a period of sudden change than agents who were never as well adapted to the environment over the long period, but because of this end up more closely fit to the new environment after its sudden change. Theorized by Darwin over four centuries ago (reference), this dilemma has now been well tested through mathematical models and is now referred to as the problem of "over-fitting" (Costopoulos, Xue, Guichard 2010).

Intuitively, we are used to thinking about the difference between specialists and generalists. Specialists are very good at doing a specific thing and are much better at it than an agent with more general skills; however, the agent with more general skills will be better at doing a much wider range of things. Though this may be a common-sense idea, it has very significant implications for understanding the dynamics of general evolution and of human history. The pattern of long periods of slow and steady change with short periods of intense change happens to be the general pattern that we see across geological history (Petit et al. 1999), as well as throughout most ecological cycles (Resilience Thinking, 2006). Though specialists do best under stable conditions in the short-to-medium-term, generalists, who never do that well at anything, do best in the long-term in this situation. In other words, specialists beat out generalists under stable conditions, but when conditions change, many of them fail completely. Thus, the problem of over-fitting means that specialization, the best means to survive in the short term, comes at the cost of being adaptable to changes in our environment, and thus conflicts with being able to survive best over the long term. Interesting on its own, this

trade-off of specialization takes on special importance when combined with a second concept in evolutionary theory: the effect of competition on the speed of adaptation.

Finding: The ‘conservative-entrepreneur effect’

When there are a lot of evolutionary agents close together, their greatest danger for survival is being outcompeted by other agents in the short-term, rather than being unable to adapt to environmental changes in the long-term. Thus, it is most effective for them to continue to evolve to be ahead of other competitors, but not by *too much*, in case the change doesn’t turn out to be a competitive advantage. It is important to note that

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To illustrate this dynamic where short-term competition becomes more important than long-term adaptation, researchers have used another computed example: a population of agents distributed across a grid, with a low density of agents at the periphery, and density increasing the closer the distance to the center. In the center of the grid there is very little space, and each agent can only get more space if their neighbour dies. One agent’s gain has to come from the loss of another. In this environment, all agents have to track the environment very closely to be able to survive. This requires a high rate of cultural mutation (innovation), creating frequent changes,

but all very little ones to keep closest to the incremental changes being made by the environment and the surrounding agents. On the outside of the grid, there is more room, and one agent's gain does not have to come at the loss of another. Here tracking of the environment does not need to be as close, and this allows for a lower mutation rate, but creates bigger changes per mutation (Xue, Costopoulos, Jobling 2010).

This means that the higher density of agents there is, the more important it is for all agents to continue to adapt quickly, but in as small steps as possible, in the hopes of staying just ahead of the other agents around them without risking adapting in a way that doesn't end up being useful. This dynamic I term the 'conservative-entrepreneur effect' of competition. Combining this finding with the dynamics of the trade-off of specialization, suggests that the closer together the agents are and the more pressure they experience to innovate, the more specialized and successful they will be the short-term but the less able they will be to survive long-term environmental changes. Taken together, these two evolutionary concepts provide a powerful framework to understand the development of complex human social organizations.

Finding: Competition as a driver of the complexity of human societies

Evolutionary theorists suggest that the drive for specialization may not just function at the level of species and population demographics, but that it may also have been a fundamental force behind the development of the organizational and cultural complexity of human societies throughout history. Richerson and Boyd (2001) examine the question of how humans have gone from a species living in small, widely-dispersed groups with limited social complexity, to today living in sprawling, densely-populated societies characterized by complicated social organizations and institutions.

propose that specialization has been a major driver of the growth in size and complexity of human society since the beginning of our current geological epoch of the Holocene. Specifically, they suggest that the stable and warm climactic conditions of the Holocene made agriculture possible, and that with agriculture came the ability to have surplus food. This then allowed for the development of human settlements and led to increasing population size and density. In turn, this demographic concentration created the conditions for a feedback loop of continually increasing competition fueling growth in technological and organizational complexity of human societies, which consequently enabled denser populations and created greater competition. As Richerson and Boyd summarize,

> *"The large, rapid change in environment at the Pleistocene-Holocene transition set off the trend of subsistence intensification and institutional complexity of which modern industrial innovations are just the latest examples ... since groups that utilize efficient, plant-rich subsistence systems and deploy the resulting larger population more effectively will normally out-compete groups that make less efficient use of land and people, the Holocene has been characterized by a persistent tendency towards subsistence intensification and growth in institutional sophistication and complexity" (27).*

Thus, in Richerson and Boyd's model of history we see a clear demonstration of both the concepts of the trade-off of specialization, and the effect of population density on rates of human, specifically cultural, adaptation. We can see that human settlement led to increase in population density, which led to increased competition, and the success of specialists over generalists, and from that, the ability for increasing population density, fueling further competition and the further dominance of specialization. While this is a compelling explanation for the development of increasingly large and complex human societies, it also has concerning implications for our long-term welfare. The fact that, throughout history, more specialized societies and organizations have outcompeted less specialized ones in the short-term, means that it has been difficult for generalists to survive, though they may actually be better suited to adapt to long-term ecological changes. In simple terms, it is very difficult not to become swept up in the proverbial trend of the moment. Even if one - as a society, an organization, or an individual - sees a danger in it, the danger of not keeping up with the surrounding agents is greater.

This dynamic is serious if viewed in relation to the general pattern of ecosystems to undergo long periods of steady change in one direction, followed by a sudden change in the other. Even if some agents recognize that an environmental crash is coming, they may not be able to prepare for it, because they will be outcompeted before it happens, leaving the short-term successors to suffer the consequences of their specialization. As Richerson and Boyd conclude, "the present very high rates of technical and institutional evolution are a problem of immense applied importance ... [with] great risks of environmental deterioration and a hard landing on the path to sustainability " (2001: 27).

