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Editorial

Opportunities and spaces for change in food environments

Ellen Desjardins

The contributions to this issue of *Canadian Food Studies* manifest a keen insight: with different media, methods, and voices, we continue to reimagine spaces for food—where and how we consume and grow food, and how we position it into an increasingly democratic, commensal domain. The more food plays a central role in various spaces, the more opportunities arise for multiple transformations in other aspects of human interaction.

How better to represent a food space than through the voices of eaters? The 10-minute soundtrack in the audiovisual work by Mélanie Binette features several Francophone regulars at Le Chic Resto Pop, expressing how this affordable restaurant in their low-income Montreal community has affected their lives. When they don headphones and listen to a half-hour recording of other patron's stories, it encourages them to make contact with others and reduce their isolation. This "installation" was the brilliant idea of the author, an example of *relational art*, aiming to extend meaning in a social context.

Picture the contrasting spaces of land: an urban area dominated by lawns as opposed to an area in which much has been cultivated to produce vegetables and fruit. The research by Schneider and Fast presents these Calgarian case studies by providing greater depth of information: quantifying the potential amount of food that private urban spaces can yield, and, above all, renaming it as *climate smart food* (rather than urban agriculture), acknowledging its significant environmental impact.

Now imagine schools as spaces of learning, practice, and networking around food. This is not a new idea in itself, but the field report by Rojas et al., about the Think&EatGreen@School project in Vancouver, paints a detailed picture of the multiple relational layers that aim to achieve no less than a "transformation of local school food systems". A key finding, after 6 years, was the flexibility and iterative learning required to make an inter-disciplinary, inter-

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organizational group of academics, community groups, and local stakeholders work together to make a difference towards health and environmental sustainability.

This issue also includes book reviews that offer intriguing insights into three diverse and fascinating works. They range from historical culinary adventures (Cooke & Lucas, 2017) to exhortations for "ecological nutrition" (Mason & Lang, 2017) to an edited collection of essays on food studies (Anderson, Brady, & Levkoe, 2017). I will sum up this editorial by quoting reviewer Wayne Roberts, who first applauds: "I am delighted to find this book (Anderson et al., 2017) shows signs of the same rebellious, inspired, and collaborative spirit so eager to 'break on through to the other side' (*The Doors*, 1967) of food issues," and then later justly critiques by noting that, "I have always hoped that the Canadian food movement would ripen in the manner of its first blooming: as a co-production of lay intellectuals and civil society leaders who first brought food studies to public attention, including public health practitioners, faith activists, social entrepreneurs, and many others. Academics did not cultivate this field, and they should not own it now…". Thank you, Wayne—you have characterized food studies by the diverse food spaces and voices with which it can flourish.

The editorial team appreciates their continued collaboration with the CAFS Journal Governance Committee, established in June 2016: Rebecca Schiff, Lenore Newman, Jennifer Brady, and Kristin Lowitt. We thank the University of Waterloo for providing our OJS online platform, plus essential library staff support.

2017 Editorial Team

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Original Research Article

Mapping the growing capacity of climate smart food in urban environments

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Abstract

The practice of urban agriculture (UA) is a unique food system model that localizes the production of sustainable, geographically appropriate food. The environmental benefits inherent in UA align with the emerging field of climate smart agriculture (CSA). However, the agro-industry focus of CSA is beyond the scope of most UA initiatives. Instead, we put forward the term *climate smart food* as a more appropriate framework to examine the environmental impact of food production in an urban context. The purpose of this study, rooted in the recognition of underutilized private urban land resources for UA, is to assess the potential of urban land to grow climate smart food. The Bowness neighbourhood in Calgary, Alberta is used as a case study. A geospatial process of constraint mapping was applied to analyze suitable private land space that could be converted from lawns to cultivated gardens. Using data from a local food cooperative as a benchmark for local urban production capacity, it was determined that six urban farms in Calgary produced roughly 8,200 pounds of food from private gardens in 2016. In the Bowness neighbourhood, 42 percent of the land was held as private turf grass, and produced only about 800 pounds of food. This type of analysis serves to quantify the magnitude of underutilized land within an urban boundary that could produce significant amounts of climate smart food.

Keywords: climate smart food, urban agriculture, climate smart agriculture, GIS, spatial analysis, constraint mapping

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Introduction

The practice of urban agriculture (UA) offers a unique model for a food system that localizes the production and consumption of predominantly plant-based food within an urban boundary. UA is mainly practiced through the conversion of both public and private land into plots of intensive cultivation of vegetable and fruit crops (Eigenbrod & Grude, 2015; Huang & Drescher, 2015). Multiple studies have explored the range of initiatives and the effectiveness of UA in order to address rapid urbanization and the concomitant need to feed growth in cities across the globe (Galhena, Freed, & Maredia, 2013). To meet the world's future food supply, food production needs to increase while reducing the environmental footprint (Foley et al., 2011). In addition to the perspective that urban food spaces offer therapeutic places and activities for people to "de-alienate" themselves from their food (McClintock, 2010) and create an urban food community (Scharf, Levkoe, & Saul, 2010), there is growing evidence that locally grown urban food can contribute, albeit marginally and variably, to urban food security; notably infusing fresh seasonal produce to diets (Kortright & Wakefield, 2011).

Opportunities exist for municipalities to incorporate UA into improved policies that enhance a local food system (Huang & Drescher, 2015). These policies can be built on the premise that plentiful food that is geographically appropriate can be grown in limited space (Mok et al., 2014). Food produced in vacant and underutilized urban spaces can be critical to reaching food security targets and reducing the emissions intensity of agriculture (Eigenbrod & Gruda, 2015). A key incentive of UA promotion should be based in the idea that the way we produce and consume food has an impact on climate change related emissions. The UA framework is an aspect of *climate smart agriculture* (CSA) that is worth pursuing because it challenges assumptions about where and how food is grown and distributed.

CSA aims to be a transformative structure for agriculture to develop, adapt, and thrive within the uncertainty posed by climate change (Lipper, et al., 2014). A CSA lens points out that the climate crisis will have huge consequences on the global food system, and is designed as an appropriate framework to support climate resilient pathways to sustainable agro-industrial food systems (Gliessman, 2014). According to Dubbeling, Hoekstra, Renting, Carey, and Wiskerke (2015), integrating the ideas of CSA and UA requires that urban food systems shift away from production methods or technology, and refocus on the food being produced and consumed within the city. The introduction of the term *climate smart food* (CSF) is useful to address the environmental impacts of food beyond agro-production to include food choice, alternative land use, transportation, and consumption. We define CSF here as "appropriate and adaptable food that is deliberately produced and consumed locally because of its associated low-carbon intensity".

This paper presents a case study of Calgary's urban food system, addressing the role UA has in developing CSF locally. Specifically, this project uses vegetable production data in the Bowness neighbourhood to extrapolate growing potential in a limited city zone. The main premise is that there are underutilized private urban land resources that can be managed through

sustainable intensification to produce CSF. The geospatial output shows the amount of suitable private land available for UA in Bowness, as well as 2016 yield data for known gardens in the neighbourhood. This research serves as a foundation for analyzing and tracking the impact of UA in city boundaries, while refocusing the conversation on the climatic impact of food production and consumption.

The emergence of climate smart food

Urban agriculture

While urban agriculture (UA) is not a new trend, it is attracting increased interest as a solution to both food insecurity and reducing greenhouse gas emissions in the agricultural sector (Kortright & Wakefield, 2011; Mok et al., 2014). The overarching characteristics of UA are: dispersed and heterogeneous plots within a metropolitan boundary, predominant focus on vegetable crops, intensive cultivation in small-spaces (less than one acre), and a food system that links local growers to local consumers. Characteristics of UA can be parsed into specific actors, scale and location, market orientation, growing technology, and down to the horticultural products themselves (Eigenbrod & Gruda, 2015). In North America, cities from Detroit to Dartmouth, Chicago to Calgary all have instances where traditional concepts of farm and city have merged.

The connection between backyard food spaces and increased food security has roots in the Victory Gardens of World War II. These gardens were patriotically promoted as crucial to the war effort in the United States, and at the peak of production, these gardens accounted for 40 percent of the nation's vegetable supply (Mok et al., 2014). Victory Gardens were grown coast to coast, providing food, employment, and purpose for people affected by the war. High intensity UA has a tendency to arise from crisis, such as in Cuba, when economic sanctions essentially forced residents to convert all available land to agriculture for basic food security in the early 1990s (Altieri, 1999).

The intensive production of vegetables and food crops within a peri-urban boundary has been a response to the rapid population growth in cities, and the concomitant need to feed that growth. Global food production will need to increase by 60 to 70 percent by 2050 (FAO, 2017), while the suitable land resources are decreasing**.** With an estimated 600 million people globally engaged in UA (Kortright & Wakefield, 2010), UA is in a strategic position to help meet that demand. Although the research base is growing, the potential for urban landscape changes through UA to meaningfully address that growth in food demand is unknown.

Urban agriculture can be distinguished from conventional rural agriculture beyond the criterion of farm location only. The Food and Agriculture Organization (FAO) recognized the distinctiveness of UA (Mougeot, 2000), where urban food production is embedded in a diversified economy rather than agrarian culture. This difference is important because rather than a high percentage of the population engaging in subsistence growing, UA addresses a market

shortage of appropriate food. Within these heavily managed spaces, the potential to advance urban food security and reduce environmental impact is substantial.

In developing nations, urban food cultivation is an extension of rural farmers bringing traditional practices with them as they urbanize. This differs from cities in developed nations, where urban agriculture has risen as a market response, and a push toward local economies that is promoted by varying levels of government. A common definition of local food was popularized by the "100 Mile Diet" (Smith & MacKinnon, 2007). UA can be described as *hyper-local*, which refers to the production and consumption of food within an urban boundary; shifting the focus from food miles to food feet. The global South has dominated research outlining effective UA policies and practices, with information in the Canadian context especially limited (Huang & Drescher, 2015). Taylor and Lovell (2014) have outlined the future research directions of North American UA, with an explicit focus on the understudied home-food gardens because of their durability and the ease of conversion from lawn to garden.

There is no definitive literature on the economic impact of UA. Home gardens are integral to supporting food production worldwide; and through targeted proliferation, they can play an important role to increase food security from global price shocks and natural disasters (Galhena et al., 2013). A useful exercise for policy makers would be to determine the economic linkages of a well-developed system of UA food, from employment of farmers to the success of restaurants serving hyper-local produce. A thorough analysis would show the monetary benefits that a local food economy brings to a community. Data is provided later in this article on the total output of six urban farms in Calgary, and the associated value of their products. It is evident that UA in underutilized backyard spaces has created economic opportunities; and, as this research shows, the land resources are available to fully develop such opportunities.

In Toronto, the contribution of edible gardens has been shown to increase food security at various income levels (Kortright & Wakefield, 2010). It has been estimated that potential yields of up to 50 kg/m^2 of vegetables in global urban horticulture are sufficient to meaningfully contribute to food security (Eigenbrod & Gruda, 2014). Mok et al. (2014) have identified five areas that need further attention in the connection between UA and food security. The most pertinent factors they identified were the loss of peri-urban agricultural production from urban sprawl, the carbon footprint of food miles, and reasonable definitions of urban self-sufficiency. However, the connection between UA and food security is not straightforward, with detractors stating that overall, UA contributes very little to food security, and potentially, even food sustainability (Edwards-Jones et al., 2008).

Climate smart agriculture

CSA has emerged as an umbrella term to describe food systems that increase productivity, encourage adaptive technologies, reduce greenhouse gas emissions, and help meet food security targets (FAO, 2017; Lipper et al., 2014). CSA is the simultaneous improvement of food security and efforts to mitigate climate change (Scherr, Shames, & Friedman, 2012). The concept of CSA

unites the communities of international development, agriculture, and climate change. Because of its broad appeal, however, it can be criticized for vague connections (Neufeldt et al., 2013).

There are a series of suitable tools available to support CSA, notably the FAO *Climate Smart Agriculture Sourcebook* (FAO, 2017), and the *Climate Smart Agriculture Rapid Appraisal (CSA-RA) Prioritization Tool* developed by Mwongera et al. (2014). The rapid appraisal method is designed to establish baseline understanding of CSA in a region. This includes an agricultural snapshot, an assessment of impacts, recognizing the most suitable CSA practices, and appraising the policy and financial aspects (Mwongera et al., 2014). Both the *Sourcebook* and the *CSA-RA* compile a global list of CSA projects, which is a useful model for agricultural organizations and researchers to implement CSA projects. However, the majority of cases come from developing nations, and none specifically address the Canadian context—further emphasizing why the present study is important. A possible reason why there are few CSA projects and data in developed nations could be the inherent differences in agriculture production. Farmers in developed countries have more access to technology and financing to make changes in production, and as a result have a lower risk to a changing climate.

The three overarching objectives of CSA (FAO, 2017; Lipper et al., 2014) are: (1) sustainably increasing agricultural productivity to support equitable increases in incomes, food security and development; (2) adapting and building resilience to climate change from the farm to national levels; and (3) developing opportunities to reduce greenhouse gas (GHG) emissions from agriculture compared with past trends.

To be considered "climate smart", UA should seek to integrate each of these objectives. The first objective, increasing productivity, is a necessity due to the limited land available in an urban environment. Examples of increasing productivity can be seen in indoor growing through aquaponics and *small-plot-intensive farming* (SPIN) often found in UA. SPIN is a set of horticultural techniques designed for private yard spaces smaller than one acre, and many urban farmers in Canada follow this model (Newman, 2008). UA has a clear focus on extracting the highest yield in the smallest space possible. SPIN farming requires little land by utilizing borrowed or rented backyard space. The capital inputs are considerably lower than in a conventional rural vegetable or grain farm.

Next, *resilience* can be defined as "the capacity of a food system to absorb and manage the adverse effects of external stress and shocks" (FAO, 2017). Likewise, *food security* can be defined as follows:

> …the ability of a community to meet the dietary needs of its people year-round with food that is nutritionally varied, seasonally appropriate, and not susceptible to global price shocks. It is the ability to prevent, mitigate, and recover from agricultural shocks in weather or markets. Changes in trade policy, severe drought or weather in a regional supplier, or any event that can limit the flow of food to a city can impact the resilience of that food system (Barthel & Isendahl, 2013).

In Canada, a significant amount of our total food comes from imported sources. Resilience in a food system means that agro-climatic impacts beyond the consumer's borders, including where that food is imported from, are considered. A major drought in California or Mexico, for example, could seriously impact food availability in Canada. By building the food growing capacity in a city, the reliance on imported food decreases, and so do the risks associated with importing vegetables over thousands of kilometers. Effective UA is well poised to increase urban resilience (Barthel & Isendahl, 2013).

The third objective of CSA is reducing GHG emissions from agriculture. The environmental benefits, including GHG reduction capacity, of a local food system have not gone unquestioned. From a scientific perspective, it is nearly impossible to formally test whether local food is more sustainable than non-local food. The arguments made in favour of promoting local food often centre on reduced food miles and a smaller carbon footprint, and increasingly, the carbon sequestration potential of agricultural soils, which is addressed below (Edwards-Jones et al., 2008; Weber & Matthews, 2008). To make the argument that UA can be climate smart, accurate estimates of carbon accounting are increasingly necessary. A common way to address the environmental benefits of a local food system is through a spatially explicit life cycle assessment (LCA) (Edwards-Jones et al., 2008; Koerber, et al., 2009). A LCA gathers the relevant knowledge to determine the environmental impact of a product, from its initial resource extraction (cradle), to its disposal (grave). The food chain produces GHG at all levels of the life cycle, but it is the agricultural stage that emits the most greenhouse gases (Edwards-Jones et al., 2008).

Finding the best opportunities to reduce GHG emissions in the food chain is important. Advancing technology is promising, but the single most important factor is shifting diets from GHG intensive food like meat and dairy products, and specialty food such as surf n' turf (Garnett, 2011; Kauffman, et al., 2017), emphasizing that food choices matter. Aside from providing diet alternatives, there is a huge opportunity for reduction and removal of GHG in the context of UA by shortening food transportation distances, eliminating heavy machinery use, and land-use conversion from high GHG uses such as urban turf, which requires GHG intensive maintenance such as mowing (Selhorst & Lal, 2013; Townsend-Small & Czimczik, 2010).

There is an increased awareness of the potential for agricultural soils to store carbon through soil carbon sequestration. It is estimated that global agricultural soils can offset one-quarter to one-third of anthropogenic increases in carbon emissions through intensive management (Lal, 2004). However, this is an unlikely priority of UA given its very small footprint. Calgary, with one of the largest land areas of any city in North America at over 200,000 acres, has a meager amount of cultivated land compared with the broader agriculture sector in Alberta. Even with the best practices of building long-term soil carbon through biomass accumulation and conservation tillage, the capacity of UA is insignificant when compared to larger scale agro-ecosystems and broad acre commodity farming. Research to reduce GHG in the atmosphere through agricultural soil sequestration should focus on a scale larger than UA, and

research to reduce GHG in the urban environment should focus on transportation, heating, and lighting the city.

Climate smart food

Projects promoting CSA have not traditionally targeted UA; the risks from a changing climate are weighted against rural smallholder farmers in developing nations, or large-scale agro-industry. However, it is necessary to build the resilience against climate impacts at all scales of the food system—from hyper-local to agro-industrial, and from urban to rural. Given a global trend toward increasing urbanization and the growing evidence that food choice matters (Wallén, Brandt, & Wennersten, 2004), a CSA framework is an important lens through which to view and inform UA. However, there is inadequate information to support decision making for urban CSA. The potential of urban agriculture to provide food security while reducing the environmental impact of food production is not well understood (Taylor & Lovell, 2012).

A promising intersection for the two fields is outlined in the move from CSA to climate-smart-landscapes, defined by Scherr, Shames, and Friedman (2012). The key features of a climate smart landscape are diversity of land use and effective management. A landscape approach seeks to manage the synergies between the ecological, social, and economic aspects of agriculture and to recognize the key role of individual households as environmental stewards. To achieve a climate smart landscape, technical capacity must be built, political support actualized, and the spatial and planning component strengthened. However, a landscape framework does not consider the conceptual value of food in the goal of reducing emissions.

Due to the many forms and scales that UA can take (from community gardens to edible skyscrapers), the relevance of UA to CSA and climate smart landscapes, and the unique focus on food, we propose that a "climate smart food" perspective would be more appropriate to understand the intersection between climate smart and urban food. As mentioned earlier, we have defined climate smart food as "geographically appropriate and adaptable food that is deliberately produced and consumed because of its associated low-carbon intensity". The geographic component of CSF generalizes that food is seasonally and climatically appropriate and is consumed as close to the source of production as possible. A broad understanding of the environmental impact and GHG emissions released from the production and distribution of agricultural products should become an important factor when making food choices. Through these deliberate choices, consumers can impact where and how food is grown. Wallén et al., (2004) and Weber and Mathews (2008) both address other environmental considerations that influence food choices. CSF, a blending of CSA and UA concepts, differs from CSA because it enunciates the decisions from production to consumption at a local level, rather than at the agro-farm food manufacturing level. CSF differs from UA because it extends beyond location, that is, "urban", to consider and reduce the environmental impact of the food produced. A study conducted in Sweden found that "dietary choices, as they relate to the reduction of greenhouse gas emissions, will not produce any changes in the level of emissions without necessary changes

in the existing production methods in farming, processing, and distribution" (Wallén et al., 2004, p. 7). However, it is in an urban environment that we are able to balance food production and food choice; shifting the conversation from CSA in an agricultural setting to CSF in an urban setting actively involves consumers from production practices that are climate friendly to food choices that are locally-appropriate. Indeed, a CSF approach can strategically facilitate the maximized strengths of both CSA and UA.

