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CRITICAL PERSPECTIVES ON FOOD GUIDANCE

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Guest editors Jennifer Sumner and Ellen Desjardins, in collaboration with *Canadian Food Studies / La Revue canadienne des études sur l'alimentation*, are pleased to present Critical Food Guidance: a focal point for thinking about food system change. This themed section asks three basic questions: critical guidance for what, for whom, and by whom? While engaging with these questions, the authors have put forward critical concepts, proposed mindful decision-making, provided contexts for transformation, and presented innovative applications—all with the purpose of spurring broader thinking about food choices that can benefit both food system sustainability and human health.

To this already extensive collection we add two Perspectives that set out to "seize this COVID moment" to address the structural inequalities Canadian society is built upon (Martha Stiegman) and to articulate the need for profound changes to the ways in which we produce, process, trade, and consume food (Marit Rosol and Christoph Rosol). Tina Moffat et al. then take us through accounts of two youth food programs operating at a Community Food Centre in Hamilton, Ontario, Canada. Janie Perron and Amanda Shankland round out this issue with their reviews of *Diners, Dudes, and Diets: How Gender and Power Collide in Food Media and Culture* by Emily J. H. Contois and *Facing catastrophe? Food politics and the ecological crisis* by Carl Boggs, respectively.

guest editors: Jennifer Sumner, Ellen Desjardins

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Editorial

Critical perspectives on food guidance

Jennifer Sumner[a*] and Ellen Desjardins[b]

[a] University of Toronto
[b] Former Editor, *Canadian Food Studies*

Critical food guidance began as an inspiration, blossomed into a concept and then became a focal point for thinking about food system change. It will continue to evolve as we grapple with the complexities of the industrial food system and work toward alternative approaches.

As a step in the evolution of a multi-dimensional approach to food, this themed section asks three basic questions: critical guidance for what, for whom, and by whom? While engaging with these questions, the authors have put forward critical concepts, proposed mindful decision-making, provided contexts for transformation, and presented innovative applications—all with the purpose of spurring broader thinking about food choices that can benefit both food system sustainability and human health.

In terms of critical concepts for reframing and transforming food guidance, Koberinski, Vivero-Pol, and LeBlanc reframe food as a commons, while challenging the role of the dominant narrative of food-as-commodity in shaping how we approach food systems policy. They call for a normative shift, proposing that valuing and governing food as a commons would unlock unexplored policy goals, and provide current examples of food as a commons within Indigenous communities. Reframing and transformation also feature in Soma's article that challenges the food waste recovery hierarchy approach. Instead, she puts forward findings from the Food System Lab to demonstrate that Indigenous principles based on "All My Relations" and practices known in Europe as "Bricolage" may serve as useful tools to address the issue of food waste.

When thinking about mindful decision-making regarding food choices, Weis and Ellis lead with the concept of de-meatification, an urgent environmental and social priority that must be part of any project providing critical food guidance. They propose three primary possibilities for change—conscientious omnivory, vegetarianism, and veganism—while emphasizing consideration of the end point of de-meatification. Tourangeau and Scott concur, arguing that

*Corresponding author: jennifer.sumner@utoronto.ca
DOI: 10.15353/cfs-rcea.v9i1.592
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eating fewer animal-based foods is not enough guidance. For these authors, it is important to also consider the numerous socially and historically embedded norms, discourses, behaviours, and ideas that make the question of meat particularly messy. Mindful decision-making also features in Fader, Mesmain, and Desjardins' article on critical food guidance in the Slow Food movement. Using the Slow Food Relationship Barometer as a form of critical food guidance, they remind us that slow food is all about relationships and illustrate how the barometer can facilitate food awareness and food choice.