2.3 Hypotheses

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3. Methodology

The difficulty of using sustainability standards that was experienced at McGill between 2008-2010 offers an excellent opportunity to test the theories of the CSR and evolutionary literatures. The size of MF&DS is comparable to a large range of institutional purchasers, and yet there are a small enough number of actors and specific experiences in this example that it is easy to identify all the main factors at play. And the success of the MFSP's work in all areas except for setting sustainability standards provides a case where the commitment and effectiveness of the actors involved is clear.

The following case-study has been built from three principle sources: my own personal experience with the MFSP, reports written by the MFSP, and interviews conducted for this paper.

As one of the MFSP's founding members and as a coordinator over the organization's first three years, I have seen its development from the very beginning. I started developing the MFSP in the fall of 2008, and dedicated a significant amount of my time on campus to it from then through until I graduated in 2011. For the purpose of this paper I will limit the period of events being discussed to the end of 2010 to ensure a clear set of experiences to reflect upon.

I worked part-time for the MFSP during the school year, volunteering my time as a co-coordinator with one other student to oversee the applied student research classes we organized and to lead all other work with our partners inside and outside of the university. During the summers of 2009 and 2010, I worked full-time for the MFSP and coordinated teams of four-to-five other students to do our own research and prepare

pilot projects for the coming school year. Thus, I have three years of experience at the head of the organization to inform this case-study— three years of in-depth participant observation, if you will. However, as the MFSP's work has grown, I have moved from being directly involved in all research, present at all meetings, and a an active part of most discussions, to providing oversight of the work being done by other team members and student researchers.

To fill in the details of the work that I have not been directly involved in, I will reference a number of the reports completed by the MFSP's applied student research courses. Along with a report by the MFSP's summer research team, these documents will also be used to provide specific quotes to support my recollection of events. Because all reports were created using the applied research model (see Appendix I), it is difficult to separate pure observation and analysis from the authors' involvement in trying to create solutions to the situations they are describing. Thus, all reports were written by students based on their experience working with MF&DS and its distributors, and informal interviews conducted during this process.

Lastly, I conducted a small number of my own interviews during the process of writing this paper, to fill in any gaps in information and to confirm any specific details or interpretations of events needed for analysis. I held one-hour interviews with four individuals: the MF&DS Executive Chef Oliver de Volpi, MF&DS Food System Administrator Laura Rhodes, and MFSP Co-coordinators Jonathan Glencross and Sarah Archibald. I had well-established relationships will all four of these individuals, and selected them for interview because of their placement as fellow leaders of the MFSP's work over the last three years. These interviews were carried out between

January and February 2011, using a semi-structured format and open-ended questions prepared separately for each individual, depending on the specific information needed. Any information in the following case-study which isn't referenced to a specific report or individual is from my personal experience. Statements which are referenced as coming from specific individuals and aren't linked to a report are taken from my interviews.

It is worth noting that during 2008-2009, food services at McGill underwent a significant internal restructuring. The sub-contracted and self-operated sides of the university's operations which had previously been run separately were brought together under one unit. For consistency, I will refer to the food services on campus by the current name of McGill Food & Dining Services throughout this paper.

4. Case Study: The McGill Food Systems Project, 2008-2010

4.1 Context of Food Services at McGill

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4.2 Community inspirations

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4.3 Founding discussions

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4.4 The problems with existing sustainability standards

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4.5 The challenges of creating new standards

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4.6 Successes

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4.7 Conclusion

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5. Discussion

5.1 Lack of information flow

The problem of information flow identified by the corporate social responsibility literature fits well to explain MFSP's difficulty in setting sustainability standards. The MFSP was founded to help administrators and staff who didn't have the time or resources to evaluate current purchasing practices or research new ones. It was clear that developing sustainability standards was going to take extra work that just didn't fit in the jobs of the people running the dining halls, and the thought was that applied student research could fill this gap. However, it is clear that the MFSP underestimated the degree to which this lack of information and capacity is endemic throughout the supply chain, not just within McGill's food services.

The MFSP's experience supports the findings of Fuentes et al. (2006) that there are very few measures of product quality that make it through the entire supply chain from producer to purchaser besides price, and that there are no standard measures of environmental impact. The MFSP discovered that in McGill's context it wasn't just the administrators leading MF&DS who didn't know where their food was coming from and how it was being produced, but also the chefs doing the actual ordering, and the distributors they were ordering from. The way the businesses in McGill's supply chain operated, there was simply very little accounting for any information besides price and general standards for food safety and aesthetics that were kept track of the food left the farm or producer. Though the complex network of distributors, suppliers, and brokers

that McGill ordered through provided incredible flexibility and speed of response for finding finding the cheapest and freshest products across the continent and throughout the world, they also severely limited the flow of information reaching McGill's chefs. This made it difficult to use Food Miles as a sustainability standard. Even within Québec, where McGill's primary fresh produce supplier, Hector , tried not to employ brokers and work directly with farmers, this distributor still didn't have insight into how the food they were providing McGill was being grown, because this simply wasn't information they gathered or kept track of.

The poultry and seafood industries proved to be slight exceptions to the findings of Fuentes et al. In the seafood industry, where a growing amount of research and guidelines is being shared by non-profit organizations, MFSP's researchers discovered that because of the clear differences in geography and harvesting methods for different species, the sustainability of many products can be judged based on the type of fish concerned. In the poultry industry, where forms of production and distribution where so limited, MFSP's researchers found that unless specialty or organic producers were ordered from, the only difference in sustainability considerations between the majority of poultry producers was the type of feed they used. Thus, in both these cases, environmental information was still not being tracked by the specific producers or distributors involved, but because of the standardization of the industry, environmental impact was still able to be assessed.