Methodology

Mapping food environments

Utilizing the power of geographic information systems (GIS) to understand food economies and agricultural patterns gives researchers, government, and farmers the ability to make informed food production and distribution decisions. Food mapping is useful to understand the interlay of social, environmental, and economic systems that make a food system. Mapping the food environment, increasingly in the form of web-maps, is important at various scales. Sweeney et al. (2016) present a thorough review of methodologies used in food mapping, summarizing the methods of 70 recent food web-mapping projects. The purpose of this mapping project was to determine available private land that could be converted from lawn to cultivated gardens in a neighbourhood. The use of mapping supplements the CSF framework presented because it shows the simplicity and potential abundance of a climate-smart-urban food system.

Ecological studies of urban biodiversity have largely ignored the urban backyard as a habitat space, despite the fact that it makes up the largest proportion of green space in many urban areas (Gaston et al., 2005). To determine the total area of specific backyard space available within an urban boundary, various methods have been used with different accuracy levels and time commitments. In the city of Dunedin, New Zealand, high resolution IKONOS satellite image with an automated object orientated approach was used to classify urban gardens with an overall accuracy level of 77.5 percent (Mathieu, Freeman, & Aryal, 2007). The research revealed that 46.4 percent of the residential land area was held as private gardens. However, it was noted that it could take more than one year to map an entire city using their approach. Using a similar method with IKONOS 3.2 m multispectral resolution, urban vegetation categories were segmented with 87.7 percent accuracy in Nanjing China (Zhang, Feng, & Jiang, 2010).

Taylor & Lovell (2012) used high-resolution aerial images in Google Earth to map the extent of UA in Chicago. While tedious, their approach of manual interpretation and polygon extraction of identifiable urban gardens across the entire city resulted in an accuracy of 85-96 percent depending on the extent of ground-truthing. For their assessment, their indicators of a garden space were: an orthogonal garden layout, definitive rows of vegetation, and indications of bare soil or mulch between rows. These polygons were classified by size into three categories, and when totalled, they found that 208,225 m^2 of the city were dedicated to urban food

production. On a sobering note, it took 400 hours of analysis to map the entire city with this method.

Despite this limitation of the Chicago method, manual interpretation "may be the only suitable strategy for identifying such a diverse and fine-scale urban land use as urban agriculture, particularly at the scale of the home garden" (Taylor & Lovell, 2012, p. 59). It is worth exploring unsupervised image classification of a high-resolution satellite image. In their discussion, Taylor and Lovell (2012, p. 68) also state that "future advances in remote sensing, such as computer-assisted photo interpretation and geographic object based image analysis, may allow for faster and accurate automated or semi-automated classification of sites at scales as fine as the residential garden." In Philadelphia, researchers combined remotely sensed and traditional vector based imaging to map the urban food network (Kremer, 2011). Using both methods gives a more complete understanding on the potential of urban areas to support food production.

Using geospatial technologies to illustrate the various components of a food system is useful for farmers, planners, and other stakeholders. Specific to urban agriculture, food mapping should move beyond the creation of a land inventory and a categorization of suitable spaces. Mapping methods offer many possibilities to explore an urban food system, such as: neighbourhood-level crop rotation, disparities in food access between neighbourhoods, or transportation and supply chain optimization.

Study site: Urban agriculture in Calgary

In 2012, a collaborative effort resulted in *Calgary Eats: A Food System Assessment and Action Plan for Calgary* (City of Calgary, 2012). This document outlines the City's vision for a sustainable food system. This conclusive effort outlines the steps needed for a land inventory analysis, but only went as far as plotting the location of individual community gardens. While important, the potential of private spaces spread over a community poses less bureaucratic obstacles than using city land to grow food. The report noted that in 2012 there were 390,629 low-density residential properties in the city. Based on the sample neighbourhoods of Rundle and Evergreen in Calgary, it was estimated that an average yard size across Calgary is 453 m^2. This translates into approximately 17,700 ha of land available for food production. However, this does not extract features that impede food production, such as trees, slope, and orientation. Calgary has a broad geography of soil types and microclimates, and not all neighbourhoods are suitable for food production.

In Calgary, there is a strong movement of consumers choosing locally grown produce, which has driven the supply side of UA to convert backyard spaces into SPIN farms. Farmers are able to grow a broad range of vegetables, with some of the highest returning products being leafy greens. *YYC Growers* is a cooperative that brings together 20 local farmers, six of which grow exclusively within Calgary. They link local produce with consumers through restaurant sales and a 500-person weekly food box program. In a traditional community shared agriculture program, the risk is taken by one farm supplying vegetables for shareholders. The cooperative model with

many suppliers decreases risk of crop failure at a single farm, and allows the program to benefit more people through an economy of scale. While not the only group promoting UA in Calgary, *YYC Growers* are the most visible and active group in the city.

Through summer working arrangements with the organization, data was collected on how much of each vegetable product was harvested and sold for each of *YYC*'s six urban farmers. This data was compiled through their online sales tracking platform, Local Orbit, which records sales weight and price for each transaction that took place for the 6 farms. Specific to the analysis, Leaf & Lyre Urban Farms is the largest urban farming operation in Calgary, and grows out of 30 private backyards, 11 in the community of Bowness.

Calgary data

Due to the large spatial extent of Calgary's footprint, a whole-city analysis was not feasible for this study. Instead, we estimated growing capacity by exploring a case study of urban agriculture in the Bowness neighbourhood using parcel data created by the City of Calgary. Bowness is an established neighbourhood in NW Calgary, with a standard low-density suburban model that has been built up since the 1950s. Originally a separate community from Calgary, the neighbourhood has a low-rise mixed commercial zone, its northern boundary is the Bow River, and a railway crosses through the community.

Bowness was chosen because of available data on the number of urban gardens in the neighbourhood, obtained from Leaf & Lyre Urban Farms. Data was collected through the growing season by the author and other farm employees, between May 1st and September 30^{th,} 2016. Leaf & Lyre manages over 30 backyard plots throughout the city, with 11 in Bowness. The cultivated area of each plot was measured, and the addresses recorded. Post-harvest weight from the specific yard was recorded with a scale after each picking. Manual records were corroborated with the digital sales data. The different products span kale, potatoes, chives, carrots, and other vegetables. A full list of the vegetables grown by the urban farm is available in section 4.2. Weights of vegetables were treated equally; that is, dense roots vegetables and squash varieties were treated the same as leafy greens and boutique herbs. Where harvested masses were missing, sales receipts were used to fill in the gaps. Because most gardens employ a diverse planting regime through the season, it was not possible to attribute specific products to the exact garden. It is important to note that these measurements represent harvested weight, and not total biomass grown, which is certainly more.

The geospatial data for the cartographic output was collected in the winter of 2017. City parcel data was obtained through the Spatial and Numeric Data Services at the University of Calgary. The files were created by the City of Calgary between 2012 and 2014. Parcel data includes vector shape files for buildings, the tree canopy layer, the Bowness outline, and green space for each privately-owned land parcel. Additional shape files were obtained from the City of Calgary Open Data resource. This included publicly owned park space, such as riparian boundaries and managed sports field and park space, as well as a railroad vector line file. These

files were projected in the three degree Transverse Mercator (3TM WGS 1984 W114) projection, with a central meridian set at 114 degrees longitude. All maps must be set in a specific projection, with 3TM being the standard for accuracy in Calgary.

Methods

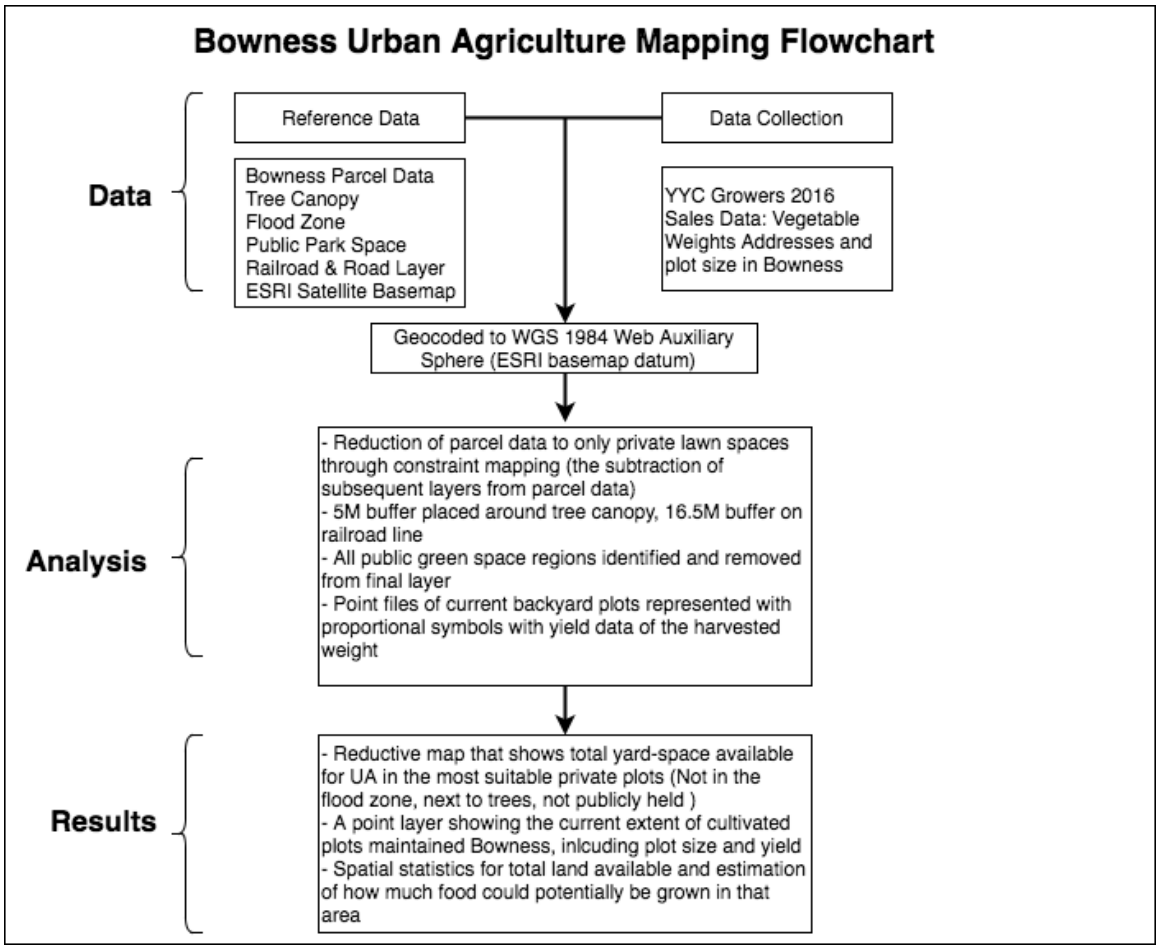
The purpose of this mapping project was to determine available private land that could be converted from lawn to cultivated gardens. The area of available land put forth in Calgary Eats was calculated simply by subtracting building parcels, ignoring the many nuances of a suitable site. While others have applied object-orientated approaches to satellite images to map urban backyard space (Mathieu, et al., 2007; Zhang et al., 2010) the process is beyond the scope of this project. In this study, an estimate of the available private green space, currently expressed predominantly as backyard turf lawns, was used to estimate possible vegetable production in the neighbourhood. Through *constraint mapping* (the process of subtracting the area of undesirable data from the underlying and desirable base map), the amount of suitable yard space for UA in Bowness was identified. This was reflected in the space of individual parcels without the constraints of buildings, tree canopy, or other built up features and public land.

The City of Calgary green space parcel shape-file was used as the defining base. The assumption was made that most of this land, where not built up, is managed turf grass. The buildings, public green space, railroads, roads, and tree canopy were applied as constraints, each reduced from the base layer using the Erase tool in ArcGIS version 10.0. This sequence of steps creates a base layer that is reduced in variables to the one that is most desirable. This process created over 3,000 individual polygons that are predominantly composed of underutilized turf grass.

A five metre buffer was placed around the tree canopy layer because of a common gardening heuristic; the well-established trees in Bowness provide too much shade and outcompete a garden for water and nutrients. A 16.5 metre buffer was also placed on the both sides of the railroad line to accommodate the width that this linear feature takes up.

From an aerial view, the available public park layer, representing sports fields and other lawns managed by the City of Calgary, is not easily distinguishable from the green space of private parcels. Subtracting this layer is an imperfect measurement of the total land that is publicly managed. Because this map is largely conceptual, it was deemed sufficient for the accuracy needed for this map.

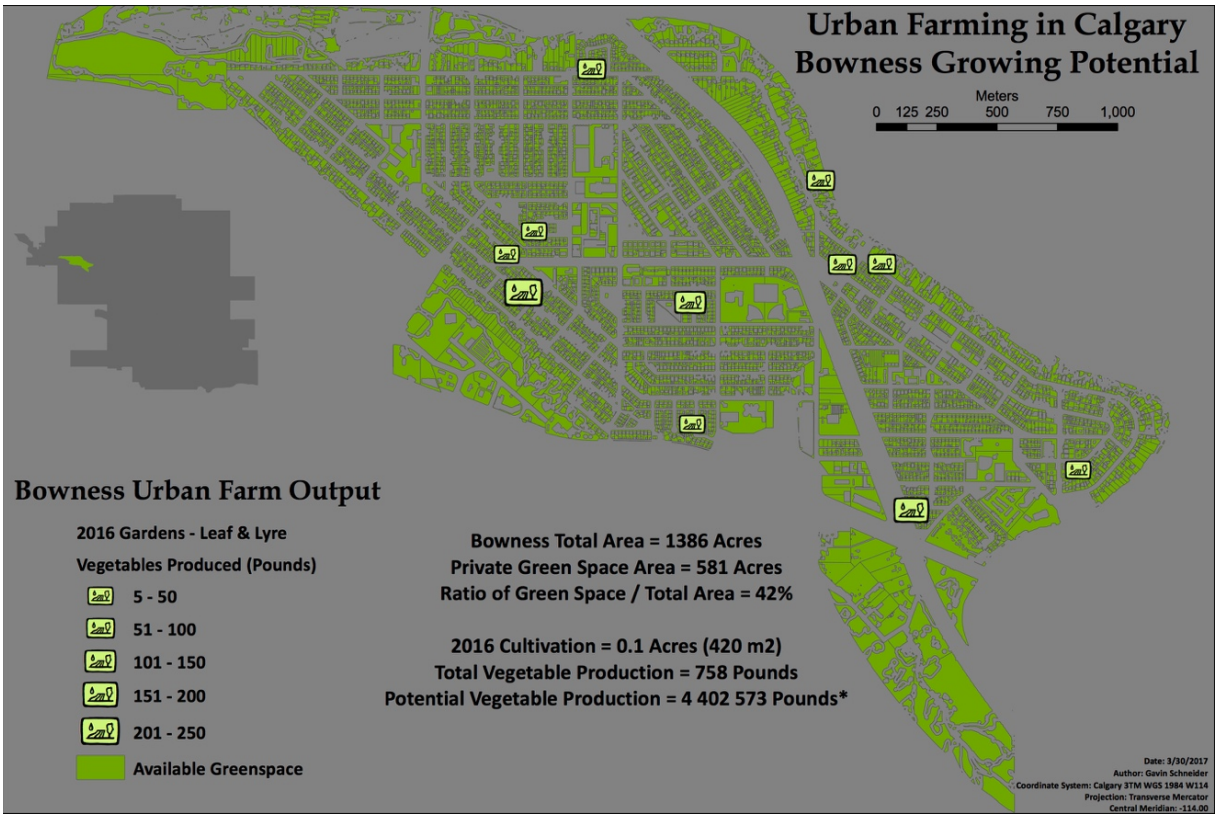
Figure 1: Workflow of the data collection and analysis to produce a potential urban food map.



To assess accuracy, the resulting polygon was placed over top of the high-resolution ArcGIS satellite image base map with a high transparency. Polygons that remained that were clearly not representative of a managed lawn were removed. In the absence of time available to ground truth the data, these site-specific judgment decisions improved the accuracy, but not in any measurable way. The flowchart in Figure 1 summarizes the methodology through data, analysis, and results.

Specific yards in Bowness that were farmed by Leaf & Lyre in 2016 were plotted on the map as single point files. The 11 addresses were converted to a geospatial coordinate (geocoded) to fit the 3TM projection, which is the standard projection in Calgary. The harvested yields that were weighed and recorded for each order that went out, as described in section 3.2, were correlated with the 11 plots. These points were then represented through how much harvestable product they generated. The differences were displayed using a proportional symbol correlated to the yield.

Figure 2: The amount of private land available for urban agriculture in Bowness, as well as 2016 production data. The map was produced through the constraint mapping of city parcel data. *Based on maximum yields from all private green space



Results

Bowness urban food map

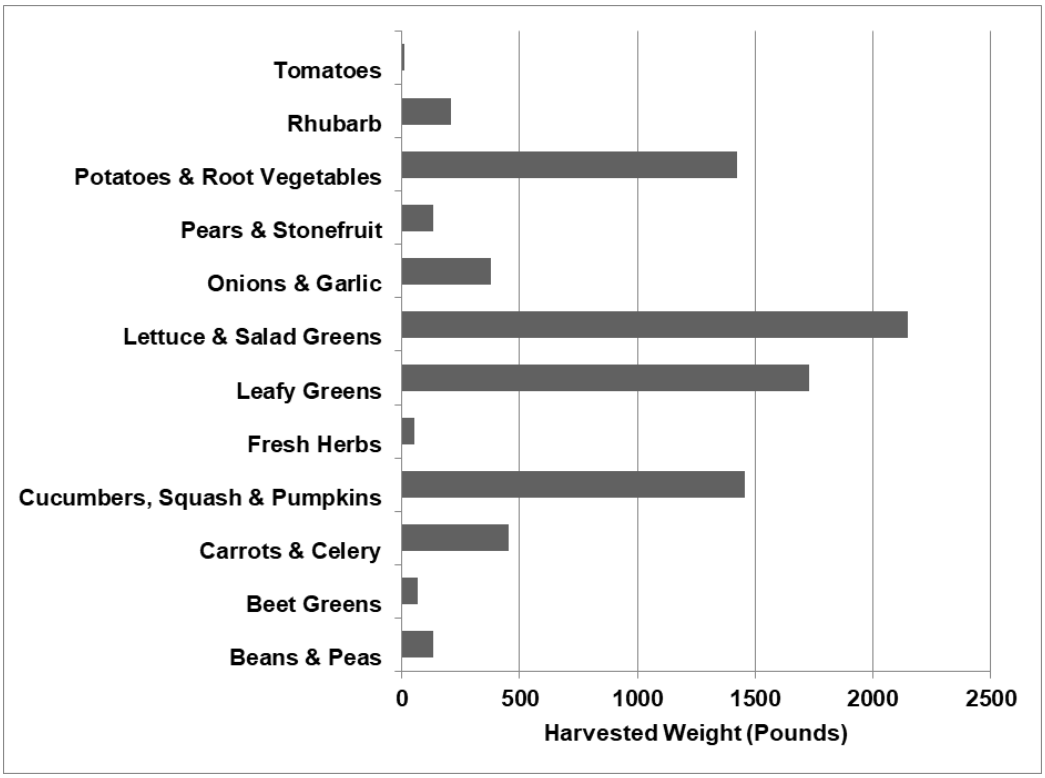
Figure 2 shows the final map that was created through the constraint methodology to show underutilized green space in Bowness. In summary, the map shows the "available" private area currently managed as turf grass in Bowness, represented by the green shapefile. The map also shows the placement and harvested yields from the 11 gardens managed by Leaf & Lyre, represented as the yellow proportional symbols.

Production analysis

This section summarizes the production data from all six urban farms associated with *YYC Growers*. This data was collected from the cooperatives online sales system, which records what

farm sold what vegetables, the amount, and the price it sold for. Figure 3 summarize the data from the six outdoor farmers operating across Calgary. This differs from the Bowness exclusive results in section 4.1. The 8,189 pounds of food was grown exclusively within the Calgary urban boundary from six urban farms.

Figure 3: Total amount of vegetables produced and sold by six Calgary urban farms working with YYC Growers from January-December 2016



Spatial statistics

Table 1 below summarizes the results from the geospatial analysis of the map in section 4.1. The Bowness total area represents the polygon outline of Bowness. The amount of private green space is the final outline of over 3,000 reduced parcel polygons, which are assumed as having a turf grass cover. This resulted in 42 percent of the total area of Bowness. The amount of cultivation area, 0.1 acres or 420 m^2, is the sum of the 11 gardens managed by Leaf & Lyre in Bowness. The harvested weight is the harvested mass recorded through the 2016 season. The potential production is an estimate based on the maximum 2016 harvested weight per m^2 on every square metre of available private green space. The 11 gardens produced an average of 1.81 pounds per m^2 of food, or 7,304 pounds per acre. Assuming enough resources and translated across the entire area, over four million pounds of food could theoretically be grown in the Bowness green space.

Table 1: Spatial summary of the amount of land available for urban agriculture in Bowess

Bowness Total Area	Private Green Space Area	Green Space / Total Area	Bowness Cultivation Area 2016	Harvested Weight	Potential Production
1,386 Acres (5,608,943 m^2)	581 Acres (2,351,224 m^2)	42 percent	0.1 Acres (420 m^2)	758 Pounds	4,255,715 Pounds

Discussion

This research has brought together two different themes in food systems research: urban agriculture and climate smart agriculture. The *climate smart food* approach to growing food in urban spaces refocuses the emphasis that both food choices and growing locations matter. Geospatial analysis offers one research lens through which to explore the impact of UA; however, it is not the only frame available to understand and promote the practice further. The results from the mapping exercise were intended to connect the two concepts, and to visually show the potential sustainable intensification in an urban setting.

The analysis highlights that there is underutilized urban space—in fact, 42 percent of the land in the Bowness neighbourhood of Calgary is private lawns—that can be used to grow sizable quantities of food. This finding can challenge how space in an urban setting is valued. Proponents of new urbanism emphasize cities as dense, livable, and efficient infrastructure and services that minimize sprawling lawns and private land while maximizing walkability (Nordahl, 2009). And while the notion of new urbanism is appealing, the reality is that many North American cities are comprised of low-density, single-family suburban neighbourhoods. Merging the concept of farm and city to produce climate smart food works with the agrarian ideals of early American regional planning.

From a quantitative perspective, it was estimated that over four million pounds of vegetables could be produced in Bowness. This potential assumes maximum intensification of every square metre of the 581 acres of green space. Of course, this is an unachievable ideal. Even the most successful agro-ecological market farms have dedicated staff working intensively, and often full time, to achieve a maximum harvest potential. However, there is clearly a production gap between the extraction of almost 800 pounds of food from one-tenth of an acre and what could be produced through more deliberate lawn to garden conversion.

While the map shows “available” and potential green space—that is, private land free from buildings and trees—the next step would be to map suitable space. This would include consideration for aspect (sun exposure), soil type, organic matter accumulation, and historical management. Not every acre of the 581 acres estimated is suitable for growing high quality market vegetables. Urban farmers can use aerial photography, satellite images, and suitability

mapping to find potential sites, but these geospatial methods still require in-situ boots-on-the-ground observation. Rather, it is more accurate to view geospatial methods as a first step to assessing UA site potential, saving time for the more intensive work of land-owner consultation and site setup.

This process is most useful as a visual tool to re-imagine urban agro-environments. What the map shows is a neighbourhood not dissimilar in size and population to the many small communities across Alberta. This model of sustainable intensification in backyard spaces could be spread across many communities of various sizes to increase food resiliency and decrease emissions related to diet. If consumers demand it, farmers will supply it. In many cases, landowners are eager to donate their lawn to food production. As evident through the existence (and success) of *YYC Growers,* farmers in Calgary and other cities have demonstrated urban growing is a viable business model. Multiplied across Canada, intensified backyard growing could be highly successful.

The results from section 4.2 summarized the 2016 harvested yield of six urban farms in Calgary. Unfortunately, more detailed spatial data was only available for one of the farms. While 500 people (aka: shares) benefited from the year-round *YYC Growers* weekly farm share, it is unclear exactly how many people received all or part of their diet from within the city. Despite plans for the YYC Growers program to double to 1,000 shares in 2017, it is unlikely that even a highly-developed system of UA will ever exclusively feed a city of over a million people. However, it is still clear that market forces are making UA viable and their products desirable.

Further, the six urban farms produce significantly less than their rural counterparts; the other 14 rural farms in the cooperative provided the majority of the food, especially in the winter months dominated by stored root vegetables. Even with a venture seeking to promote UA, it is inevitable that large rural farms will always be required to feed an urban population. With this urban and rural mix, an important goal of a sustainable food system for a city should focus on the broader food-shed for the supply of climate smart food.

Using the definition of CSF as appropriate and adaptable food that is deliberately produced and purchased because of its associated low-carbon intensity, is food produced through UA climate smart? Exploring the aspects of what climate smart agriculture is, from sustainable intensification to reduced food miles, then certainly, food grown in an urban environment can be climate smart. There is ample evidence to support that UA decreases the carbon emissions from transport and machine operation, and reduces the land requirement for growing food. The potential of soil carbon storage through biomass accumulation from UA, even if multiplied across many cities, would be inconsequential in the global agricultural context. Managing carbon in a small-acre farm is insignificant compared to efforts of a ten-thousand-acre commodity farm. Any research and effort towards its implementation would detract resources from pursuing soil carbon sequestration on a meaningful scale.

Of greater importance in the connection of UA to CSF is the land optimization potential. UA is practiced on already disturbed land. Suburbia came before the garden. With the rise of indoor growing systems, there is even more potential to grow meaningful quantities of food from

smaller amounts of land. The conversion of natural ecosystems to agricultural production poses significant global threats to biodiversity and climate change. Large mono-cropping systems contribute to land fragmentation and the release of soil carbon through cultivation. These commodity products, from palm oil, canola, wheat, barley, soy, and rice are driving the rapid expansion of agriculture into marginal land. This is driven by the diet choices of urban dwellers. UA decreases the stress put on remaining natural systems.

Ultimately, a change of diet is a pre-requisite for a more sustainable food system. While substantial changes in consumers' food choices is a wicked global challenge, simply increasing the availability of more appropriate food choices is a good first step. This geospatial analysis has shown that a significant quantity of food is being grown hyper-locally, and that the potential is far greater. While UA is unlikely to ever produce enough food for all of Calgary, it should nonetheless be encouraged. Consumers, farmers, and government should encourage the promotion of UA as a source of climate smart food.

Conclusion

Finding solutions to feed a burgeoning world population, while at the same time reducing carbon emissions and protecting habitat is undoubtedly one of the greatest challenges faced by the global community. Increasing the efficiency and awareness of urban agriculture can be part of the solution to reducing agriculture's environmental impact and providing localized food security. UA should be promoted as a system that produces climate smart food, that is, horticultural products that are produced and consumed because of their associated low carbon emissions from production and transportation. This research demonstrates the magnitude of underutilized land within an urban boundary that can produce significant quantities of food, all while shifting food miles to food feet, farm tractors to garden shovels, and industrial irrigation to rain water catchment.

It is worthwhile to estimate the potential land area that can be used to grow food within a city boundary. The underlying premise of mapping UA potential is the recognition of underutilized private urban land resources that can be managed through sustainable intensification. Using city parcel data through the process of constraint mapping can show potential growing space. In a city as large as Calgary, there are thousands of acres of underutilized land that can be sustainably managed to provide high quality food for its citizens. Based on yields from local gardens, it was estimated that over four million pounds of food could be grown in the available private green space in Bowness. While this assumption of maximum yields extracted from every square metre of green space is wildly improbable, it does indicate a huge gap between current production and potential yields.

While urban food growing spaces represent only a fraction of total food produced and consumed, the argument put forth here is that underutilized urban lands can be cultivated to add fresh produce to diets, improve food sovereignty and security, and reduce the climatic impact of

our food system. Much attention has been devoted to low fat, low carb, and low sugar diets; it is time to put more meaningful attention toward climate smart diets. This study signifies only the start of the conversation on climate smart food.

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Field Report

Insights from the Think&EatGreen@School Project: How a community-based action research project contributed to healthy and sustainable school food systems in Vancouver

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Abstract

From 2010 to 2016, the Think&EatGreen@School project worked to create healthy and sustainable school food systems in the Vancouver School Board. Using models of Community-Engaged Scholarship and Community-Based Action Research, we implemented diverse programmatic and monitoring activities to provide students and teachers with hands-on food cycle education, in order to influence policy, and to encourage university students to engage actively with the food system. Our focus was on transformation of local school food systems as a context-specific means to address serious global issues related to food security, health and environmental sustainability. This paper provides a synthesis of the project including the context that led to its inception, its overarching goals, methodological framework and areas of impact. Key learnings from this project highlight the need for continued work to integrate research, teaching and action on global food security, environmental and public health challenges and to build connections to create healthy, sustainable school food systems.

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Video: "Think and Eat Green at School: Embrace Change", produced by Pedro Orrego and Peter Jestadt; edited by Peter Jestadt; music by Ronald Jenkees.
https://www.youtube.com/watch?time_continue=2&v=t2UA4iSKsYA

Keywords: food systems; community-engaged scholarship; community-based action research; school; Vancouver

Introduction

Think&EatGreen@School (TEGS) was a 6 year project that brought university, public school, health, and community stakeholders together to work towards healthy, sustainable food systems in Vancouver schools (Think&EatGreen@School, 2015). This paper's authors are food studies scholars affiliated with the Faculty of Land and Food Systems at the University of British Columbia (UBC) who were deeply involved in the project: three authors (Rojas, Valley, and Orrego) were involved from the pre-conception stage, and two (Black and Chapman) joined the project as co-investigators early on. With others involved in planning and conducting the project, we imagined the public-school system as a complex yet feasible setting for social learning experimentation to improve child health and environmental sustainability and to strengthen connections among university research, teaching and service roles and to align them with community needs and assets. Using models of Community-Engaged Scholarship and Community-Based Action Research, we implemented diverse programmatic and monitoring activities to provide students and teachers with hands-on food cycle education, in order to influence policy, and to encourage university students to engage actively with the food system. Our focus was on transformation of local school food systems as a context-specific means to address serious global issues related to food security, health and environmental sustainability. This paper provides a brief overview of TEGS, a discussion of the context from which it emerged, its goals, activities, areas of impact**,** and key lessons learned.

The interlocking, critical challenges in contemporary food systems: Food security, environmental sustainability and population health and nutrition

Think&EatGreen@School was grounded in concerns about the vulnerabilities of our global food system and its local manifestations, particularly driven by the broad concept of food security and the intersections of food, sustainability, and health. We were struck by the question of "how we will feed the more than nine billion people projected to live on this planet by 2050?" (Foley, 2014; Fraser et al., 2016; Fraser & Rimas, 2012; Godfray et al., 2010; Searchinger, 2013), and recognized that increased food production alone cannot guarantee a secure, equitable, and sustainable food system. Limitations of the current food system are clear from global estimates suggesting that approximately 795 million people were undernourished in 2014-16 (FAO, IFAD, & WFP,

2015). Even in affluent countries like Canada and the United States, over one in ten households report insufficient incomes to meet their food needs (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2016; Tarasuk, Mitchell, & Dachner, 2016). These issues are further complicated by potential effects of climate change predicted to impact all aspects of food security including agricultural yields, water quality, and price stability (IPCC, 2014).

Children are frequently a focus for efforts to improve health and food security outcomes. International initiatives recognizing the importance of food for health and development are often aimed at reducing rates of low birth weights and childhood malnutrition (Scaling Up Nutrition, 2014). In affluent countries like Canada, nutrition-related conditions, previously considered mainly diseases of aging such as type-2 diabetes, are now emerging public health concerns among youth (MacPherson, de Groh, Loukine, Prud'homme, & Dubois, 2016; Pelletier et al., 2012; Roberts, Shields, de Groh, Aziz, & Gilbert, 2012). Children and youth have become a priority for public health nutrition initiatives in Canada including the federal Healthy Eating Strategy (Government of Canada, 2016; Health Canada, 2017; Tremblay, 2012), as eating habits and food preferences established in childhood appear to continue into adult years (Birch, 1999; Kelder, Perry, Klepp, & Lytle, 1994; Mikkila, Rasanen, Raitakari, Pietinen, & Viikari, 2005) and most Canadian children do not meet national dietary recommendations. National nutrition surveys show, for example, that few children are consuming the recommended number of servings of fruits and vegetables (Black & Billette, 2013), and about a quarter of children's intake consists of "other foods" that are high in fat, sugar and/or sodium (Garriguet, 2007).

TEGS grew out of a recognition of the interconnections between health, nutrition and sustainability challenges. It also responded to a critique of reductionist approaches to understating complex systems by breaking them down into component parts and studying each separately. This perspective has created a situation in food studies, as in other fields, where academics and professionals become experts in individual components but fail to communicate across disciplines. For example, agronomists focus on increasing crop yields without adequately considering the implications for the economic and physical well-being of farmers, for the nutritional profile of foods produced, or for the health of the ecosystem. Nutritionists advocate diets that prevent disease but may originate from environmentally and socially unsustainable approaches to food production, processing, and transportation. Even when experts agree on interlinked impacts of activities within the food system, political contexts may prevent change, evidenced by the decision not to include sustainability goals in the 2015 USDA Dietary Guidelines (United States Department of Agriculture, 2015). Addressing food security, health, and sustainability concerns will require support and advocacy from an empowered citizenry and integrated efforts of scientists, practitioners and policymakers—and thus the development of Think&EatGreen@School.

Responding to the challenges: Emergence of Think&EatGreen@School

To respond actively to food systems challenges, we focussed on the public education system, given its history of promoting social change by engaging the youngest members of society. Children spend a substantial portion of time in schools and most North American youth consume one or more meals at school on weekdays (Briefel, Crepinsek, Cabili, Wilson, & Gleason, 2009; Briefel, Wilson, & Gleason, 2009; Tugault-Lafleur, Black, & Barr, 2017). The school context can influence students' understandings of and attitudes about the wider food system (Davis, Spaniol, & Somerset, 2015; Hersch, Perdue, Ambroz, & Boucher, 2014; Legault & Pelletier, 2000; Welker, Lott, & Story, 2016), including where food comes from and how food waste is managed. Schools have the potential to engage students with the entire food cycle and serve as key institutions where understandings of food, health and civic responsibility germinate (Feenstra, 2002; Rojas et al., 2011; Winson, 2010). Food topics may be integrated into curricula through diverse learning activities ranging from home economics, physical education, health and culinary arts courses directly focussed on life skills, to science, geography, social studies, or history where food opens doors to diverse lessons about biology, culture, and civic responsibility. School programs can influence the broader community too, as children share and promote food knowledge and practices they learn with their families. The school can also become a hub for interaction with surrounding communities to demonstrate and promote healthy, sustainable food practices.

Given the multiple levels on which engaging schools can influence food systems change, we began interacting with Vancouver public schools in the early 2000's. By 2010 the University of British Columbia had a working relationship with several elementary schools and developed curricular resources for food and garden learning for teachers (Mayer-Smith & Peterat, 2010). Around the same time, the City of Vancouver had declared the intention to become "the greenest city in the world." One of the ten goals in the 2020 Action Plan was that Vancouver would become a global leader in urban food systems, reached by dramatically increasing local food assets, including community gardens and urban farms (City of Vancouver, 2012).

A range of non-profit groups, including the *Society Promoting Environmental Conservation* (SPEC, 2017) and the *Environmental Youth Alliance* (EYA, 2017), were creating programs to incorporate gardens into school curricula and engage youth with their food sources. Other groups like *Growing Chefs* and *Project CHEF* were engaging students in learning how to prepare local, healthy foods (Growing Chefs, 2017; Project Chef, 2017). Through public health organizations, school salad bars, and farm-to-school programs were initiated to provide healthy, sustainable food for students and to support local farmers (Mansfield, 2016). Nutritionists from the local health authority, Vancouver Coastal Health, were actively working with the Vancouver Board of Education to facilitate development of school gardens and healthy food programs. However, many groups were working independently, without sufficient knowledge of related initiatives. There was strong interest in forming a research collaboration to strengthen collective efforts beyond what was possible through individual action.

Our decisions about what actions to take reflected our collective professional, theoretical, and methodological inclinations, and the institutional and geographic context. Key decisions included: the selection of public schools in Vancouver as the site for action; hands-on food system education as our focus; and Community Engaged Scholarship as our research paradigm, with university students as key catalysts of action and knowledge creation. We sought to learn by doing, and hypothesized that our broad community of learners would benefit through involvement.

Our hands-on whole food cycle approach was consistent with emerging conceptualizations of *food literacy* as an important area for development in the fields of health and education (Cullen, Hatch, Martin, Higgins, & Sheppard, 2015; Sumner, 2013; Velardo, 2015). Like us, various health promotion professionals, nutrition educators, and community food activists have noted the critical need to improve the population's food-related knowledge, skills, and capacity to take action to address food-related health, environmental and economic issues. A number of definitions of food literacy have been now been proposed, typically incorporating knowledge about food production, food access, and nutrition, as well as practical skills in growing food, shopping, cooking, and composting.