Therefore, MFSP's researchers found that the difficulty with setting sustainability standards for seafood and poultry purchasing was not a problem of information. For produce, however, it was clear that there was very little information for MFSP to assess

unless it started sending researchers to individual producers and making assessments on a farm-by-farm basis. Thus, for produce, making informed purchasing decisions could only be done by

These examples show that information flow, though not providing a perfect explanation, is a major difficulty throughout the industry. It also shows that the ability to assess the sustainability of a product, and even trace a product back to its specific producer, was much more difficult for some types of food than for others.

As Smith (2008) distinguished, the more actors and the more standardization involved in a specific supply chain, the more difficult it typically is for a purchaser to have any choice in the way the products are produced. MFSP's research shows support for this in McGill's produce purchasing. Because fruit and vegetables are considered largely equivalent in all terms except for price and freshness, Hector switched sources continuously, often obscuring the actual source of the products through its use of the suppliers and brokers that allow the Montreal-based company to work internationally. In the Québec poultry industry, it is true that the standardization and aggregation of birds made it impossible to identify the source of the majority of poultry from before the slaughterhouse were it was gathered and processed together. However, this example also suggests more complexity than recognized by Smith's argument, since the commodity treatment of most chicken happened to accompany an almost complete uniformity of the methods of production for conventional and conventional grain fed chicken. As discussed above, a similar situation was found for the treatment of most individual species of seafood. Thus, the standardization of these industries

actually made it easier to develop sustainability standards, and the lack of information flow was again not the primary difficulty McGill experienced in these cases.

Spence and Bourlakis (2009) suggested that the size of a distributor tends to influence its ability to provide information and meet other special requests which may be needed for assessing or implementing sustainability standards. This has proven true in the MFSP's experience with both poultry and seafood. In the case of seafood, it was a smaller distributor, Pierre en Gros, and the small vertically integrated harvester, processor, and marketer Trident, that were best able to respond to the chef's requests and provide products that fit the MFSP's standards. For poultry, MF&DS's existing large distributors do not work with specialty and organic producers, and the Executive Chef was still looking to find a smaller distributor which will be able to reliably meet these standards. It is important to note; however, that in both these cases, the small distributors were not essential because of their ability to enable better information flow. For both seafood and poultry, the information needed to set sustainability standards was available regardless of the size of the distributor being worked with, but the smaller distributors were the only ones able to *meet* these standards in their actual ordering. This is in contrast to produce purchasing, where the combined lack of uniform production and the treatment of products *as* uniform, created the need to assess specific producers and the inability to actually get the information needed to do this. This resulted in a barrier to developing any standards at all. While working with a smaller produce distributor would likely make it easier to identify and evaluate specific producers and then develop purchasing standards, fruits and vegetables make up such a large portion of the dining halls purchases that it would be prohibitively difficult to work

with the multiple small distributors that would be needed to fill all orders throughout the year. Thus, the importance of the size of distributors looks to have come more because of how this determines their capacity to work with specific sustainable producers, and the capacity of MF&DS to work with them as a distributor, rather than the quality of information flow they inhibit or allow.

As predicted by (1999), smaller distributors are significantly less convenient for MF&DS to work with. As a large institution with constant, high volume orders, the more small distributors each chef has to work with, the more time it takes to do their orders. Larger “one stop shops” are simply a lot more attractive and efficient for the time-pressed chefs. Though student research has been able to help set standards and identify the distributors needed to meet these standards, students aren’t able to make it easier to work with these smaller distributors. This is a key reason that the MFSP and MF&DS created the Food System Administrator position, to provide the capacity within the unit to search out and work with new distributors and suppliers. However, while this position has been helpful in setting up new distributor relationships, it is still the chefs that do the actual purchasing.

MF&DS’s recent connections with small distributors for seafood and poultry, and directly with small producers and suppliers for tofu, frozen vegetables, and grains, beans, and seeds, has been the key to the successes in establishing sustainable purchasing for these food categories. Unfortunately, the Executive Chef has made it clear that these type of distributor relationships feasible to do for all products ordered for the dining halls, or even a majority, because of the extra work they require. The finding of Fuentes et al. (2006) that environmental information often isn’t used even when it is

able to travel all the way through the supply chain to the purchaser, points to the second factor identified by the CSR literature: the lack of business incentives for using sustainability standards.

5.2 Lack of business incentives

Smith (2008) argued that businesses only have reason to adopt sustainability standards if they are likely to be a sound business investment, and specifically that consumer demand will be sufficient to pay back the additional costs of these changes. This is unequivocally an important factor for explaining the difficulty of setting sustainability standards at McGill. Though MF&DS, as a self-operated unit within the university isn't under pressure to earn a profit, they still need to break even. Feeling that students would not be willing to pay significantly higher prices for food that meet sustainability standards, the Executive Chef and Food System Administrator have been left working within their current budget, only able to justify new standards if they can find sustainable products that are of equivalent price to what they replace, or if they can find ways to offset the costs for new products by from lowering the cost of old ones. This explains the difficulty of using existing standards of buying from organic certified or small-scale fruit and vegetable producers, and the difficulty of fully implementing the MFSP's standards for poultry.

While organic certification can be a relatively strong sustainability standard when used by local farms (versus the now-ubiquitous large industrial-modeled organic farming

in California), MF&DS found that there was a simple lack of affordable options for organic fruits and vegetables, or suppliers that were able to match the volume needed for the residence dining halls. The same problem has been found with small-scale farms. While there are many certified organic and small produce farms around the Montreal region, these sell primarily through farmers markets and community-shared agriculture (food box) programs, and wouldn't be able to offer fruits and vegetables at a quantity or price that would be fit within McGill's constraints. Even if the supply could be found, for example with the organic poultry market in Québec, the fact that it is such a small portion of the industry still makes the 50-100% price increase unaffordable on a regular basis. The small percentages that MF&DS committed to for organic and specialty poultry demonstrate the necessity of fitting new sustainability standards into their existing budget. Though MF&DS has had a number of recent successes at finding organic products (for tofu, frozen vegetables, grains, beans, and seeds) these have only been feasible because they were roughly equivalent in price to past purchases. These have been excellent finds on the part of the Executive Chef and Food System Administrator, and are unlikely to be found for all food categories. As Maloni and Brown (2006) emphasized, margins are simply too tight to be able to legitimize a switch away from the cheap and conventional sources of most products.

This highlights the fact that most of the positive changes that have been able to be made by MF&DS have been found as exceptions to regular constraints— exciting opportunities in contrast to the usual condition of unfeasibility. For example, buying local produce when it's in season is relatively equivalent, or even cheaper, than importing produce. Thus, for a small window of months in the fall, McGill's distributors focus on

local fruits and vegetables, and McGill is able to order these from them. Similarly, ordering seafood that meets MFSP's sustainability standards is largely a question of ordering different species of fish, often equivalent in price if the purchaser knows what to look for and where to find it.

Ward and Smith (2006) suggest that, if business is good, companies have no reason to change their practices. Though there may be a lot of "buzz" and interest around local and sustainable food, this doesn't mean that producers who aren't certifying organic or aren't within a certain distance of their consumers are losing their market, or that distributors are being asked by all of their clients asking for these types of products. Far from it, the MFSP found in the case of sustainable seafood and local produce, that McGill was one of the first institutions to ask our distributors to meet these new purchasing guidelines. In the case of seafood, nothing significant came back until the Food System Administrator prompted again and supplied some helpful examples. In the case of produce, Hector hasn't made significant changes, but they are still MF&DS's primary fresh fruit and vegetable suppliers, and have been given no indication that this is likely to change. Thus, though goodwill and positive recognition has proven to be plenty of incentive for MF&DS to invest in developing sustainability standards, it is important to recognize that this has not been the case for all of McGill's distributors, and that. *disincentives* to to *not* changing may be more effective in these cases. Thus, whether or not there has been a clear business case for sustainability standards does help to explain some of the MFSP's experience, though it is important to look at both the presence of incentives *to change* and the lack of incentives *not to change* to fully understand the situation

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5.3 Trade-off of specialization

The CSR literature predicted rightly that a major difficulty in developing and implementing sustainability standards at McGill was the conflict between the efficiency of working with big distributors and complex supply chains versus the transparency and diversity of producers supported by working with smaller distributors and more direct

supply chains. This also fits the trade-off of specialization as developed in the evolutionary literature.

In this case, the agents I'm discussing are organizations - MF&DS and their distributors, brokers and producers - and individuals - the specific MF&DS chefs. The changing environment in question, rather than being climactic and geological systems, is these agent's place within food industry and wider Canadian social context. Tracking the environment most closely (in other words, keeping the best fit with the environment or being best adapted to the environment) means following most closely the trends of the food industry for organizational form, economic incentives and pressures, and consumer desires and demands.

The ability of complex food supply chains to provide any ingredient with incredible speed and consistency and relatively low cost is clearly made possible by the cooperation of the highly specialized distributors, suppliers, brokers, transformers, and producers involved. Whether MF&DS chefs are purchasing conventional poultry, produce, or seafood, they benefit from the ability to fill any order to exact specifications, receive deliveries on time, and do all of this with complete reliability and only a single contract and contact person. The distributors are able to offer this because they have large teams of skilled buyers who scour their networks to find the best products every day, sellers whose sole job is to find and support chefs who want to buy these products, and warehouse workers and delivery drivers to coordinate the intake of substantial volumes of a substantial number of products, organize specific orders, and ship them out in the shortest time frames with the highest accuracy possible. These distributors are able to provide this service because of similarly high levels of specialization in the

suppliers who deliver the products to them, the brokers who help them find the products, and the transformers who process and package the products to the precise specifications requested. The work of all of these actors is made possible by specialized producers who grow or raise high volumes of identical products that can be moved in large orders and sold at low unit prices. Thus, specialization at each level of the supply chain create the economies of scale and efficiencies of coordination that MF&DS chefs depend on to feed thousands of students every day in McGill's residence dining halls.

However, though this specialized system is very efficient, it's functioning depends on agents at each level keeping within their narrow scope of specialization. The large distributors that MF&DS works with have been able to make incremental changes to meet consumer preferences for food from around the world, for increasing access to these foods year-round, and for all of this at increasingly low prices, but they struggle when faced with a fundamentally new demand like tracking the environmental impact of the products they sell. It is the less specialized smaller distributors that are able to adapt better to these fundamental shift in the expectations, but they are simply not able to meet the efficiency, reliability, and scale provided by the big distributors, and are more difficult for MF&DS chefs to work with. Similarly, less specialized smaller producers may be able to offer more diversity and adaptability in their production techniques, but they lack the volume and standardization needed to be worth the time of big distributors. Specialization thus explains why, despite its difficulty in adapting to new demands, McGill's supply chain has become structured the way it has. Though MF&DS recognizes that less specialized distributors and producers are better able to adapt to the unit's new sustainability requests, and should be best able to adapt to any new requests that

develop in the future, it finds it difficult to work with them. Less specialized distributors and producers simply aren't as efficient, and thus aren't as feasible for an institution the size of McGill to work with.