The project also aligned with and informed the broader emergence of an alternative mission and approach for universities, which Trencher and colleagues call "co-creation for sustainability" (Trencher, Yarime, McCormick, Doll, & Kraines, 2013). Traditionally, universities have focused on teaching and research, with entrepreneurship and contribution to economic development being added recently as a "third mission" (Etzkowitz, 2008). Co-creation for sustainability, however, positions universities in transformative roles addressing critical social and environmental needs. Transdisciplinary approaches that entail meaningful collaboration between academic, government, industry, and/or civil society stakeholders are central, as are participatory and action research, service learning, regional development, and living laboratories methodologies (Trencher et al., 2013).

Research approach and objectives

Community-Based Action Research (CBAR) was the central research approach used in TEGS, as it values the knowledge, wisdom, experience, and competence of community members (Stringer, 2013). By planning, acting, observing and reflecting, academic researchers in partnership with community members can uncover and consolidate existing knowledge and skills held within the community. Through collaborative work, participants can learn from each other, agree on possible actions, assess their impacts, then document lessons learned, creating a "spiral" of learning.

As a CBAR project, TEGS explored processes of social learning, and was not designed as intervention research using experimental or quasi-experimental designs. We therefore did not have control or comparison schools, nor were the same actions implemented at each school.

Schools joined the project with varied food programs at different stages of development; teachers and administrators with a range of skills, interests and motivations; and diverse priorities, social, cultural, economic and physical contexts. Actions appropriate for, and of interest to, some schools were redundant to some or too advanced for others. University students served as key actors, participating in the delivery of school-based actions, gaining experiential learning opportunities, and valuable preparation for work as future engaged professionals. We believed that participation in collective learning, action, and knowledge production would unleash their creativity, passion, and capacity to imagine and work toward something better.

Goals and objectives

As illustrated by the logic model in Figure 1, TEGS worked on a spectrum of objectives ranging from achievable short-term outcomes to aspirational long-term goals. At the micro-level, objectives included: engaging K-12 students in and supporting teachers (and staff and volunteers) to provide hands-on whole food cycle education that included concrete opportunities for growing, preparing, and sharing food at school and sustainably managing food waste. We also engaged university students through undergraduate course curricula, as well as opportunities to conduct data collection and analysis, and to lead hands-on food literacy projects in classrooms.

At the meso-level (intermediate term) we aimed to empower future professionals, teachers, and policy makers to promote development of healthy, sustainable school food systems by nurturing connections between local actors, supporting policy development, and fueling existing local food movements to tackle complex problems in an ongoing way. At the macro-level (long term), TEGS aspired to contribute to enhanced regional food security, food system sustainability, and population health—but recognized that these goals would require action far beyond our timeline.

Action projects and areas of impact

Project efforts focussed on two interrelated categories of activities: action projects, and monitoring, and evaluation. As described below, action projects ranged from sharing financial resources with project partners through small grants, building capacity through professional development, catalyzing food system engagement through university student-led projects and workshops, and engaging in policy development initiatives.

Small grants

For each of the last four years of the project, research funding ($20-$35K/year) was allocated to support school-based healthy and sustainable food system projects. School-based teams applied

for funding annually (up to $2000 per school); consequently, recipient schools became part of the Think&EatGreen@School network and were expected to attend networking events, host UBC student-led classroom workshops, send representatives to professional development events, and share their experiences, progress, and learnings.

As illustrated in Figure 2, the Think&EatGreen@School program rapidly grew from 15 schools in 2011-12 to 38 schools in 2014-15, representing schools from all six geographic sectors of VSB (Vancouver School Board, 2012). Over four years, $110,000 was provided to 57 public schools, just over half of all public schools in Vancouver, fostering a network of connections within and between schools. At the end of each year, participating schools came together to share their learnings and progress. Each school created a poster report of results shared on the project website and posted at each school, and insights were further disseminated though a project newsletter and through the Vancouver School Network, an online platform created for collaboration (Mansfield, 2016).

The Small Grants initiative became a strategy for developing a strong community bound by relationships of reciprocity and trust. It also fostered integration of school-based teams into the larger project network, ensuring that individual school communities were supported to take concrete actions. School-based teams typically used funding to purchase: tools, cooking supplies, materials for building garden boxes and composting facilities, and release time for teachers to meet and plan activities and curricula related to TEGS' goals. Once they established gardens or cooking programs, many Small Grant schools then invited community-based non-profit organizations that had relevant expertise to help teachers develop hands-on-learning opportunities in new outdoor learning spaces and to acquire specific skills, such as how to use produce from the school's food garden in the classroom, how to recycle food waste into compost and return nutrients back to the soil. Beginning- and end-of-year events attended by community partners and school teams, as well as team members' attendance at professional development events, facilitated a strong network of teachers engaged in hands-on food cycle education.

Professional development

Professional Development (Pro-D) activities included teacher workshops, annual Summer Institutes, and Teacher Education Practicums. Teacher workshops were delivered on province- and district-wide professional development days and through weekend mini-institutes and after-school sessions. Three-day Summer Institutes were offered at the beginning of July in 2011, 2012, and 2013 and over two Saturdays in the winter of 2014/15 school year (owing to job action in spring and summer 2014). The Institutes drew more than 90 participants each year. The workshops and institutes offered networking opportunities for teachers and community organizations and provided a variety of hands on classes focusing on: food gardens and orchards; composting and waste management; food procurement; food preparation and consumption; innovations in teaching and learning; and examination and discussions about school food policies.

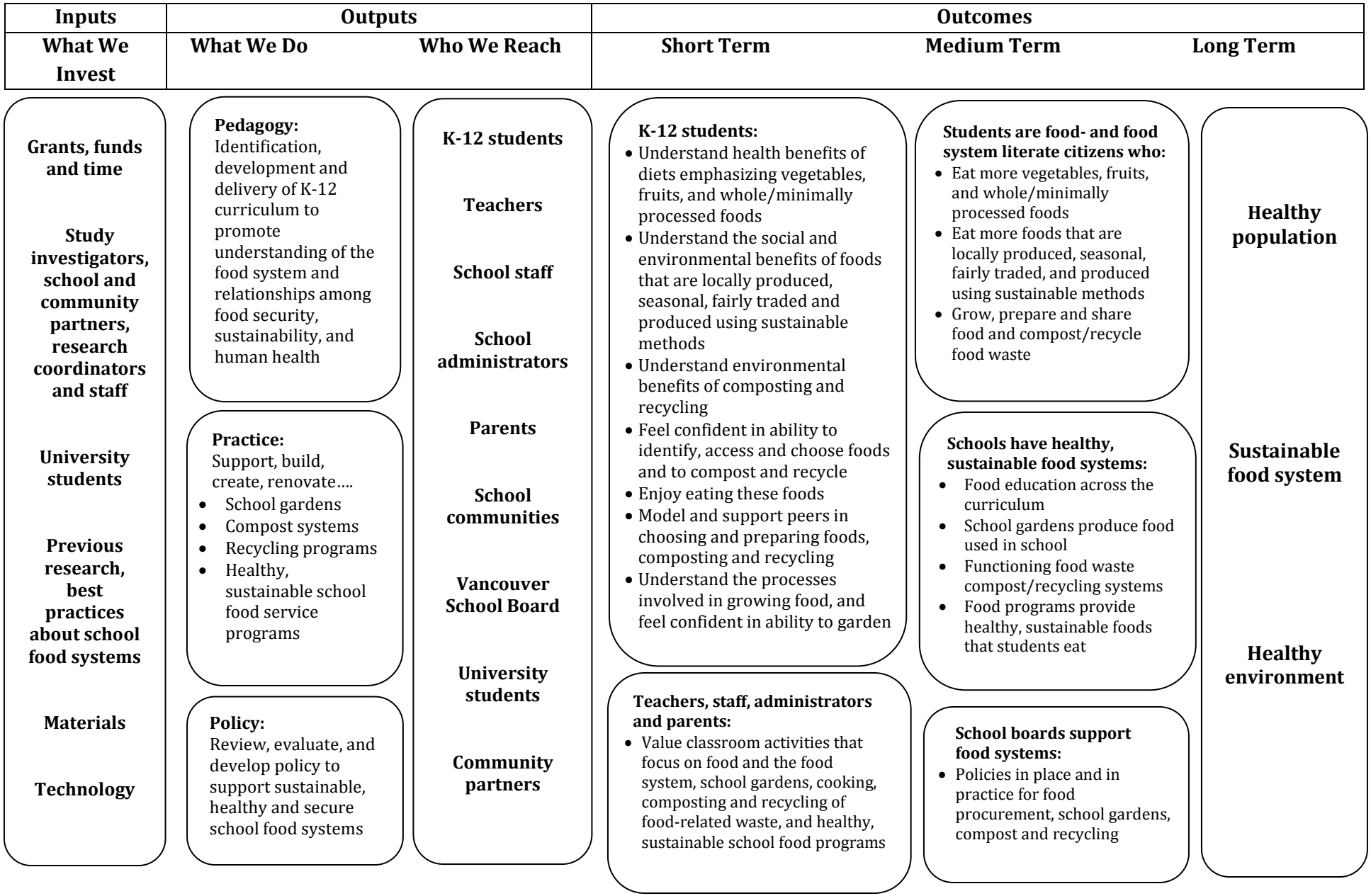
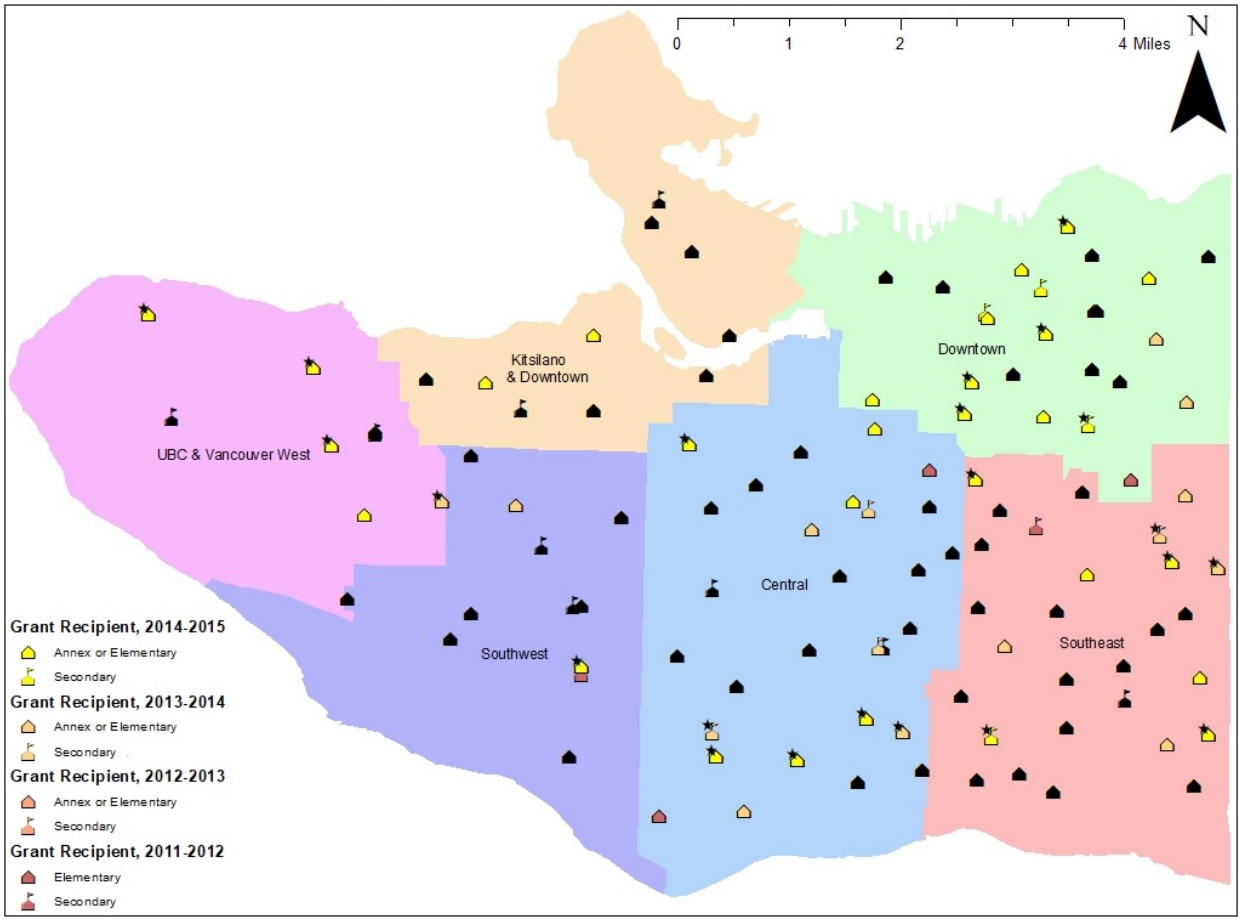


Figure 1: Think&EatGreen@School Logic Model

Figure 2: Geographic Distribution of Schools Receiving TEGS Small Grants in 2011-2015



Grant recipient status is shown for the most recent year a school received a small grant. Stars indicate that the school received grants on more than one occasion. Schools symbolized in black received no small grants.

Teachers often attended multiple Pro-D events, including repeat attendance at Summer Institutes. Over time, many noted increased confidence in their ability to improve their school's food system and to enhance food cycle-education. In 2014, 45 teacher candidates from UBC's Bachelor of Education program completed a Community-Based Field Experience with a TEGS school or community partner where they participated in whole-food cycle hands on learning and explored "places of learning" outside of schools.

Collaborative inquiry

Two elementary schools participated in intensive collaboration where teacher teams met with researchers regularly (at least monthly) to explore together best approaches for increasing food and sustainability literacy among school teachers and students. Examples of initiatives undertaken in these schools included integrating produce from the school garden into a lunch

salad bar and into curricular activities, establishing a school-wide compost system, and putting on a school-wide Earth Day event. For the latter event, very young elementary school children led poster presentations demonstrating their growing understandings of the links between environmental problems, food, and health.

Community-Based Experiential Learning (CBEL)

Each year, over 300 UBC students, through one of their university courses, were connected with an elementary or secondary school to conduct activities supporting food system education and to apply their classroom learning about food and environmental issues, nutrition, and health. Interdisciplinary teams of students participated in projects ranging from planning and building food gardens, planting garlic, creating classroom vermicomposting systems, to preparing and sharing healthy food with K-12 students. Over the duration of the project, approximately 2,000 undergraduate students engaged with 225 VSB classrooms and student clubs. Teachers' evaluation of university students' performances indicated a high level of satisfaction with students' levels of professionalism and ability to relate sustainability and health-oriented content in an engaging manner. Undergraduate student feedback obtained through reflective course assignments revealed that participating in VSB activities positively impacted their own food literacy skills, their understanding of the complexity of school food systems, and the opportunities and challenges associated with efforts to address systemic food-related issues in society.

Policy development and support

Throughout the project, the TEGS network of actors was engaged in multiple policy initiatives. Contributions included key input on several school board, municipal and provincial policy initiatives including a food action plan for the Vancouver school board which informed VSB's sustainability framework (Millsip, 2010). The emerging interest and expertise in school gardens also impacted school garden policies and resources to support garden development (Vancouver School Board, 2010), and led to collaboration with community partners like Fresh Roots (Fresh Roots Urban Farm, 2012) to examine the feasibility of establishing market gardens on school grounds and how these gardens could be used in the cafeterias and curricula. TEGS actors also helped secure funding to examine sustainable food procurement practices through Farm to School Greater Vancouver and the Public Health Association of BC (PHABC). This led to the development of the School Food Procurement Learning Lab to explore opportunities to increase local, sustainable, and healthy procurement in Vancouver, and to identify necessary policy and regulatory changes required to facilitate change (Mansfield, 2016). Members also contributed to a Farm to School BC Provincial Task Force aiming to develop strategies for promoting and sustaining farm to school activities across the province (Mansfield, 2016).

Monitoring and evaluation activities

Think&EatGreen@School's monitoring and evaluation activities involved collecting a variety of qualitative and quantitative data to document project activities, outcomes of interest, and barriers and facilitators of change. We did not expect to observe large measurable changes in behavioural outcomes such as large dietary changes or substantial systems changes that could be directly attributed to specific project activities given the short project timeframe, diffuse nature of project activities, and recognition that food systems are complex and do not change rapidly. We did however, aspire to build capacity and engagement with food system issues and develop tools for measuring where schools were at.

Key players study

Qualitative interviews were conducted with 22 people identified as leaders in the development of programs and practices pursuing sustainable and healthy food systems in Vancouver public schools (Rojas, Orrego, & Shulhan, 2015). This study identified motivations and challenges to key players' work, and innovative strategies they developed and adopted to support integration of food, sustainability, and health into the curriculum and school environments. Participants described the value of the practical skills, confidence, and attitudinal changes engendered through food-related initiatives, including the effectiveness of experiential, holistic, and other creative pedagogical strategies. They described food education as a "connector" of lessons and learners, and emphasized the importance of school-wide teamwork and collaborations among diverse stakeholders in food systems movements. This analysis reaffirmed the strengths of developing a community of co-learners, and using a Community-Engaged Scholarship framework. It highlighted how collaborations across networks and organizations, including the perceived legitimacy brought by having a university partner, strengthened both the actions and the research of this project.

School Food Environment Assessment Tools (SFEAT)

At the onset of the project, we recognized the need for more detailed understanding of what was happening within and across schools. How much did schools vary in level of engagement with food systems issues? What actions and food-related activities were already happening, and where were efforts most needed? Recognizing the absence of data speaking to these questions, we developed the SFEAT (School Food Environment Assessment Tools), a data collection and analysis framework designed using interviews with school administrators and food service staff, and direct observation of schools. The tools addressed six key domains: 1) food gardens; 2) composting systems; 3) food preparation activities; 4) food-related teaching and learning activities; and availability of 5) healthy food; and 6) environmentally sustainable food (Black et al., 2015).