In sum, MF&DS - being a highly specialized food service provider itself - depends the specialization of the distributors and other actors in its supply chain to meet its short term goals of affordability and efficiency, making it difficult to work with more generalized smaller distributors and producers that are best able to meet its long-term goals of sustainable purchasing. Thus, in this context, the trade-off of specialization can be understood as providing one of the underlying barriers to the information flow that has restricted McGill's ability to use the Food Miles sustainability standard or develop new standards for its produce purchasing. It can equally be understood as a driver which makes it difficult to afford to use existing standards of organic certification, small-scale farms, or direct sourcing, or to find distributors able to implement new standards for poultry or seafood purchasing. While MF&DS has been able to find some exceptions to this rule with its tofu, grain beans and seeds, and frozen vegetables, the trend holds true in the majority of cases.

The trade-off of specialization also helps to explain why support from MF&DS is important to help the actors in its supply chain adapt to new ways of working. As demonstrated by the example of setting seafood standards, neither McGill's primary distributors or its own chefs were familiar with the considerations of sustainable seafood. They were both so used to working with price as their primary priority - the way their specialization, and that of whole supply chain, had been focused - that they needed help understanding how to work with these new goals. As the Food System

Administrator recognized, MF&DS can't just set standards and expect these actors to be able to follow right away, they need the opportunity to be shown how to meet these new standards and develop their own capacity for this.

Therefore, we can see that while the CSR literature identifies that there is a problem of information and capacity in the supply chain, the evolutionary perspective on specialization helps us to understand *why* these problems exist and thus why it is difficult to set sustainability standards that change the way MF&DS works in its supply chain. However, just as the problem of information flow can be seen as part of the larger issue of the trade-off of specialization, the trade-off of specialization itself can be seen more as a symptom than a cause of the underlying issue identified by the evolutionary theory. I believe the effect of competition offers a much deeper analysis of McGill's difficulty setting sustainability standards.

5.4 Conservative-entrepreneur effect

The CSR literature identified a lack of incentives as the fundamental explanation of the difficulty using sustainability standards for food purchasing at McGill. However, the evolutionary literature suggests that the core problem may not be a lack of incentives, but a lack of ability. Specifically, if the conservative entrepreneur effect applies to the situation at McGill, then the issue is that competition is pushing MF&DS and its distributors to keep pace with the rest of the industry because of the risk losing the support of their customers either if they fall behind or veer out totally on their on track.

The food service industry is incredibly competitive. As the MF&DS Executive Chef emphasized, the sheer number of food service providers makes it incredibly difficult for any one business to remain profitable. Whether institutional cafeterias like McGill's, caterers, restaurants, cafés, or fast-food outlets, the amount of different businesses competing to attract customers in Montreal drives down margins for the entire city's industry.

McGill is a prize customer to have for the many local, provincial, and national distributors which all operate in Montreal. However, though McGill may be large in comparison to many of the other institutional food service providers in Montreal, it is still just one of many customers of any distributor, and its requests have to be taken in relation to what the other customers of these distributors are asking for, and the direction in which the industry as a whole is supporting and heading. In other words, distributors can't simply shift their whole business model to cater to McGill's needs, because McGill is only one of their clients, and because they need to stay as competitive as possible to stop the other companies from taking any of their other clients. Thus, their difficulty in responding to MF&DS's call for new information to develop sustainability standards, and their difficulty in responding to the standards that come out of this process, may be viewed in relation to the conservative-entrepreneur effect. This can be seen in the reluctance of MF&DS's major distributors to take on extra work for meeting McGill's poultry and seafood standards, and the lack of response from Hector to provide local produce.

The conservative-entrepreneur effect applies equally well to explaining the actions of MF&DS as it does for the unit's distributors. McGill's residence dining halls are unique because they are self-operated and don't need to make a profit, and their raison d'étre is to cater to the desires of residence students. Because one of the clearest demands from within the student body is for sustainable food, and the MFSP is the clearest voice leading this movement, the MF&DS is happy to be working with the MFSP to develop sustainable purchasing standards. However, another key demand of students is for cheap and abundant food. Because students' conception of "cheap" is based on the prices they see at the other food providers throughout Montreal, MF&DS still needs to keep its costs in line with the rest of the industry. Thus any attempts to change purchasing to meet sustainability standards must be balanced against the economics of the rest of the industry.

In other words, though the Executive Chef may completely agree with the principles behind setting sustainability standards, the reality is that he has to make sure their operations stay attractive to students and that students will give their business to the dining halls instead of to one of the other dozens of restaurants within close walking distance of the university. This is a case-in-point example of the conservative-entrepreneur effect: because MF&DS has to stay competitive in the terms of all other food service businesses, de Volpi's ability to set sustainability standards is limited by the status-quo of the rest of the industry. Though MF&DS could decide to serve only locally-sourced or organic-certified food that meets stringent sustainability standards, if it lost its student market in the process, these changes, however well-intentioned, wouldn't be effective because MF&DS's business would collapse. The end result is that the

Executive Chef is forced to transition the dining hall's purchasing through a lot of very small, incremental changes towards more meaningful sustainability standards. The case of standards for poultry purchasing provide an excellent example.