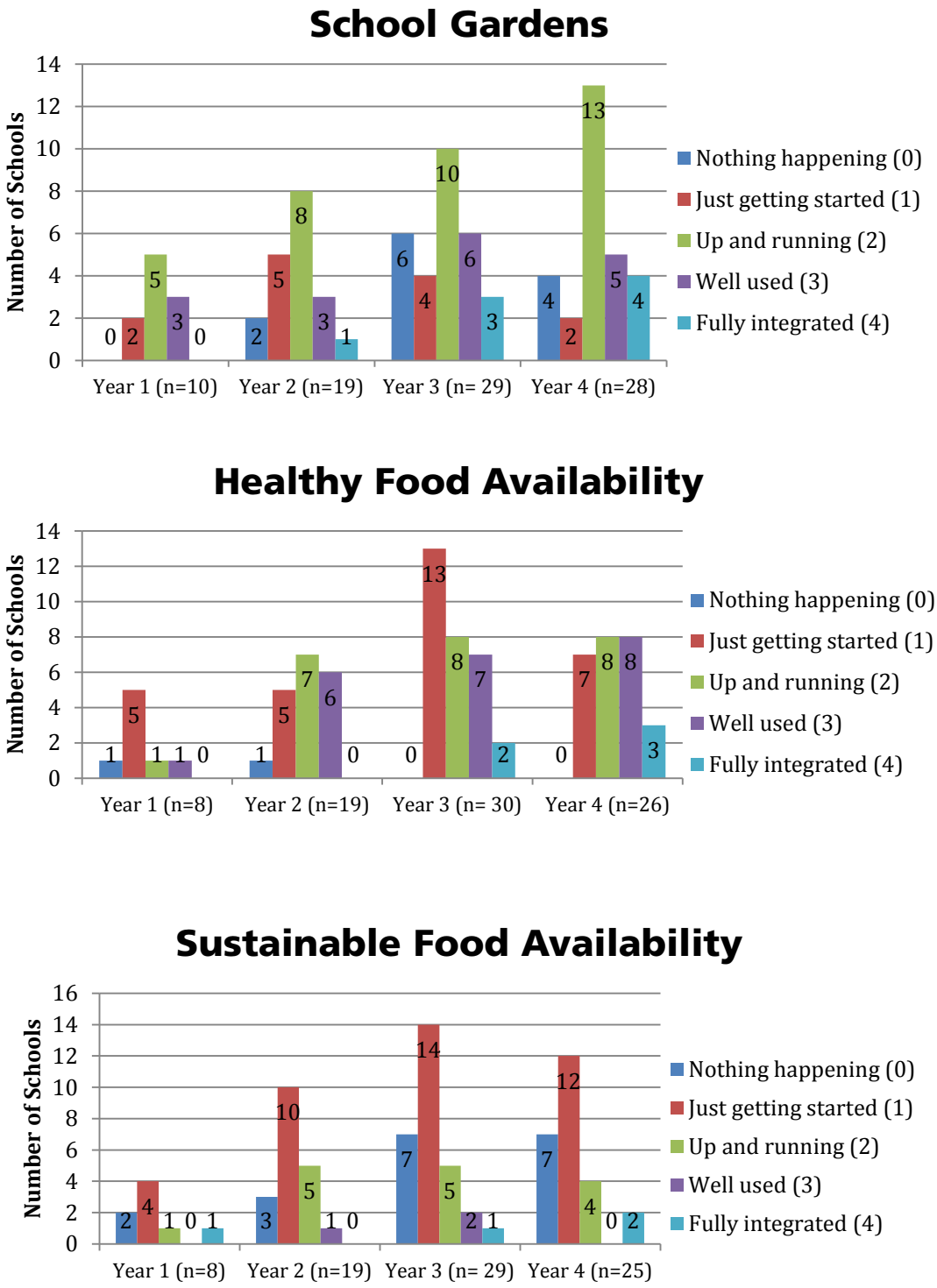
Between 2011-2013, SFEAT tools were applied in 33 diverse schools, showing that the development and use of food gardens and compost systems were the most highly developed domains across the sampled schools. Regular integration of food-related teaching and learning activities and hands-on food preparation experiences were also commonly reported. While most schools demonstrated some efforts to make healthy and environmentally sustainable food choices available, more work was needed to fully integrate programmes and policies that support healthy, environmentally sustainable food systems. Moreover, no schools reported widespread initiatives fully supporting availability or integration of healthy or environmentally sustainable foods across campus. We are continuing to refine and adapt these tools for widespread and ongoing use across the city for future monitoring and evaluation of food system change.

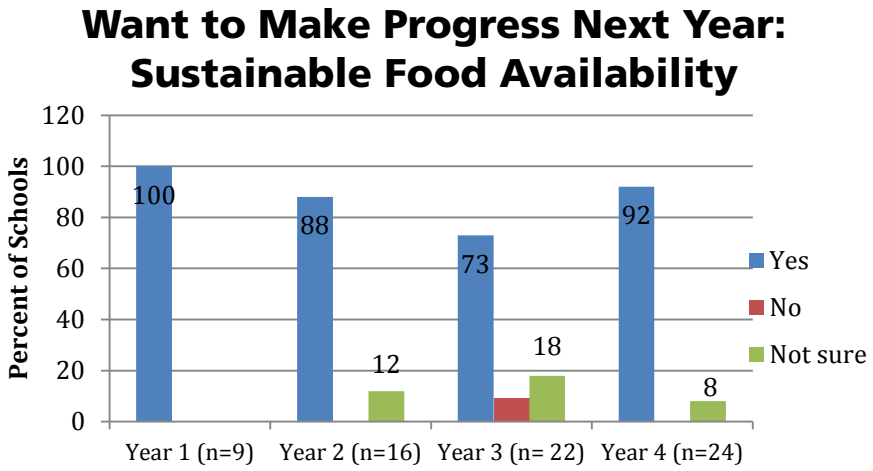
We also developed a shorter school self-assessment tool used annually by school-based teams receiving small grants to assess their progress. Self-assessments allowed schools to reflect on which domains they wanted to move forward on the following year and which supports were helping them progress. Small grant schools reported progress on domains of interest, often as a result of project participation, and described synergies with other local efforts and emerging policies to shape school food systems. Figure 3 provides a snapshot of types of data reported on the self-assessments and highlights the growth in number of TEGS small grant recipients in the latter years of the project. Overall, the majority of schools reported making progress across some domains measured each year and also expressed interest in continued growth. Garden engagement seemed to be an accessible entry point for many schools to start hands-on work with food systems, with over 75% of participating schools reporting making garden-related progress each year. Moreover, most schools reported some level of engagement with making healthy foods available. Yet, for the majority of schools, they were uncertain or reported no progress in making sustainable food available annually despite the majority reporting interest in doing so.

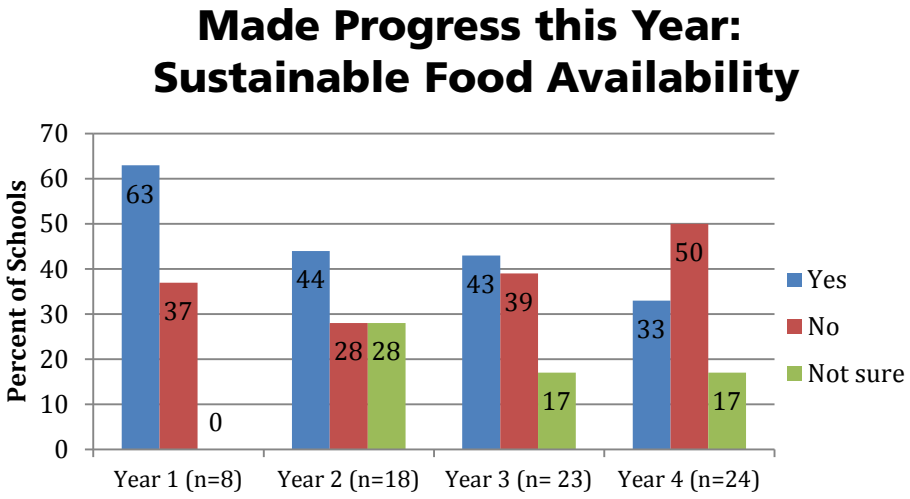
Individual Eating Assessment Tool (IEAT)

The IEAT was a self-reported survey developed to measure indicators at the student level, including: where, when and how often students procure and consume food on school days; the frequency of consuming fruits and vegetables, sugar-sweetened beverages, processed snacks, low-fat milk and whole grain foods; students' knowledge, self-efficacy, and attitudes related to healthy eating and food preparation; how the transition from elementary school to secondary school shapes students' social norms and food practices; and whether food system engagement is associated with students' knowledge, attitudes, or practices related to food. In 2012, the survey was administered to 950 students in grades 5-8 in 20 elementary and six secondary schools. Key findings are reported in three student theses and several peer reviewed papers (Ahmadi, 2013; Ahmadi, Black, Velazquez, Chapman, & Veenstra, 2015; Daepp, 2016; Stephens, 2014; ; Stephens, Black, Chapman, Velazquez, & Rojas, 2016; Velazquez, Black, Billette, Ahmadi, & Chapman, 2015).

Figure 3: Examples of Findings from TEGS Self-Assessment Surveys







Note: Year 1=2011/12, Year 2=2012/2013, Year 3=2013/14, Year 4=2014/2015
Numbers per year differ across graphs owing to missing data.

Overall, IEAT findings suggested that in the 2011–2012 school year (reflecting the early years of TEGS), less than half of students reported engaging in most of the food and nutrition activities examined, including: food preparation (36%), choosing/tasting healthy foods (27%), learning about Canada's Food Guide (CFG) (45%), learning about foods grown in BC (35%), gardening (21%), composting (32%), and recycling (51%). Secondary students were more likely to report activities focused on working with or learning about food/nutrition, but overall participation in most activities was relatively low, with few students exposed to multiple food system activities. We were not able to conduct follow-up surveys, so can only speculate about whether food system engagement substantially increased either through direct exposure to TEGS activities or through capacity building, policy changes or shifting priorities among school staff or

community partners. Still, the development of the IEAT tool and proposed strategies for measuring school food and nutrition activity engagement offered important baseline insight for comparison in future years.

Focus on Food was a qualitative study that sought to understand food culture among grade 9 and 10 students in Vancouver, and how they frame food choices. In semi-structured focus groups, student participants discussed their lunch selections and typical eating behaviours, perceived influences on those behaviours, and experiences and opinions about ways of eating that resonated with them (Shulhan, 2014). Findings suggested that students often framed food as either "good" (harmless) or "bad" (harmful), and tended to value natural foods and ingredients, while foods that seemed artificial or unfamiliar where treated with suspicion. Participants talked about trying to avoid or resist "bad" foods and to seek out "good" ones, and many wanted more information about or control over the foods made available to them. Students usually evaluated food in relation to human health concerns. Many also incorporated some ethical concerns, particularly those involving animal welfare, but for the most part, they were unfamiliar with links between food and environmental sustainability. Overall, Focus on Food findings suggested that future strategies to promote healthy and sustainable eating should continue to engage students in hands-on food-system related activities.

Key learnings

In this section we reflect on key learnings from TEGS to inform future projects aiming to tackle complex global food systems issues through actions in local contexts. First, our experiences reinforced the value of using a systems perspective to overcome the fragmentation of knowledge that we believe has contributed to current food systems problems. Before starting the project we observed how food-related topics were addressed in disconnected fragments in schools (e.g. with aspects of nutrition highlighted through discussion of *Canada's Food Guide*, cooking lessons in home-economics classes, discussion of food production, or distribution problems in agriculture courses). Food education was seldom integrated or comprehensive. We aimed to foster opportunities for gaining understanding of where food was coming from, how it was produced, processed, transported, distributed, consumed, and disposed of, and on how each aspect of the food cycle affects and is affected by other components. This includes how the food system is embedded in, and interacts with, larger ecological, economic, social, and cultural systems.

The project serves as an example of what is possible to that end: foremost, that a diverse, interdisciplinary and inter-organizational group could come together (and find research funding and institutional support) for a project that valued voices and experiences of academics, community groups, and local stakeholders. We demonstrated the feasibility of engaging with public schools to address food security, health, and environmental sustainability by focusing on integrating hands-on food cycle education across the curriculum and working to transform school food systems. Sharing the project's resources including time, expertise and funding (through the

small grant mechanism, the Summer and Winter Institutes, and professional development activities) led to a reciprocal process of generosity that developed into an engaged network of actors including teachers, community organizations, and students. By requiring grant recipient teams to attend networking and professional development events and by linking them with university students and community partners, team members gained skills and confidence and were part of a growing network of committed people from which several "key players" emerged and helped build momentum.

We found evidence for the value of experiential, hands-on learning opportunities. Traditional classroom learning was supplemented by experiences where students could re-connect with the sources of food in nature, experience the transformation of food ingredients into appealing dishes, and experience the sensations of touching, smelling and tasting food. Food education is particularly suited to experiential learning. Gardening, cooking, and composting are all activities that can appeal to students' interests, engage all of their senses, and provide opportunities for students to fully experience and reflect on the results of their labour.

While we lacked formal measures of food literacy, we certainly increased opportunities for hands-on food cycle education across the curriculum. We documented new opportunities to support and build pedagogical innovations related to healthy, sustainable practices through activities like school gardens and hands-on food preparation, composting, and professional development for teachers. Despite many small outputs and growing numbers of engaged schools and participants in this project over six years, large scale food systems changes were more subtle and will require ongoing inputs. Opportunities to engage with policy development at the school board level, and working with municipal and provincial bodies to advocate for long term changes remain key actions for long term change.

We also had some (but not universal) success in integrating the traditional and often siloed academic roles of research, teaching, and service. For several of the project's investigators, this included teaching university courses where undergraduate students (and graduate student teaching assistants) contributed to data collection or hands-on actions in schools, and hence themselves became part of both action and research. Yet, we also noted the challenges of fitting this model of inquiry within a traditional academic rewards system that did not always lend itself well to this model of work. Additionally, involving undergraduate students in a community setting presents its own set of challenges, such as making a clear distinction between engagement and volunteering, preparing students for the uncertainty of work within the community, developing methods of accountability when conducting learning activities off-campus, and ensuring reciprocal benefits with community partners.

Still, we found great value in this form of social learning experimentation using a community-based participatory research approach that valued the connections between action and research, with the intent of producing knowledge and creating positive change. In contrast to dominant research designs that emphasize control by measuring outcomes of interventions, our research approach was emergent and context-specific. Schools and teachers self-selected into interventions. They chose which activities they would get involved in, and what to do in their

schools based on the interests, history and context of the school community. This took place in a real world context where there were other facilitators, barriers and incentives to work on these issues. Therefore, it is difficult to say with any precision what impact TEGS had in isolation, which is a challenge for the current academic model and publication system. Although there was ample energy, involvement, and qualitative indication of impact, these metrics are more difficult to quantify.

Conclusions and visions for the legacy of Think&EatGreen@School

While the formal funding for TEGS ended in 2015, its legacy continues through its "community of learners". Through engaging multiple levels of students, community partners, schools, and academics, we have catalysed change; some which is measurable and much that does not lend itself to easy empirical indicators. The work accomplished required substantial investments from institutional commitments, funding, time, personnel, and human energy. As the formal funding and commitments wrapped up, the bulk of personnel and inputs were unable to continue with equal force, and questions remain about the long-term feasibility of this work. Nevertheless, efforts towards the project's long terms goals continue through the Vancouver School Food Network (Mansfield, 2016), continued collaboration between the school board and university partners to enhance food literacy education and food systems monitoring, and integration of projects within the UBC curriculum. Key learnings highlight the need for continued efforts to integrate research, teaching, and action on global food security, environmental and public health challenges. In tandem, we have demonstrated the importance of building connections to create healthy, sustainable school food systems.

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Oeuvre Audiovisuelle

Invité.e.s invisibles: une installation sonore dans un restaurant communautaire montréalais

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Résumé

Invité.e.s invisibles est une installation sonore créée en collaboration avec un restaurant communautaire qui offre des repas abordables à une population défavorisée dans Hochelaga-Maisonneuve, un ancien quartier industriel de Montréal. Des conversations enregistrées étaient mises à la disposition de personnes venant y manger seules, dans l'espoir de rompre avec l'isolation que certain.e.s peuvent ressentir. Les conversations étaient diffusées sur des écouteurs que les gens pouvaient porter tout en prenant leur repas, ce qui leur permettait de rencontrer virtuellement d'autres membres de la communauté. En écoutant leurs récits, elles et ils pouvaient s'y reconnaître et se sentir investi.e.s des mêmes préoccupations. Cette installation pouvait servir de première étape vers la socialisation pour celles et ceux qui ont de la difficulté à communiquer en personne, mais qui désirent néanmoins «partager» leurs repas.

Mots clefs: sécurité alimentaire; implication citoyenne; bien-être communautaire; art sonore; installation artistique, pratiques communautaires; art relationnel.

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Démarche artistique

Hochelaga-Maisonneuve est un quartier montréalais au riche passé ouvrier qui a beaucoup souffert de la désindustrialisation des années 1970, période au cours de laquelle toute une population ouvrière s'est retrouvée sans emploi, en état de survie. En tant qu'artiste qui habite ce quartier depuis une décennie, j'ai tissé plusieurs liens avec cet environnement de vie en l'explorant de diverses manières, de mes déambulations ponctuelles à quelques pratiques plus engagées d'interventions artistiques ou de résistance politique. En juin 2014, l'artiste-chercheure en études sur l'alimentation Natalie Doonan m'avait offert du support technique, artistique et critique à travers le SensoriuM[1], une plateforme en arts de la performance qu'elle dirige, afin que je produise une oeuvre participative en lien avec l'alimentation. Suite à cette initiative, je suis entrée en contact avec Maggie Lebeau, alors coordonnatrice des services à la communauté du Chic Resto Pop, un organisme communautaire qui veille à la sécurité alimentaire et à la réinsertion sociale dans Hochelaga. Comme je venais tout juste de déménager tout près et que je désirais m'impliquer bénévolement au sein de cet organisme, je lui ai soumis une idée que j'avais eue: *Invité.e.s invisibles,* une installation sonore sur le thème du repas au restaurant communautaire comme d'un besoin social primordial, surtout pour les personnes seules en situation de précarité financière.

Je connaissais le Chic Resto de réputation, grâce entre autres au documentaire *Au Chic Resto Pop* (Michel et Rached, 1990) et j'étais familière avec son rôle actif dans la cohésion sociale du quartier. Logé dans une ancienne église, l'organisme a été fondé en 1984 par un groupe de bénéficiaires de l'assistance sociale qui avaient l'ambition d'améliorer leurs conditions de vie et celles des habitant.e.s de leur quartier par la même occasion. Dans son rayon d'action, le Chic Resto fournit des repas à petits prix, nourrit les enfants de l'école primaire Baril située non loin de là, offre des ateliers de cuisine, des formations pour le travail en restauration, anime des activités éducatives sur l'alimentation et la gestion d'un budget. En plus de fournir un espace inclusif permettant la cohabitation de gens issus de différents milieux (étudiant.e.s, travailleurs-ses à faible revenu, bénéficiaires de l'assistance sociale ou de l'assurance-emploi, nouveaux-elles arrivant.e.s, artistes, et cetéra), cet organisme crée un sentiment d'appartenance pour celles et ceux qui souvent se sentent bafoué.e.s dans leurs rapports avec la société civile, en reconnaissant leur place dans la cité. En allant à la rencontre des membres de cette communauté, j'ai pu découvrir un réseau d'entraide, de partage, d'écoute et d'acceptation

[1] Natalie Doonan programme «des artistes dont le travail [investigue] de façon critique et ludique l'alimentation et la consommation. (...) Le SensoriuM présente des événements d'art participatif dans le but de générer une conversation.» (le SensoriuM, s.d.) Son support au projet a inclus: une formation en montage sonore, des échanges tout au long du processus, et la possibilité de publier à propos du travail sur ce site Web: http://www.lesensorium.com/2012/06/catalogue-season-4.html

tel que j'avais pu l'imaginer à travers les témoignages que j'ai entendus au fil des ans, notamment celui de ma mère qui a travaillé pendant 16 ans comme psychologue pour enfants à l'école Baril.

Ce que je n'avais pas anticipé au départ, c'était la difficulté que certain.e.s éprouvaient à briser les barrières de leur solitude, même dans un contexte d'accueil et d'acceptation comme celui du Chic Resto Pop. Comme me l'a fait remarquer Maggie le soir où je l'ai rencontrée, beaucoup de personnes se retrouvaient à y manger seules, assises en intervalles, avalant leur repas en silence. Si certaines ont choisi cette solitude, la socialisation peut représenter un défi énorme pour d'autres. Ce constat m'a poussée à adapter la proposition initiale d'*Invité.e.s invisibles*. Au lieu de simplement méditer sur l'importance de la socialisation comme aspect collatéral des interventions en sécurité alimentaire, l'installation allait donner aux gens venant manger seuls l'occasion de rencontrer virtuellement d'autres membres de la communauté.

Cette intervention artistique prendrait la forme finale d'une trame sonore de trente minutes mixant des conversations enregistrées avec des gens de la communauté du Chic Resto. La trame serait disponible pour écoute lors des repas grâce à des casques sans fil à emprunter à la réception. J'espérais ainsi qu'elle aurait un impact positif sur le besoin de socialisation des gens pour qui la communication en personne s'effectue difficilement, par exemple parce qu'elles ou ils ont un trouble du langage. Ces enregistrements s'effectueraient après plusieurs mois d'immersion dans la communauté du Chic Resto, que Maggie encadrerait. Mon intention finale n'était pas de produire un document ethnographique qui offrirait un portrait de la communauté, ou encore de fournir un instrument aux intervenant.e.s en travail social ou au personnel du Chic Resto. Cette installation sonore avait pour but de créer un espace virtuel de communion, qui serait inclusif même pour celles et ceux qui ont tendance à s'isoler parce qu'elles ou ils ont de la difficulté à échanger en personne.

Le terme «installation sonore» est généralement employé pour décrire une utilisation artistique d'un dispositif sonore contextuelle à un environnement immersif (par exemple, un restaurant communautaire). Les explorations conjointes du son et de la nourriture dans les pratiques artistiques ne sont pas inhabituelles à l'ère contemporaine. Dans un synchronisme fortuit, quelques semaines avant que l'installation *Invité.e.s invisibles* ne soit lancée au Chic Resto Pop en août 2015, le collectif de design montréalais Daily Tous Les Jours organisait les *Food Sessions*, qui proposait également une utilisation d'une trame à écouter pendant le repas sur des écouteurs. Cette installation était présentée à C2MTL, une conférence sur la créativité et l'innovation dans le milieu des affaires, organisée par l'agence de publicité Sid Lee. Les participant.e.s s'y attablaient avec des écouteurs où ils pouvaient entendre une méditation «guidée» sur «des souvenirs et des émotions associés à la nourriture qu'ils sont en train de manger» (Daily Tous Les Jours, s.d.).

Si les formes des deux installations sont similaires, leurs contextes de présentation, le contenu de leurs enregistrements et leurs processus de création ont peu en commun. Leur principale différence concerne les publics auxquels ces installations s'adressaient. Dans le cas des *Food Sessions,* il s'agissait d'un public amateur d'arts médiatiques[2]*,* qui avait pu s'offrir ou se faire offrir une passe d'entrée dont le coût tourne autour de 2000-3000$. Ces tarifs exorbitants ont pour effet d'y convier principalement les employé.e.s d'entreprises bien établies, car celles-ci peuvent financer leurs frais d'admission. L'événement capitalise ainsi sur la créativité des artistes invité.e.s pour offrir un contexte avant-gardiste au réseautage élitiste. Pour sa part, *Invité.e.s invisibles* s'adressait plutôt à la communauté d'un organisme de charité dans un quartier défavorisé et l'installation visait à renforcer la cohésion sociale et le sentiment d'appartenance des habitué.e.s et des nouveaux-elles membres. Elle était offerte gratuitement à la réception de l'établissement et sa réalisation avait sollicité la participation de la communauté.

Sans nécessairement faire appel à la technologie, l'union prolifique entre l'alimentation et la narration a souvent été explorée dans des interventions artistiques pour mettre en lumière la complexité des relations sociales et politiques qui agissent dans les communautés. Avec *Eat, Love, Budapest* (2011), Marije Vogelzang créait une installation autour du geste de nourrir une personne dans le but de déconstruire les préjugés contre les Roms, une minorité ethnique européenne. Son dispositif isolait chaque spectateur-trice derrière les toiles de petites tentes où des femmes roms les nourrissaient tout en leur racontant les récits de leurs souvenirs. Les tentes ne dévoilaient que les mains des femmes, afin de mettre l'accent sur leur voix et sur le geste de nourrir. L'intention de Vogelzang était de créer une connexion qui va au-delà des apriori liés aux différences physiques: «To create understanding for gypsy people, I think to use food is one thing but then to be fed by someone is another thing. (...) I think the idea of feeding is very intimate: a mother feeds her child with food but also with love at the same time. I thought about making this installation where people are getting physically fed with food but also with stories.» (Marije Vogelsang, s.d.) L'alimentation et la narration servaient dans ce cas-ci à renforcer le développement d'une intimité entre deux inconnu.e.s, afin de subvertir les normes et les divisions sociales. *Invité.e.s invisibles* dissimulait également l'image de ses protagonistes dans l'idée de favoriser une connexion intime à travers le son des voix.

Cependant, une fois de plus les contextes de représentation de ces deux installations différaient: *Eat, Love, Budapest* prenait place dans une galerie d'art, donc devant un public avide de ce genre d'expérience artistique, potentiellement composé de gens avec des parcours bien différents de ceux des femmes roms. Les tentes formaient une frontière palpable entre ces femmes et les spectateurs-trices, de même qu'avec

[2] Daily Tous Les Jours a tourné cette installation dans d'autres contextes, notamment pour d'autres publics amateurs d'art expérimental tel que celui du Festival du Nouveau Cinéma, et dans d'autres villes, telles que New York, San Francisco et Biarritz.

l'artiste qui se tenait en retrait de la performance, l'orchestrant à distance. Si le but de *Eat, Love, Budapest* était de provoquer une rencontre entre des personnes de milieux bien différents, Natalie Doonan et moi avons plutôt convenu, après quelques discussions, qu'il ne serait pas éthique d'amener un public d'art dans l'environnement du Chic Resto. Je désirais que cette oeuvre demeure une création par et pour la communauté du Chic Resto et je savais, de par mes conversations avec Maggie, que celle-ci n'aurait pas permis qu'il en soit autrement.[3] Nous ne voulions pas que cette expérience se transforme en présentation des client.e.s du Chic Resto à un public d'art en visite. Ainsi je n'ai pas fait la promotion de cette installation ailleurs qu'à travers le réseau du Chic Resto et je n'ai pas médiatisé l'événement du lancement. Je me suis servie de la plateforme du SensoriuM pour réfléchir de façon critique sur le travail que je faisais dans cette communauté, à travers des conversations et une publication que j'ai rédigée pour son catalogue de 2015.

À l'été 2014, je vivais une situation d'instabilité: j'avais obtenu depuis peu une maîtrise interdisciplinaire en arts, j'étais sans emploi et je traversais un épisode d'épuisement professionnel. Isolée des institutions académiques, je recherchais un nouvel ancrage qui me permettrait de guérir mes blessures de stress et me redonnerait l'occasion de m'épanouir. Dans ces circonstances, je ne me percevais pas comme extérieure à la communauté du Chic Resto: comme plusieurs habitué.e.s du restaurant, je vivais un moment retiré de la vie professionnelle et, comme elles et eux, je suis allée vers le Chic Resto, car celui-ci m'offrait un espace d'acceptation où je n'avais pas à me définir par mon statut social ou mon employabilité. C'est dans cette optique que j'ai abordé le projet, comme une oeuvre relationnelle qui provoquerait des rencontres, des discussions, qui offrirait l'occasion à toutes et tous de se sortir de l'isolement, moi y compris. Je voulais m'enraciner dans mon quartier en participant à la vie communautaire de cet organisme.

Lorsque j'ai approché Maggie Lebeau avec le désir de créer cette installation sonore, elle s'est immédiatement impliquée dans l'idéation du projet et m'a éclairée sur les dynamiques internes et les besoins de cette communauté. Notre relation s'est vite transformée en collaboration sur la création de ce projet, qui s'est développé sur une année. Maggie a facilité mon intégration à la communauté en m'invitant à des ateliers de cuisine, de bricolage, en m'impliquant dans la distribution de paniers de fruits et de légumes et en m'aidant à organiser une activité de café-discussion qui servirait à réfléchir avec les membres de la communauté sur les thèmes du projet: la socialisation au restaurant, la solitude choisie et la solitude forcée, la difficulté de conserver une vie sociale quand le budget ne permet plus les sorties. C'est à travers ces rencontres que j'ai non seulement pu développer des liens avec les habitué.e.s, mais j'ai également pu me

[3] Il serait possible d'argumenter que puisque j'ai fait le montage de ces enregistrements seule, je n'accordais pas de véritable pouvoir d'action aux participant.e.s, car elles et ils ne pouvaient pas choisir le contenu retenu. Je ne voulais pas transformer cette intervention en projet pédagogique de familiarisation avec la technologie car d'une part, j'étais moi-même en apprentissage du programme de montage que j'utilisais et je ne me sentais pas à l'aise de l'enseigner. D'autre part, ceci aurait exclu les participant.e.s pour qui la manipulation de la technologie aurait freiné leur envie de socialiser.

familiariser avec la diversité des parcours des gens qui forment cette communauté.

Mon idée de départ impliquait de créer plusieurs trames sonores, chacune diffusant la voix d'une personne différente: une rencontre individuelle pour chaque écouteur, afin de faciliter une impression d'intimité entre les auditrices et auditeurs et le récit de la personne enregistrée. Maggie m'a alors fait part d'une dynamique particulière au sein de cette communauté: le concours de popularité. Certain.e.s de ces membres étaient régulièrement sollicité.e.s par des journalistes de passage pour des reportages, ce qui causait parfois un phénomène de vedettariat à l'interne. Nous avons ainsi convenu de procéder à un seul montage d'une trame à plusieurs voix, ce qui permettrait de répartir le focus sur le groupe plutôt que sur les individus. Sans exclure les membres dont l'éloquence est souvent sollicitée par ces entrevues, nous nous sommes assurées d'en inclure d'autres qui sont plus rarement impliqué.e.s. C'est pour ces raisons que Maggie et moi n'avons pas voulu insister sur l'identité des participant.e.s dans la conceptualisation de l'installation, bien que leurs voix soient reconnaissables pour les autres membres de la communauté ou que leurs prénoms soient parfois énoncés dans les enregistrements. Le médium audio procure une forte impression de proximité tout en préservant le contrôle des protagonistes sur leur identité physique et ceci constituait un grand avantage dans le contexte de cette installation. Enfin, en mélangeant leurs récits et en m'efforçant de ne pas trop mettre l'accent sur une personnalité plus qu'une autre, j'ai tenté de rendre compte des parentés entre leurs parcours pourtant bien différents et du fort sentiment de solidarité qui se dégage à leur contact.

Les personnes enregistrées m'avaient d'abord été suggérées par Maggie ou par d'autres membres du personnel des services à la communauté du Chic Resto et j'avais déjà pu côtoyer certaines d'entre elles à travers mon implication dans les activités de l'organisme. Des affiches avaient également été disposées pour inviter toute personne intéressée à aller chercher de l'information et à s'inscrire à la réception. Il était primordial que je laisse le personnel me guider dans l'approche des participant.e.s, car leur connaissance de la situation des habitué.e.s leur permettait de mieux juger si cette expérience allait être stimulante ou si cela pouvait leur causer une source de stress. Également, chaque participant.e a signé un formulaire de consentement, qui a été lu à celles et ceux qui éprouvaient de la difficulté à lire.[4] Les enregistrements des conversations se sont répartis durant six semaines. Parfois je les rencontrais seul.e à seule; d'autres fois nous étions à plusieurs, autour d'un café ou d'un repas. Différents types de personnalités nécessitent de varier les approches: certain.e.s préfèrent une rencontre intime, alors que d'autres trouvent que les rencontres en groupe stimulent mieux leur parole.

[4] Ce formulaire soulignait leur droit de soustraire leur consentement en tout temps et de mettre un terme à leur participation. Il spécifiait également que le matériel audio serait potentiellement utilisé à des fins de diffusion dans des conférences ou des publications académiques ou artistiques.

J'ai envisagé les enregistrements comme étant des conversations auxquelles je participais plutôt que des entrevues que j'aurais dirigées. J'écoutais beaucoup: les participant.e.s en avaient long à dire. Je les encourageais à aborder les sujets qui les préoccupaient même si ceux-ci déviaient de la thématique de la socialisation lors des repas: le manque de ressources pour les personnes à mobilité réduite, l'impact sur les organismes communautaires de la rhétorique néolibérale sur l'austérité, les difficultés d'une jeunesse passée en familles d'accueil, et cetéra. Ces déviations sont demeurées présentes dans la trame sonore finale et elles ont dirigées ma façon de regrouper les extraits par thèmes au montage. Dans le souci de partager avec elles et eux le risque de vulnérabilité, j'ai exposé dans la trame un court moment de mon récit personnel.

Depuis que le critique d'art Nicolas Bourriaud (1998) a introduit le terme «art relationnel» pour décrire «un ensemble de pratiques artistiques qui prennent comme point de départ théorique et pratique l'ensemble des relations humaines et leur contexte social, plutôt qu'un espace autonome et privatif» (p.128), les oeuvres d'art à considérations sociales ont soulevé de multiples critiques.[5] Ces dernières années à Montréal, plusieurs artistes ont également pris ce tournant social en inscrivant leur pratique dans une démarche se voulant communautaire, certain.e.s amalgamant leur processus de création au travail des anthropologues.[6] Comme le soulignait le critique d'art Hal Foster dans son texte phare «The Artist as Ethnographer?» (1995), la position des artistes se réclamant d'une méthodologie anthropologique est souvent problématique, car les conditions de production et les objectifs des artistes diffèrent considérablement de ceux des anthropologues. Plusieurs de ces artistes, ou les institutions artistiques qui les programment, ont tendance à capitaliser sur «l'authenticité» de leurs participant.e.s et sur la portée sociale de leurs productions dans le but de servir leur autopromotion ou de cadrer avec certains programmes de subventions. Afin d'éviter certains de ces écueils, je tiens à préciser que je ne représentais aucune institution (universitaire, artistique ou gouvernementale) et je ne recueillais pas de données de façon formelle. Je ne travaillais pas pour le Chic Resto Pop et j'avais convenu avec son personnel du fait que les témoignages ne serviraient pas à faire la promotion de l'organisme.[7]

[5] Notamment de la part de la critique d'art Claire Bishop: dans «Antagonism and Relational Aesthetics» (2004), Bishop accuse les pratiques en art relationnel de contribuer à l'économie d'expérience en programmant les interactions sociales de ses participant.e.s. J'ai également emprunté le terme «tournant social» à son article éponyme: «The Social Turn: Collaboration and its Discontent.» (2006).

[6] Par exemple, sur le site Web du Théâtre Aux Écuries, le texte descriptif du «docu-fiction» *Habiter Villeray* (2017) traite du «travail anthropologique mené par Marcelle Dubois», une auteure de théâtre. (Aux Écuries, 2017)

[7] Le Chic Resto Pop m'a toutefois invitée en novembre 2015 à présenter le concept de l'installation dans le cadre d'ÉvalPop, un séminaire en sécurité alimentaire qui s'adressait aux organismes communautaires afin que ceux-ci puissent se partager leurs nouvelles pratiques. J'ai accepté de participer à cet événement avec Maggie Lebeau, car je considérais qu'il importait de partager notre expérience avec ce milieu et j'y voyais l'occasion de pouvoir discuter du potentiel des coopérations entre les artistes et les acteurs-trices du milieu communautaire.

Si les méthodes en anthropologie ont influencé mon éthique de travail dans l'approche de cette communauté, je ne poursuivais pas une recherche académique et je ne cherchais pas la production d'une exposition comme finalité. Avec *Invité.e.s invisibles*, je cherchais plutôt à produire une expérience à la fois sociale et esthétique avec cette communauté. Une fois sortie de son contexte d'écoute *in situ* et *in socius*, la trame sonore n'offrirait que les traces des rencontres qui se sont formées sur place. La présence «invisible» des protagonistes de la trame sonore permettait différent niveaux de socialisation: une présence virtuelle pour les gens pour qui un face-à-face serait trop confrontant, un prétexte pour socialiser pour celles et ceux qui auraient besoin d'aide pour casser la glace. Ainsi, je positionnerais la nature de cette intervention artistique comme celle d'une oeuvre socialement engagée, détournant l'isolement qu'un dispositif d'écouteurs peut supposer afin de proposer un modèle alternatif d'interactions sociales. Le processus de création s'est nourri d'une collaboration avec la communauté du Chic Resto et d'une immersion dans la vie communautaire.

Lors d'un événement de lancement de l'installation en août 2015, que Maggie et moi avions organisé avec la communauté au Chic Resto, nous avons pu être témoins de quelques expériences de socialisation que ce dispositif simple avait provoquées. Mon intention ici n'est pas de débattre sur l'efficacité d'un tel dispositif, mais de rendre compte de mes observations au premier degré des utilisateurs-trices des écouteurs.[8] Certain.e.s participant.e.s avaient déjà pu tisser des liens à travers une rencontre que j'avais organisée. Une employée m'avait rapporté que deux participants, qui s'étaient rencontrés lors du café-discussion que j'avais organisé, mangeaient maintenant ensemble alors qu'ils s'assoyaient d'habitude toujours seuls. Le soir du lancement, en distribuant des écouteurs à deux hommes qui mangeaient côte à côte sans croiser le regard, j'ai pu voir qu'ils s'entretenaient ensemble à la suite de l'écoute de la trame. Je suis allée à leur rencontre et l'un d'eux m'a confié qu'il parlait rarement aux gens autour de lui, mais que la trame sonore lui avait donné envie de discuter avec son voisin. En me remettant leurs casques, ils s'excusaient tous deux de ne pas prendre le temps de finir d'écouter la trame, car ils préféraient continuer de se parler. Les participant.e.s que j'avais enregistré.e.s étaient presque tous présent.e.s cette journée là. L'un d'eux était si fier du résultat qu'il a écouté la trame de trente minutes deux fois de suite. Je suis partie alors que les écouteurs circulaient encore. J'ai remarqué une femme qui fumait seule sur le parvis de l'entrée et qui souriait doucement tout en écoutant la trame. Cette image s'est imprégnée dans mon imaginaire: une femme en apparence solitaire, mais qui sourit grâce à des rencontres virtuelles.