Because the prices of specialty and organic producers far exceed those of conventional poultry producers, if MF&DS wants to transfer its purchasing to these more sustainable production methods it could lower the total amount of chicken bought to offset the higher prices, but de Volpi was clear that he didn't want to do this because of the risk of losing students to other restaurants. So, MF&DS has decided to start with very small purchasing percentages for sustainable poultry and hope to be able to increase this supply over time. However, even these very limited standards is better than has been possible for many other types of food, including organic produce, meat and dairy, for which the cost premiums have so far completely prohibited their integration into regular purchasing, even at such small percentages.

The Executive blamed this difficulty on the necessity of staying financially competitive as a food service provider, arguing that as the Executive Chef at MF&DS he was limited by what the rest of his competitors in the industry were doing, and could only implement sustainability standards a little bit at a time because he constantly had to wait for the rest of the industry to catch up and make the next improvement affordable: a perfect example of the conservative-entrepreneur effect. de Volpi stated strongly that, though he doesn't like having his decisions as a chef controlled by the government, regulation is a crucial tool for speeding this transformation up. Regulation can help diffuse the conservative-entrepreneur effect by bringing all other food service

providers to the same level and making sustainable purchasing the norm rather than a business risk.

In sum, both factors identified by CSR and evolutionary literatures show why there is a difficulty of using existing sustainability standards. CSR suggests that a lack of incentives for distributors to change creates lack of options available for ordering, creating lack of sufficient and affordable supply to meet sustainability standards. But the conservative-entrepreneur effect shows *why* there is a lack of incentives to change, suggesting that it is the highly competitive nature of the food service industry which limits the number feasible options for changing purchasing practices and the difficulty using sustainability standards.

5.5 Competition as driver of social complexity

The trade-off of specialization and the conservative-entrepreneur effect are both effective at explaining the current lack of information flow and lack of ability to change in McGill's food supply chain. However, evolutionary theory can also help us put McGill's experience in a much broader historical context. Richerson and Boyd (2001) suggest that the factors behind MF&DS and MFSP's difficulty influencing the residence dining halls' supply chain is not limited to McGill, or to institutional food supply chains, but are fundamentally connected to the increasing specialization that has been seen in the complexity of all subsistence systems and social organization for thousands of years.

MF&DS has more flexibility to develop sustainable purchasing standards than most food service providers because it doesn't have to return a profit. However, McGill's are some of the last self-operated dining halls in North America, and they are experiencing the same forces which pushed most other universities to subcontract their food services. MF&DS's Executive Chef was brought in to balance the unit's budget and try to recreate a business case for the self-operated model that would help it survive. However, with only three primary university food service providers in Canada (Chartwells, which works nationally, Aramark, which works across North America, and Sodexo, which works internationally) the industry is quickly becoming dominated by businesses which are highly efficient because of their significant standardization and economies of scale. Intense competition has driven this pursuit of growth and efficiency not only in food service providers, but for distributors and providers and actors throughout the supply chain. The MFSP has clearly seen these forces in the incredible size and standardization of producers across Québec's poultry industry, and the complexity and international flexibility of the produce supply chain.

I believe, therefore, that we can see that MF&DS and MFSP's attempt to define and implement sustainability standards hasn't worked because of the strength of drivers towards specialization and standardization. These forces create the problems of information flow, the need for large distributors, and low price margins which have inhibited McGill's ability not only to use existing sustainability standards, but to develop and implement its own. The successes that MF&DS has been able to establish in transitioning to sustainable sources, haven't come through *setting* sustainability

standards and changing it supply chain, but through *finding* exceptions to these general trends in the industry.

Consequently, McGill's experience gives significant support to the argument of Richerson and Boyd (2001) that competition has been driving intensification of subsistence methods and the steady increase in institutional specialization and complexity. Not only is this concerning because it is these very drivers of competition and specialization which seem to be inhibiting the creation of sustainability standards in McGill's supply chain, but because these drivers show no signs of slowing — either within McGill's food supply chain, or on the evolutionary scale. When taken together, the effect of the forces of the trade-off of specialization, the conservative-entrepreneur effect, and competition as driver of social complexity, the situation looks serious. Even though MF&DS recognizes the need to transform the way it purchases food for its long-term survival, it appears to be unable to make more than the smallest of changes for fear of being outcompeted by the rest of the industry, all of which is being pushed on, full-steam ahead, by the very same forces.

5.6 Implications for McGill's ability to use sustainability standards

The question that remains is what these explanations from the CSR and evolutionary literatures mean for McGill's ability to use sustainability standards in the future. Specifically, do the issues of capacity and competition make setting sustainability standards an impossible way to influence the food supply chain? Or do the experiences

of the last three years and the factors from the literature just explain why McGill needs to build its own capacity to be able to use sustainability standards effectively?

MFSP's report *Best Practices for Sustainable Food Purchasing at McGill* (Knight et al. 2009) recommended adding internal capacity through creating an administrative position in charge of sustainable purchasing within MF&DS. It also recommended adding external capacity through partnering with an organization that could provide in-depth research and coordination with specific producers. After the completion of the report, the MFSP led the creation of the Food System Administrator position to coordinate sustainable purchasing within McGill Food and Dining Services and with the unit's distributors and suppliers. MFSP has also worked to bring the certifying organization Local Food Plus onto campus. As Canada's first "local sustainable certifier" Local Food Plus has developed sustainability standards based on the research of sustainable agriculture experts across the country, and can provide a depth and validity of research that's just not feasible through applied student research alone. Local Food Plus also uses teams of trained auditors who assess of every individual farm— again, providing a level of skill and capacity that student researchers simply aren't able to provide. Though Local Food Plus wasn't ready to begin certifying before the writing of this paper, their work may significantly change the situation for sustainable purchasing at McGill once they get started.