[8] Dans «The Accident and the Account: Toward a Taxonomy of Spectatorial Witness in Theatre and Performance Studies» (2009), Caroline Wake traite des différentes positions des témoins de la performance en se servant de la rhétorique de la scène d'accident de Berthold Brecht. Elle y explique qu'un.e spectateur-trice de premier degré rapporte son témoignage dans l'optique de développer une meilleure compréhension de l'expérience vécue de l'oeuvre; ceci inclut dans le cas présent les interactions sociales provoquées par l'installation.

La pérennité de cette installation est précaire. Bien que je l'aie conçue comme une intervention artistique permanente, disponible en tout temps à l'accueil, le manque de ressources financières et le fort roulement du personnel de cet organisme de charité rendent parfois le suivi difficile et l'installation peut momentanément sombrer dans l'oubli. Malgré la simplicité du dispositif, ces appareils nécessitent tout de même un peu de médiation avec les gens qui sont peu familiers-ères avec la technologie. Deux employées se sont succédées à l'accueil, puis Maggie a quitté son poste à l'hiver 2016. Mes communications n'étaient pas fluides avec la nouvelle coordonnatrice, qui semblait surchargée. Dans un climat politique de soi-disante austérité économique, où les organismes caritatifs voient leurs fonds amputés, je ne voulais pas leur rajouter une couche administrative, alors j'ai patienté. Il m'importait de respecter leur rythme et le calendrier de leurs priorités. En même temps, je me questionnais sur la viabilité de ce type projet lorsque les principales ambassadrices quittaient leur emploi. Peut-être que la nouvelle coordonnatrice ne s'intéressait tout simplement pas à cette installation. Le fait que Maggie avait grandement contribué à l'idéation du projet l'avait poussée à soutenir sa pérennité. Cependant, à l'automne 2016, la nouvelle coordonnatrice m'a recontactée pour que je vienne lui montrer comment l'installation et les casques d'écoute fonctionnaient. L'intérêt pour cette installation avait survécu, pour l'instant.

L'effet provoqué par le montage des différentes situations d'enregistrement dresse un portrait dynamique des ambiances variées au Chic Resto Pop: parfois calmes, d'autre fois mouvementées. Afin de bien rendre compte de l'énergie du lieu, l'environnement sonore est bien présent dans la trame: claquements d'ustensiles que l'on range, enfants qui jouent ou pleurent, rires des tables avoisinantes, interruption par une employée qui chante en travaillant ou qui vient remplir les tasses à café, etc. L'espace est grand, ouvert et éclairé, les rayons filtrent à travers les fenêtres qui ont troqué leurs vitraux contre plus de clarté et de transparence. Le choc des échelles, des petits loyers de «un et demi» pour certain.e.s vers les hauts plafonds de l'ancienne église, rappelle que l'expérience de l'espace est parfois tributaire du portefeuille de chacun.e. Lors de l'écoute de ce court extrait de la trame, vous entendrez les usagers-ères de ce lieu s'exprimer sur l'effet que le Chic Resto a sur leur vie. Au-delà de simplement subvenir au besoin de se nourrir à petit prix, cet environnement décloisonne le cadre de leur quotidien et ouvre leurs horizons en les exposant à l'altérité. Cela ne s'effectue pas toujours sans difficulté, comme certains le notent dans l'extrait. Je vous invite à vous projeter en train de siroter un café au Chic Resto Pop pendant que vous écouterez l'extrait, encore mieux si vous le faites avec une vraie boisson chaude sous la main.

Si vous êtes intéressé.e.s à écouter la trame en entier, vous pouvez le faire à cet endroit: https://melbinette.wordpress.com/solo/invite-e-s-invisibles/

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Audio-Visual Work

Invisible guests: A sound installation in a Montréal community restaurant

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Abstract

Invité.e.s invisibles (*Invisible Guests*) is a sound installation created in collaboration with a community restaurant that provides affordable meals to a disadvantaged population in Hochelaga-Maisonneuve, a former industrial neighbourhood in Montreal. Recorded conversations were made available for patrons who were eating alone, with the hope of breaking the social isolation experienced by some. By listening to the conversations on headphones as they were eating, patrons could virtually encounter other members of the community and engage with their concerns through hearing their stories. This is a first step toward group socialization for those who find it hard to communicate in person, and yet are eager to "share" their meals. This paper sketches how this sound installation came to be, and includes an audio extract.

Keywords: food insecurity; civic engagement; community wellness; sound art; art installation; community-based practices; relational art

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Artist statement

Hochelaga-Maisonneuve is a post-industrial Montréal neighbourhood with a high rate of unemployment and a large number of residents living with constant financial insecurity. As an artist who has called this neighbourhood home for the past decade, I have engaged with my living environment in many ways, from my regular *flâneries* to my participation in art interventions and small acts of political resistance. In 2014, the food studies artist-researcher Natalie Doonan offered technical, artistic and critical support from the SensoriuM,[1] a performance art platform that she curates, to produce a food-related community art project. With this instigation, I got in touch with Maggie Lebeau, who is in charge of community services at Le Chic Resto Pop, a charity/community restaurant fighting food insecurity and supporting social reintegration in Hochelaga. Since I had just moved a few blocks away and wanted to volunteer there, I submitted this idea to her: *Invisible Guests*, a sound installation that addresses the subject of eating in restaurants as a primary social need for people living alone in a situation of poverty.

I knew Le Chic Resto Pop by reputation, in part because of the documentary *Au Chic Resto* (Michel & Rached, 1990), hence I was familiar with its active contributions to the social cohesion of this neighbourhood. Located in a former church, this charity was founded in 1984 by a group of people on social assistance who wanted to improve their life conditions and, by extension, those of their neighbours. Le Chic Resto sells meals at very low cost; feeds the pupils of École Baril, a nearby primary education school; offers cooking workshops and training for restaurant work; and hosts educational activities about food and household budget management. In addition to providing an inclusive space for people of varied backgrounds (students, low-income workers, people on social or unemployment assistance, new immigrants, artists, et cetera), this charity succeeds in creating a sense of belonging for those who have too often felt trampled on in civil society, by acknowledging their place within the city. Through my encounters with members of this community, I have discovered a support network that fosters values such as sharing, listening and acceptance. This reinforces the testimonies that I have heard over the years, including those of my mother, who worked for 16 years as a child psychologist at École Baril.

What I had not anticipated was the challenge that some patrons of Le Chic Resto face in beating loneliness, even within a context of social inclusion such as this one. On the evening that we met, Maggie pointed out how many patrons sit on their own, scattered around the restaurant, clearing their plates in silence. While some want to be alone, socializing represents an enormous challenge for others. This new realization

[1] Natalie Doonan curates "artists whose work engages critically and playfully with food and consumption. (...) The SensoriuM presents participatory art performances with the aim of generating conversation." (le SensoriuM, n.d.). Her support for this project included training in audio editing, conversation throughout its development, and a publication about the work that is available here: http://www.lesensorium.com/2012/06/catalogue-season-4.html

prompted me to adapt my initial proposal for *Invisible Guests*. I decided that instead of simply meditating on the importance of socializing as a collateral aspect of food insecurity interventions, I wanted to create an installation that would also encourage patrons to meet other members of the community.

The final format of this artistic intervention is a thirty-minute soundtrack made up of conversations that I recorded with patrons of the Chic Resto community. The track is meant to be listened to during mealtime using headphones that can be borrowed at the reception desk. My aim is to create a positive impact for those who find it hard to communicate in person due to issues such as language impairment. The recordings came about after several months of volunteering at Le Chic Resto Pop, which was mediated by Maggie.

My main purpose is neither to produce an ethnographic document that offers a portrait of this community, nor is it to provide a new tool for social workers or Le Chic Resto's employees. The purpose of this sound installation is rather to create a virtual space of communion, one that remains inclusive for those who have a tendency to get isolated because they find person-to-person exchanges too challenging.

The term *sound installation* is generally employed to describe an artistic use of a sound device in the context of an immersive environment (in this case, a community restaurant). The combined explorations of food and sound in art practices are not unusual. A few weeks before launching *Invisible Guests* at Le Chic Resto in August 2015, in a fortuitous synchronicity a Montréal design collective named Daily Tous Les Jours produced *Food Sessions*, another intervention that involved listening to a soundtrack throughout mealtime. This installation was presented at C2MTL, a conference about commerce and creativity organized by the advertising agency Sid Lee. Participants were invited to settle down at a table and listen to a "guided meditation" about "ways to eat with all their senses" (Daily Tous Les Jours, n.d.) on headphones while they ate. If both installations are similar in their form, their contexts of production, the content of their recordings and their creative processes have little in common. The most striking difference between the two is their target audience. In the case of *Food Sessions,* it was a privileged audience, savvy of new media arts, who could afford to pay a single entry pass worth between $2000-3000.[2] These rates make the piece accessible only to the employees of well-established companies that can cover their admission fees. The event hence capitalizes on the artists' creativity to promote the supposedly avant-garde character of its elitist networking. *Invisible Guests,* for its part, engaged with the community of a disadvantaged neighbourhood and the installation aimed at fostering social cohesion and a feeling of belonging for the patrons, new and regular. It was accessible for free at the reception desk and the production of the recordings involved the participation of the community.

[2] Daily Tous Les Jours travelled this installation in other contexts, notably for another art audience at the Festival du Nouveau Cinéma, and in other cities such as New York, San Francisco and Biarritz.

The fruitful combination of food and storytelling does not necessarily require technology and has often been used in art interventions to highlight the complexity of the relations between social and political actors within communities. For instance, Marije Vogelzang created *Eat, Love, Budapest* (2011), an installation about the gesture of feeding someone, with the aim of fighting prejudices against Roma people, a European ethnic minority. This installation isolated each spectator behind canvas tents where they were fed by Roma women who recounted their food-related memories. The tents revealed only the women's hands, to put an emphasis on their voices and the gesture of feeding. Vogelzang intended to create a connection that goes beyond the preconceived ideas sometimes triggered by physical differences: "To create understanding for gypsy people, I think to use food is one thing but then to be fed by someone is another thing. (...) I think the idea of feeding is very intimate: a mother feeds her child with food but also with love at the same time. I thought about making this installation where people are getting physically fed with food but also with stories" (Marije Vogelsang, n.d.). She used food and storytelling to foster a feeling of intimacy between two strangers, to subvert social divides and social norms. Likewise, *Invisible Guests* conceals its protagonists' physical identities to favour an intimate connection through the sound of voices.

However, here again the contexts for the presentation of these two installations were dissimilar: *Eat, Love, Budapest* took place in an art gallery and appealed to an art audience that is versed in this kind of experience, composed of people who most probably have very different backgrounds than those of the Roma women. The tents even created a palpable boundary between the women and their spectators, as well as with the artist who remained distant from the performance, orchestrating it from above. *Eat, Love, Budapest* aimed to connect people of very different backgrounds. On the other hand, Natalie Doonan and I agreed after a few discussions that it wouldn't be ethical to bring an art audience into Le Chic Resto's environment. I wanted this work to remain a creation by and for Le Chic Resto's community and I knew from my conversations with Maggie Lebeau that she would not have allowed it in any other way.[3] We didn't want to turn this experience into a showcase of Le Chic Resto's patrons for a visiting art audience. Hence I did not promote this installation anywhere else than within Le Chic Resto's network, nor did I engage with a promotion of the event in the media. My participation with the SensoriuM was rather to use the platform as a space within which to think critically about the work that I was doing in that community, through conversations and a publication that I wrote for its 2015 catalogue.

In the summer of 2014, I was experiencing a period of instability: I had just graduated from an interdisciplinary Masters of Art degree, I was unemployed and I was

[3] Some may argue that since I was the one editing the recordings, I wasn't giving full agency to the participants to enable them choose the content of the track. I chose not to make this project about technology education because first, I was myself in the process of learning how to use the editing software, so I did not feel comfortable enough to teach it to others. Second, this would have excluded the participants who were reluctant to learn about technology but were eager to find social connections.

going through a burnout. Isolated from academia, I was seeking a safe haven where I could heal from my stress and start to thrive again. Given these circumstances, I didn't consider myself an outsider within Le Chic Resto's community: like many of its patrons, I was withdrawn from my professional life and I was attracted to Le Chic Resto because it offered a place for social acceptance where I did not have to define myself according to my social status or my employability. I approached this project as a relational experiment that would provoke encounters and trigger discussions. It offered community members, myself included, a chance to break out of isolation. My participation in this community life was a way for me to put down roots and find purpose in my neighbourhood.

When I shared my desire to create this sound installation with Maggie Lebeau she became immediately involved in the conceptualization of the project and provided insights on the internal dynamics and the needs of this community. Our relationship quickly shifted into a collaborative one, which unfolded over the span of a year. Maggie facilitated my integration within this community, inviting me to cooking and crafting workshops, involving me with the distribution of fruit and vegetable baskets, and helping me to organize a "café-discussion" that would invite patrons to join me in reflecting upon the project's themes: socializing in a restaurant; chosen or forced solitude; the challenges of maintaining a social lifestyle when most outings are out of your budget reach. Throughout these encounters, I was able to create connections with regular patrons and to familiarize myself with their diverse backgrounds.

I had started off with the idea of creating a different track with a single voice for each pair of headphones, enabling encounters with one virtual individual at a time. In this way I was hoping to facilitate a feeling of intimacy between the listeners and the story of the recorded person. However, Maggie informed me of a particular dynamic within the community: the popularity contest. Reporters often seek out Le Chic Resto's patrons for their news stories, which sometimes has the negative effect of fostering a star system amongst the regulars. We hence decided to proceed with only one edited track, presenting different voices, to bring the group into focus rather than highlighting a few individuals. Without excluding patrons whose eloquence is often solicited, we made sure that we would include others who are more rarely asked to contribute. For this reason, Maggie and I didn't want the form of the installation to insist on the participants' identities, although other members of the community can easily recognize their voices and their first names can sometimes be heard in the conversations on the soundtrack. Audio as a medium provides a powerful feeling of proximity without compromising the physical identity of participants. In the context of this installation this was a great asset. Lastly, by mixing their stories and making an effort not to put too much emphasis on one participant over the others, I attempted to account for the kinship between their very different trajectories. I tried to convey the strong sense of solidarity that comes from being in contact with them.

Maggie and other staff members of Le Chic Resto's community services made suggestions for which participants to approach for the project and I had already met with some of them through my participation in the organization's activities. We put up posters to invite anyone interested in the project to get information and register at the reception desk. It was essential that I let the staff guide me in the selection of participants, because their knowledge of the regulars' personal situations allowed them to discern whether the experience would benefit them or if it would become a source of stress. Additionally, each participant signed a consent form, which I read to those who struggled with reading.[4] I recorded over a period of six weeks. Sometimes I would meet community-members one-on-one; other times we would be many, assembling around coffee or a meal. Different personality types call for different approaches: some prefer intimate encounters; others thrive during group meetings.

I considered the recordings like actual conversations in which I participated, as opposed to directed interviews. I listened a lot: the participants had many things they wanted to share. I encouraged them to address issues that mattered to them, even if these fell outside the range of the project's broader theme of socializing during mealtime. Conversation topics varied from the lack of resources for people living with a disability, to the impact of a neoliberal rhetoric of austerity on community-based organizations, and the struggles inherited from a youth spent in foster families, et cetera. These deviations remain present in the final version of the soundtrack and they inspired how I grouped the excerpts thematically throughout the editing process. I also left exposed in the soundtrack a short moment during which I open up about my own story, because I was concerned with sharing the risk of vulnerability with other community members.

Since art critic Nicolas Bourriaud (1998) introduced the term *relational art* to describe "a set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space" (p.113), socially-oriented artworks have raised many concerns.[5] For these past years, many artists in Montreal have responded to this social turn by inscribing their art practice in a somewhat community-engaged context, some conflating their creative process with anthropological methods.[6] As underscored by art critic Hal Foster in his key article, “The Artist as Ethnographer?” (1995), the position of artists who claim to use anthropological methodology is often conflictual, because the conditions of production and the final objectives of artists remain largely different from

[4] This form reaffirmed their right to withdraw their consent at any time and to end their participation. It specified that the audio work could potentially be used for dissemination in conferences or publications, in academic or artistic contexts.

[5] Notably from art critic Claire Bishop: in "Antagonism and Relational Aesthetics" (2004), Bishop accuses relational art practices of contributing to the experience economy, by programming the social interactions of its participants. I also borrow the term *social turn* from her eponymous article: "The Social Turn: Collaboration and its Discontent." (2006).

[6] For instance, the descriptive of a “docu-fiction” titled *Habiter Villeray* on Théâtre Aux Écuries' website, (2017) mentions the "anthropological work lead by Marcelle Dubois", a playwright. (Aux Écuries, 2017)

those of anthropologists. Many artists, or the artistic institutions that program them, have a tendency to capitalize on the 'authenticity' of their participants and on the production's social reach to serve self-promotion or fit the demands of grant applications. To avoid some of those pitfalls, I want to stress here that I was not working for any institution (artistic, academic or governmental), nor was I formally gathering data. I was not working for Le Chic Resto, and we had agreed upon the fact that the recordings wouldn't serve the promotion of the organization.[7]

If anthropological methods have informed my work ethic and my way of approaching this community, I was not conducting research, and exhibition wasn't the purpose of this installation. With *Invisible Guests*, I was rather attempting to produce an experience that is both social and aesthetic with a community. Once withdrawn from its listening context, *in situ* and *in socius*, the soundtrack only appears as traces of social encounters that happened on site. The "invisible" presence of the soundtrack's protagonists allowed different levels of socializing: a virtual presence for people for whom one-to-one encounters are too challenging, an excuse for socializing for those who could use the help of an icebreaker. Hence I would position the nature of this artistic intervention as a socially engaged work, subverting the supposedly isolating effect of headphones to create an alternative model for social interactions. This was made possible because the creative process thrived on a collaboration with Le Chic Resto's community and on an immersion in community life.

At the launch event for the installation, organized in August 2015 by Maggie and me in collaboration with Le Chic Resto's community, we witnessed a few experiences of socialization that seemed triggered by the potential of this simple device. My intent here is not to debate whether or not this installation is effective, but rather to account for my first-hand observations of those using the headphones.[8] A few of the participants had already connected with each other during a previous gathering that I had organized. For instance, a Chic Resto employee mentioned to me that two participants who met at the "café-discussion" were now regularly eating together, whereas they used to sit on their own. During the launch event, I noticed two men eating side by side while avoiding any eye contact, so I decided to give them the headphones. When I took another look at them later, they were having a chat. When I got closer, one of them handed me back the two pairs of headphones, apologizing for no longer listening to the track, explaining that he

[7] However, Le Chic Resto Pop invited me in November 2015 to present the concept of the installation at ÉvalPop, a conference for charities fighting food insecurity that aimed at sharing practices. I accepted to participate with Maggie Lebeau in this event because I considered that it was important to share our experience with actors from that milieu and to discuss the potential of collaborations between artists and community-based organisations.

[8] In "The Accident and the Account: Toward a Taxonomy of Spectatorial Witness in Theatre and Performance Studies" (2009), Caroline Wake discusses different witnessing positions for spectators using the rhetoric of Berthold Brecht's accident scene. According to her, a primary witness reports his/her testimony in the hope to develop a better understanding of the lived experience of the performance, which includes in the current case the social interactions provoked by the installation.

would rather talk to his neighbour. He mentioned that he wouldn't usually talk to other patrons when he came to Le Chic, but that the soundtrack put him in the right mood for talking. Most of the participants that I had recorded were present at the event. One of them was so proud of the result that he listened to the soundtrack twice in a row. When I left, the headphones were still circulating. I noticed a woman wearing them, smoking alone at the restaurant's threshold and gently smiling while she listened to the track. Her image remains printed in my mind: an apparently lonesome woman smiling because of virtual encounters.

However, the sustainability of this installation is precarious. Despite the fact that I conceived it as a permanent installation, available whenever the reception desk is open, the lack of financial resources and the high rate of staff turnover at this charity made it difficult to follow up, and the installation momentarily threatens to sink into oblivion. However simple its operation, it still demands a bit of mediation especially for those who are not familiar with technology. Two employees at the reception desk went on leave and Maggie left her position during the winter of 2016. My communications were not fluid with the new coordinator, who seemed overwhelmed. In this political climate of so-called economic austerity during which charities' funds have shrunk, I didn't want to burden them with another administrative task; so I waited. Respecting their rhythm and following the calendar of their priorities mattered to me. At the same time I questioned the sustainability of this kind of project once its best ambassadors had quit their jobs. Perhaps the new coordinator simply did not find any interest in this installation. The fact that Maggie had actively contributed to the concept of this project motivated her to sustain it. Nevertheless, the new coordinator got in touch again during the fall of 2016 and asked me to come show her how the headphones and the installation work. Interest in this installation thus continues to survive.

The different contexts in which I did the recordings create a dynamic portrait of the ever-changing atmosphere that one encounters at Le Chic Resto Pop: at times peaceful, other times quite hectic. To help convey the energy arising from this site, I did not conceal the soundscape in the soundtrack: clinking cutlery, children playing or crying, laughter coming from the surrounding tables, interruption from a singing employee who came to pour some more coffee, et cetera. The common area at Le Chic Resto is open, spacious and bright, with rays of light filtering through the windows that no longer support stained glass; a mood that is in line with the charity’s aim to foster transparency and lightness. The difference in scale, from a small bachelor rental for some to the high ceilings of a former church, is a reminder that the experience of space is often dependent upon one’s budget.

While listening to the short excerpt of the full soundtrack that accompanies this article, you will hear the users of this space express how Le Chic Resto impacts their lives. This charity goes beyond the single task of feeding a disadvantaged population; it provides a social environment that opens up the everyday life of its patrons by exposing

them to otherness and new ideas. This doesn't always come without friction, as mentioned by some of them here. While you listen, please imagine that you are sipping coffee in Le Chic Resto's environment, and it would be even better if you can get a hold of a hot, and very real beverage.

If you are interested in listening to the entire track, please visit: https://melbinette.wordpress.com/solo/invite-e-s-invisibles/

Please note that the track is only in French, because it was the mother tongue of all the participants.

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Book Review

Conversations in Food Studies

Colin R. Anderson, Jennifer Brady, and Charles Z. Levkoe (Editors)
University of Manitoba Press, 2016: 312 pages

Review by Wayne Roberts, PhD

This inspiring collection of essays by mostly young and freshly-minted scholars takes me back 50 years, to my own misspent youth during the 1960s and '70s, when I was part of a social history gang eager to "rewrite history from the bottom up". We wanted to ask new questions and use new methods, sources, and insights to study groups that had been unjustly ignored and marginalized, and to make what we learned available and accessible to everyday people. Although I left the university milieu to work for various social movements, and though I often wince at the grandiose and harsh accusations we made as well as the utter lack of experience and street smarts we imposed on our cause, I am proud of what that generation of labour and women's studies pioneers accomplished.

I am delighted to find this book shows signs of the same rebellious, inspired, and collaborative spirit so eager to "break on through to the other side" (*The Doors*, 1967) of food issues. I feel uplifted to think of what a new generation of scholars, activists, practitioners, and actionists will be able to accomplish over their lifetime. As philanthro-capitalist Bill Gates says, we too often overestimate what we can do over two years, but underestimate what we can do over ten. That's even more true when compared with what can be accomplished over a 30 or 40-year career. Mustafa Koc's introduction wisely advises people to buy this book as a collector's item, predicting that it will increase in value over time. Although every essay in the collection provided fresh insights for me, I will limit my comments to two of the many excellent themes in this book.

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Command performativity

Nutritionism[1]—the assumption and doctrine that food should be judged almost entirely by the nutrients it provides to humans—is, in my view, pivotal to much of what's wrong with the dominant food system in the Global North. The essay in the *Conversations* collection on *performativity*—a regrettably multisyllabic word—gives us tools to challenge dominant nutritionist assumptions, even more effectively than the multisyllabic word I have tried to popularize: *multi-functionalism*. The latter concept holds that farmers (and implicitly other food producers as well) fulfill many positive functions over and above providing low-cost food *goods* for the population—valued services such as storing carbon underground, creating scenic environments that attract tourists, supporting rural communities, and so on. This approach can reframe all aspects of food production as part of the goods and services economy, not just part of the commodity economy. The approach also reframes these positives as *positive externalities*, which governments would be silly NOT to subsidize, because the support generates so many different services at a such a low cost. This approach builds the public interest and business case for public support of a wide range of food activities that produce added and shared value.

Seeing food in terms of *performativity* does much more, and much better, when it comes to reframing the whole and wholesome food experience. It brings into view of our conscious attention all sorts of aspects that contribute to enjoying and optimizing benefits from healthy food: the music, table setting, room decoration, conviviality, sharing, toasts, and gratitude. This is what good food advocates need to work on: getting their performativity into shape, moving up in the world to foods being dressed in smart casual.

Food performativity can up our game a lot. BP (Before Performativity), public health advocates moved to educate people, assuming that learning the right thing to do would automatically lead to doing the right thing, and later to nudge people toward healthy food decisions. The nudge is designed to change behavior by changing the price, labeling, and location of good and bad foods. Both education and nudging are based on an assumption that today's eater is a direct descendant of *homo economicus*—a rational, calculating individual who needs the right environmental prod to see food decisions in their true nutritious light. But AP (After Performativity), we have a much wider palette to work with, to increase the range of goodness of food and to make it more presentable to people who might make other decisions if performativity did not yet tip the balance. The term opens a host of new opportunities for good food promoters.

[1] A word first coined by Australian scholar Gyorgy Scrinis in *Nutritionism: The Science and Politics of Dietary Advice*, Columbia University Press, 2013.

Theory is worth practicing

The second game-changing insight I got from the book came from several essays that refer to "practice theory" and "community of practice". At the Toronto Food Policy Council (2000-2010), I felt hemmed in by the expectation that the Council worked on policy, and tried to steer our everyday work towards programs. Here's the difference in a nutshell: a policy moves quickly from an unread media release to a place in the library where the dust has already been pre-prepared, while a program puts policy into action with clients, a budget, staff, a manager, and ongoing public scrutiny and political accountability.

As I interpret the essays on food waste and public education that reference practice theory, the concept of practice goes a whole step further. I see it metaphorically in terms of the time when everyone was taught to brush their teeth after every meal by brushing aggressively up and down and side to side. Only after a lot of pain and huge dental bills did we learn the right practice: brushing away from the gum to protect the gums, flossing between the teeth to get all the hidden stuff. Doing food right is a matter of the entire population learning a huge range of practices that protect us from forces that are often hidden. Practice is policy that has been converted into a program that has been converted into a practice. Practice is the highest form of theory, we used to say in the old leftie days, and who would have guessed that we would one day apply that maxim to food?

Practice is especially important for food because—unlike energy, transportation, housing, and other sectors of the economy—food mainly exists in the private realm, and cannot be fixed by government ownership or regulatory policy alone, without an active and creative role being played by the population at large. It means that good food advocates should design interventions that work at changing practices: organizing for fair trade churches, workplaces, and cities; sponsoring Meatless Mondays; offering healthy snacks at meetings; working for healthy school meals that engage students; and hosting a Slow Food convivial. Let a thousand practices bloom!

I do want to point out a few areas that are grist for the mill of subsequent work. For example, *neoliberalism* is likely the most repeated word in the book, and is almost always used as an academic cussword. The younger generation, unlike mine, has known no other world and has only breathed this hegemonically-charged air; therefore they do not always have the training to see how hegemonic it really is. Very few of the essays deal with public policy initiatives. Many of the essayists are quick to judge neoliberal food activists who neglect to honour social diversity and equity; but I saw little effort to understand the powerful constraints on civil society organizations that operate with financial insecurity—as a direct result of neoliberalism. There is also little reference to the influence of the public sphere, commons, or working people and their institutions on how food is done and performed.

I have always hoped that the Canadian food movement would ripen in the manner of its first blooming: as a co-production of lay intellectuals and civil society leaders who first brought food studies to public attention, including public health practitioners, faith activists, social entrepreneurs, and many others. Academics did not cultivate this field, and they should not own

it now, by speaking and writing in language that disenfranchises the people who gave birth to the food movement and who will be essential to its success. These are not shortcomings of the authors or editors, but they might suggest topics and projects that need to be worked on. I am patient about this, because this volume confirms that the rising generation of academic actionists is more than ready for the opportunities and challenges ahead.

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Book Review

Catherine Parr Traill's The Female Emigrant's Guide: Cooking with a Canadian Classic

Nathalie Cooke and Fiona Lucas (Editors)
McGill-Queen's University Press, 2017: 608 pages

Reviewed by Anita Stewart

What a privilege it is to review *Catherine Parr Traill's The Female Emigrant's Guide: Cooking with a Canadian Classic*. Based on broadly annotated recipes published in 1855, this historical treasure trove of food sourcing and cooking has been reworked for modern readers by editors Nathalie Cooke and Fiona Lucas. These authors have been deeply immersed in Canadian culinary history for most of their careers, dedicated to making their findings both accurate and interesting. With this material, I could imagine them setting out together on a journey of discovery, much like Parr Traill and her family did when they sailed from the relative luxury of their "sylvan" Suffolk homeland in 1832 to become bush farmers in Duoro Township north of the hamlet of Peterborough. Our intrepid editors ended up with a Canadian culinary treatise that every curious home cook or chef should read.

Cooke and Lucas have skillfully organized the book to lure us in, guiding us through the opening sections from a thoughtful biography of Catherine and her family to a commentary on her publishing woes (which do not sound much different than those experienced by authors in modern Canada). Rather than garnering sponsorships to help with photos and testing of recipes, Catherine had to sell subscriptions to help fund her publication. She rarely received royalties, and was swindled by her "agent", Reverend Henry Payne Hope. She was a farm wife, a mother of nine children, and as an author she simply did not have time to fuss with "scoundrels".

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Putting Catherine's life (1802 – 1899) into the context of the time is one of the greatest contributions that these editors make. We become "time travelers", as they put it, with the book serving as an explorer's toolkit.

> We address this new edition of Traill's Guide to those curious to do more than just read about history. We speak to those who want to reach out and experience history; to taste, touch, feel and smell a nineteenth century backwoods kitchen; to roll up their sleeves and actively participate in recreating the world of women who settled in the Americas and cooked in the backwoods as Catherine Parr Traill did from 1832 to 1854" (xviii).

In a chapter entitled "Editors' Notes", Lucas and Cooke explain how they studiously poured over the original edition inscribed with Parr Traill's marginalia to ensure that her voice was not lost. Then comes the *Guide* itself, imbued with counsel on just who should immigrate to Canada: forget it if you are indolent or intemperate. Canada was not for the faint of heart. There are notes on gardening, farming, medicinal advice, and what wild plants to use—information largely gleaned from the First Nations people. Her commentary speaks to the culinary geography and the naively-entitled social landscape of early Canada.

> The Peach orchards begin to be cultivated westward of Toronto, where all kinds of fruit grow and flourish… The low bush cranberry is not to be found in your clearings or in the woods: it is peculiar to low sandy marshes, near lakes and river-flats. The Indians are the cranberry gatherers: they will trade them for old clothes, pork or flour." (p.86)

There are recipes, some which she apparently lifted from other tomes. Survival in this land depended upon both flexibility and creativity—there were no copyright laws.

From apples to yeast, there was something to learn. If you wanted apples for winter—and this was one tree fruit from Europe that really *did* flourish—she coached you to plant "the comforts of an orchard", and included advice on how to protect the new trees from the constant intrusion of wildlife, and which varieties to plant, from Autumn Strawberry to White Winter Pearmain. To their credit, the editors clarify that the legendary McIntosh, selected in eastern Ontario at Dundela, was not on her extensive list because it came into commercial production later. This is the sort of detail that only seasoned culinary historians bring to the table.

Then came harvesting and preserving, from apple jellies and syrup to cider and dried apple pieces for pies, tarts, and even a fever drink. There is a long series of instructions on candle and soap making; poultry & dairy husbandry; dying wool with wild plants; weaving home spun carpets; and a great piece on fire prevention—a constant threat in wood-stove-heated cabins. She spends a good deal of time writing on gardening, in particular about Indian corn which grew well and helped her produce everything from

hominy to pancakes. If you wanted to know how to make real bread using the wheat flour from your farm, you would need to grow and make a leavening agent. This is where the early hops that are now wild around Ontario came from, and Catherine covers yeast production in detail. Hers was a very spiritual life and her *Guide* closes by paying homage not only to her God but to Britain, all the while admonishing her readers to remember their heritage.

From the pages filled with Catherine's food life, Cooke and Lucas spring forth to coach readers on how to use the recipes in our modern kitchens and create menus that speak to current times. Recipes that actually work are a real treat, and the authors have worked hard to ensure results as similar as possible to the original. They have suggested several full menus, depending upon the household economic status that readers wish to emulate. They re-examine Traill's world using numerous other sources, which brings me to the final two gifts that they've given us: a superb bibliography and a spectacularly complete index which Catherine herself failed to provide.

Cooke and Lucas's work on Catherine Parr Trail is a Canadian classic, and accomplishes something that few other authors have done. They allow those of us with roots in this country to remember on whose strong shoulders we are standing, and to heartily celebrate them.

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Book Review

Sustainable Diets: How Ecological Nutrition Can Transform Consumption and the Food System

Pamela Mason and Tim Lang
Routledge, 2017: 353 pages

Review by Jennifer Sumner, PhD

This path-breaking book situates the thorny issue of diets firmly within what has been called the Anthropocene—the era of human-induced changes to the planet. Since many of these changes are associated with food production and consumption, the authors argue that we need to develop sustainable diets in order to reduce the negative impacts of the current global food system on the environment, as well as to improve public health. To this end, the book is informed by an ecological public health perspective, which "views health as a function of relationships, a web of connections between humans, planet and society" (Mason & Lang, p. 4).

From the beginning of the book, the authors lay out their arguments for a diet that is "green, healthy and fair" (p. 4) and also breaks down the barriers between seeming opposites: nutrition and environment, food safety and plentiful food supply, quantity and quality, production and consumption. Overall, they view a "good food system" as "one that creates the conditions to meet all these goals and one that does not prioritise short-term gains over long-term losses" (p. 5), as opposed to the current food system that focuses on extracting resources and does not protect the means for future generations to eat well.

To achieve a good food system, Mason and Lang propose six criteria to operationalize sustainable diets: health and nutrition, environment, social values, quality, economy, and governance. The criteria are based on the approach of the UK Sustainable Development Commission and each one is the subject of a chapter that lays out a wealth of information for curious readers. These chapters begin with a masterful overview of the particular criterion, gathering together ideas from an impressive range of sources and presenting them in a

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compelling and comprehensive fashion. Then they move to research studies that back up the overview, providing the firm foundation on which the authors have built their case.

As these chapters make abundantly clear, there is a need for dietary guidelines to address the issue of sustainability, which they see as a complex set of omni-standards or poly-values that encompass the six criteria listed above. In doing so, the authors emphasize that "the debate about sustainability raises fundamental criticisms of the impact of neoliberalism" (p. 230)—an inevitable confrontation, given the narrow market orientation of this life-blind perspective that exploits people and the environment and denies full-cost accounting.

One of the most difficult aspects of implementing sustainability involves changing human behaviour, and nowhere is this more difficult than in the realm of food. For this reason, Mason and Lang maintain that more thought needs to be given to culture via, for example, appeals to old ways and traditions. They cite the example of Sweden, which was the first country to provide clear, detailed, evidence-based dietary guidelines, but had to retract them because it faced infringement of the European Union non-discrimination rule because of its advice to eat locally and seasonally. Sweden's second attempt involved the pragmatic use of soft guidance: deliberately looser advice that was cultural rather than nutritional. In this vein, Canada faces a conundrum. Some might argue that Canada does not have a strong traditional cuisine to fall back on, unlike countries such as France or Italy. In dispensing advice on sustainable diets, we would therefore have to imagine and create a cultural/culinary future based on the many foodways that make up Canada's multicultural society, including First Nations foodways, while following Mason and Lang's six criteria.

The strengths of this book are many. It is original and timely, using the ample evidence provided as a springboard for developing their ideas about "ecological nutrition" (p. 139). Each chapter begins with core concepts and clearly links the subject matter to diets. The chapter on governance is particularly enlightening, investigating players from the global to the local level and lamenting the loss of leadership by the state in this vital area of planetary concern. The authors point out that, with the exception of a few notable examples, no country dares to take on the powerful industrial food lobbies that have led us down the path of maldevelopment.

At times, the combination of sweeping overview and specific studies seem somewhat at odds with each other, giving the sense that this is two books melded into one. And the sheer volume of studies can occasionally seem overwhelming. That said, their function is to provide an impenetrable wall of evidence that cannot be gainsaid, thus laying the groundwork for the ultimate argument that we must change our diets or select ourselves out of existence.

The final chapter concludes that a sustainable diet is simply a diet that is good for human and ecosystem health. To better implement this understanding, Mason and Lang include a number of teaching tools. They provide two useful images: a working model that helps to explore and order the complex, interrelated criteria of sustainable diets and a shift wheel to conceptualize dietary change behaviour. They also offer some basic principles of a diet that is consistent with optimum public health and low environmental impact, which can be used as the basis for developing globally applicable guidelines for sustainable diets. Finally, they lay out

such guidelines, while emphasizing that they should be owned by the state and developed by a number of ministries and a wide variety of experts.

Overall, Mason and Lang emphasize that "what humanity eats has major impacts on public health, the economy, the environment and the future" (p. 10). This is undeniably true and the sooner we act on this realization, the better. *Sustainable Diets* is one blueprint to get us there.

Jennifer Sumner teaches a course called The Pedagogy of Food at OISE/University of Toronto and is the co-editor of Critical Perspectives in Food Studies *(with Mustafa Koç and Anthony Winson) and the editor of* Learning, Food and Sustainability: Sites for Resistance and Change.

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