We see that through the continued work of the Food System Administrator, and the development of the partnership with Local Food Plus, McGill may be able to make up for the lack of information flow identified by corporate social responsibility literature, and build its own systems to address the specialization in the food supply chain

identified by the evolutionary literature. However, it is important to recognize that these actions do not address the more fundamental problem of the conservative-entrepreneur effect. Working together the Food System Administrator and Local Food Plus may be able to access and evaluate the complex information needed to set effective sustainability standards, and identify and certify farms which meet these standards. This does not, unfortunately, remove the issue that there is simply a lack of ecologically-focused farms and producers from which McGill can afford to purchase, or which distributors see as large enough market to be worth working with. With such tight budgets, MF&DS is likely to have limited success in finding new certified suppliers that it can purchase from without raising the cost of its meals for students. And with so many other food operations available for students in downtown Montreal, MF&DSs doesn't want to risk losing its customers to cheaper options. Thus, even though McGill may be able to overcome the barriers to setting sustainability standards, the pressure of competition is still likely to limit how much these standards can be used. Though, doubtless, there will continue to be opportunities found in exceptions to these forces, the problems caused by competition and specialization may continue to grow and make these opportunities harder to find, unless there is a systemic change in the industry.

This conclusion from the evolutionary literature fits impressively well with the Executive Chef's argument that government regulation is necessary to escape the competitive pressures that stop him from setting more meaningful sustainability standards. De Volpi suggested that if students really recognized the size of the distributors and suppliers that he works with, it would be clear that MF&DS's business - and therefore its sustainability requests - are a drop in the bucket for these businesses.

He concludes, and the conservative-entrepreneur effect supports, that the intense competition of the food service industry is limiting MF&DS's ability to change, and thus that reform on the level of the whole industry is going to be essential to make it possible for McGill to reform its own food supply chain. Let's take a moment now, to reflect on what these findings mean in relation to the larger sustainable food movement.

5.7 Relevance to the local and sustainable food movement

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6. Conclusion

This paper assessed the usefulness of two factors (information flow and incentives) identified by CSR literature, and three factors (specialization, competition, and competition as a driver of specialization) from evolutionary theory. These factors were used to explain the difficulty of using sustainability standards to improve the purchasing of McGill's residence dining halls.

Though the factors of information flow and business incentives identified by the CSR literature do fit many of the experiences of the MFSP and MF&DS, they do not account for all the difficulties experienced in setting standards for poultry, produce, and seafood, or for all the successes of establishing a relationship with Macdonald Farm and new sources for tofu, grains beans and seeds, and frozen vegetables. The evolutionary concepts of the trade-off specialization and the conservative-entrepreneur effect of competition fit more fully with these experiences of MFSP and MF&DS, though they are much more general in application and leave significant room for interpretation.

However, these factors from the evolutionary theory do not need to be in competition with those from the CSR literature. Instead, because the trade-off of competition and the conservative entrepreneur effect offer a root cause for the issues of information flow and business incentives, they may actually be seen to support the relevance of CSR's theories. The trade-off of specialization provides a compelling line of reasoning for why the problem of information flow developed, and the conservative-entrepreneur effect suggests why a lack of business incentives - or as it suggests, a

lack of ability - to implement sustainability standards exists. The theory of population settlement causing competition - and with this, driving the specialization of institutions and the intensification of subsistence - could provide the historical context for the development of these dynamics.

It is important to recognize that I have not been able to flesh out a conclusive relationship between the CSR literature and that of evolutionary theory, or provide a fully defendable explanations for the effects of specialization or competition as definite root causes of MFSP and MF&DS's experience. Though this may be due to the limited scope of this paper, I believe there will be difficulty regardless of the length of study simply because the scales of analysis are so different between the evolutionary concepts and the events at McGill. Thus, though the evolutionary factors may provide a deeper explanation than those of the CSR literature, they are more useful as frameworks to spur critical reflection and suggest why the issues identified by CSR may have arisen. In other words, while these evolutionary concepts are useful for understanding the difficulty of setting sustainability standards at McGill, they may be most valuable in providing a partial framework for contextualizing and directing the emerging discussions of CSR literature of the food service industry.

However, the case-study analysis provided by both bodies of literature in this paper do not only provide fodder for continuing academic discussion. The factors identified by both the CSR and evolutionary literatures are useful for understanding the difficulty of setting sustainability standards at McGill, and also provide a strong framework for understanding how McGill's situation is exemplary of conditions in the

modern food supply chains of which it is a part. The factors also suggest some important avenues for addressing these broader industry conditions.

The problems of lack of capacity and specialization have shown to be valid issues being experienced at McGill, and endemic to food supply chains across North America wherever agricultural products are being treated as standardized commodities. Though these problems are making it difficult to set and use sustainability standards, they do not appear to be insurmountable blocks. McGill may, in its future work with the Food System Administrator and Local Food Plus, be able to provide the capacity to compensate for them. The problem of a lack of sufficient business incentives or ability to adopt sustainability standards throughout the food service industry, on the other hand, appears to be a much more fundamental problem. This may require solutions on a level above McGill's direct influence, because of its ties to the basic economic structure of the food service industry. This situation offers a number of practical considerations for the future of the sustainable food movement:

- Current attempts to set sustainability standards by individual institutions may generate some initial successes in their own food supply chains, but these successes will be unlikely to counteract the dominant pressures towards increasing size and specialization which inhibit sustainable purchasing throughout the industry

- To make meaningful changes towards the sustainable production and distribution of food across the industry, action at policy level is going to be needed to standardize requirements and remove the slowing effect of competition between actors.

- Though setting policy requirements for sustainability on food producers, distributors, and providers may be necessary, there is a good reason that it has not happened before now: none of the businesses in the supply chain will be most productive or efficient under the new system.

- Shifting the current system is going to be difficult. The industry is going to need to make some significant changes to be able to meet policy requirements.

    - *improvement of infrastructure for communication of sustainability information*

    - *improvement of infrastructure for distribution of food from small-scale producers with significant crop-diversity*

    - *shift in pricing points at all levels of supply chain to make new system feasible for all actors*

- There will be a significant adjustment period while the supply chain transitions into this new infrastructure and economic model, and businesses at all level of the supply chain will benefit from support to be able to survive during this transition.

It is clear that there is much work remaining to be done to be able to make sustainable purchasing standards a normal practice in institutional food supply chains, let alone the project of actually ensuring food is being grown and distributed sustainably throughout the entire food service industry. An essential requirement for advancing towards these goals is having a clear understanding of what the barriers are, and what larger dynamics lie behind them. I hope this paper, in providing an unlikely academic support for the emerging literature on this topic, contributes to that understanding. While the forces of evolution may seem a far cry from the daily tasks of balancing budgets and coordinating deliveries at a dining hall, the common ground that can be found is sometimes surprising when tackling the challenges of changing the way we eat.

References

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Appendix I: Introduction to Applied Student Research

Definition of Applied student research

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Literature Review

The university: A leading institution?

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Classroom and campus: Missed connections

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The path forward: Applied student research

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Appendix II: Founding document of the McGill Food Systems Project

Building Sustainable Food Systems at McGill

Introduction

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Mandate

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Objectives and Strategies

Objective

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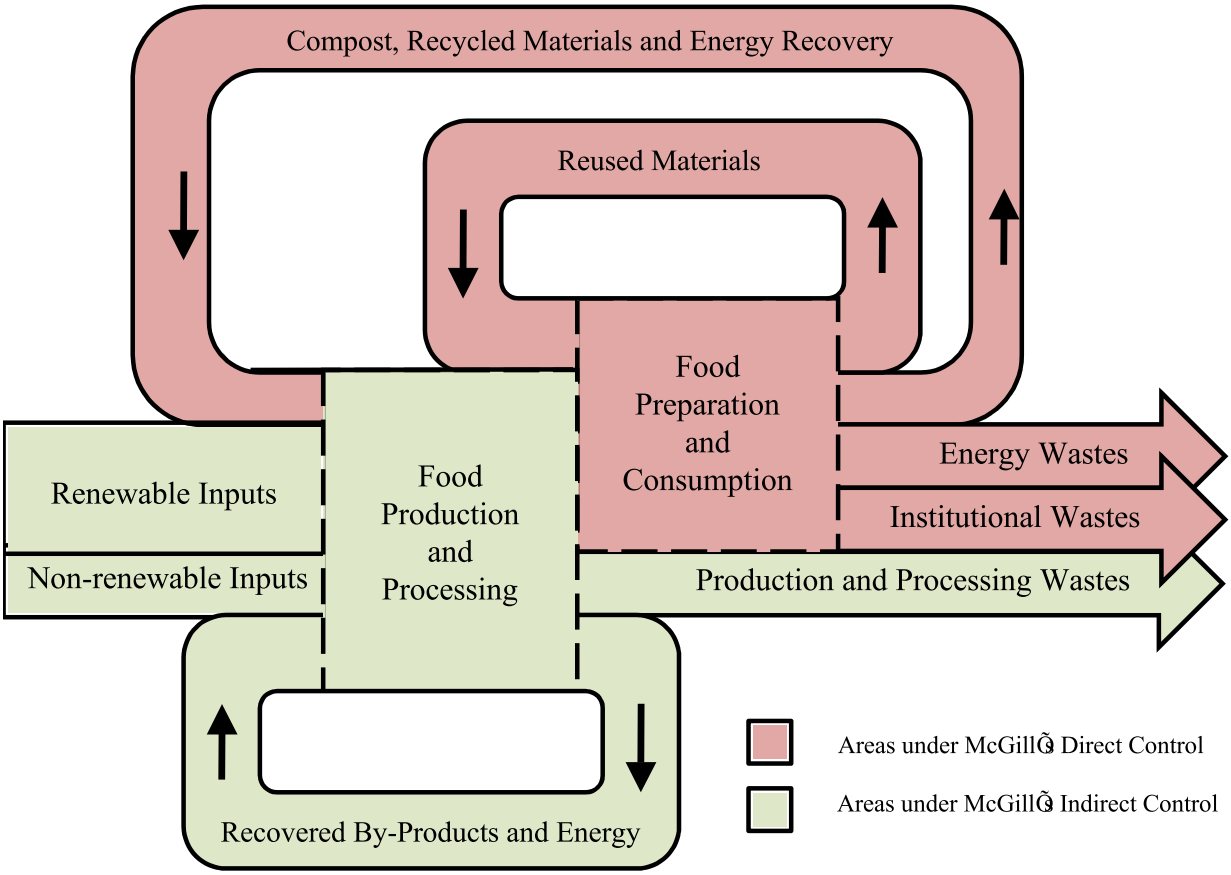
Definition


Compost, Recycled Materials and Energy Recovery
Reused Materials
Food Preparation and Consumption
Renewable Inputs
Non-renewable Inputs
Food Production and Processing
Energy Wastes
Institutional Wastes
Production and Processing Wastes
Recovered By-Products and Energy
Areas under McGillÕs Direct Control
Areas under McGillÕs Indirect Control

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Conclusion