This themed section also sets out contexts for transformation. Focusing on the urban context, Stahlbrand and Roberts discuss the Toronto Food Policy Council and the food-city nexus. They propose that the Milan Pact of 2015, which warned that the planetary crisis of unsustainable environments would surely affect the task of feeding cities, signaled a shift among progressive food analysts away from the formal model of food policy and toward a model of critical food guidance. Within the rural context, Cole, Needham, and Markowitz examine alternative food practice in Grey-Bruce counties in Ontario. In particular, they discuss the Grey-Bruce Food Charter as a tool for critical food guidance, based on its categories of health, social justice, culture, education, sustainable economic development and environment. A final context for transformation is religion, presented in an article by Desjardins. He reviews the main components of contemporary religious food guidance across religious traditions and around the world, concluding with reflections on how religious food guidance intersects with both the growth and decline of religion that we are currently experiencing.

The themed section also includes innovative applications of critical food guidance, beginning with Tait Neufeld and Xavier's article on the evolution of Haudenosaunee food guidance. Their article describes the implementation and outcomes of a Haudenosaunee community-based program in southern Ontario, *Our Sustenance*, which is reflective of impacts beyond individualized health, with an emphasis on collective well-being. The next application of critical food guidance comes from Brazil, as Moubarac, Polsky, Nardocci, and Cannon describe how the official Brazilian *Dietary Guidelines* (MHB, 2014) used the NOVA food classification scheme to lay bare the problem of ultra-processed food. They then map this onto *Canada's Food Guide* and provide recommendations for all Canadians based on the Brazilian experience. Another innovative application of critical food guidance concerns Manganelli and Esteron's article on FoodShare Toronto, with a focus on its history and its "Good Healthy Food for All" approach. As part of the food justice movement, FoodShare prioritizes community development, listens to diverse communities and balances their needs alongside environmental sustainability and health.

Collectively, these articles offer an integrated approach to critical food guidance, generating a synergy of transformative thinking and acting. They represent an initial attempt at weaving together multiple disparate strands of this fledgling sub-field, forming a strong foundation for further critical work.

Acknowledgements: We thank the editors, journal managers and the editorial collective of *Canadian Food Studies* for their support of this themed section and for their dedicated efforts to bring it to publication.

References

MHB, (2014). *Dietary guidelines for the Brazilian population*, 2nd ed. Ministry of Health of Brazil. Available from guia_alimentar_populacao_ingles_atualizado.pdf

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Commentary

Critical food guidance

Ellen Desjardins[a*] and Jennifer Sumner[b]

[a] Former Editor, *Canadian Food Studies*
[b] University of Toronto

Abstract

In this themed section, we argue that beyond health-related dietary goals for society, food guidance must also reflect the expanding public awareness and uncertainty about the complexities and vulnerabilities of the current food system. Increasingly influential issues include environmental change, agriculture-related pollution, food worker injustice, animal welfare, persistent household food insecurity, food waste, and fish stock depletion. No form of food guidance can address all these complex phenomena, but many people want to be informed and empowered to make change. Accordingly, academic and citizen groups have been devising an assortment of directives, recommendations, principles, and charters to promote alternative food environments and food behaviours that cumulatively support sustainable food systems. These on-going debates and efforts can collectively be termed *critical food guidance.*

Keywords: Critical food guidance; food guide; dietary sustainability; food sovereignty

*Corresponding author: edesjardins@canadianfoodstudies.ca
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Introduction

From the time infants are weaned, they are nudged towards the acceptance of certain foods that are fed to them. As children grow older, they are encouraged to make specific choices among what is presented, often being told that some foods will make them stronger or healthier, or having preferred foods withheld until less-liked foods are eaten first. Children will learn to shun foods that are considered unsafe or "bad" for them (physically, culturally, or both). They will also learn to regard some foods as distinctive, reserved for special occasions, religious or lifestyle rites, or imbued with seasonal or geographic significance. Thus, food guidance is a recognized aspect of growing up, although it may be minimal in circumstances when food choices are very limited. In much of the world, however, even as a greater abundance of food options becomes available, most people may still feel their choices are directed by certain parameters, and as such are less likely to consume randomly and without limit. This is food guidance—the process by which people learn the norms, values, practices, and assumptions about food.

Where does food guidance originate? Parents and significant others offer guidance through teaching and role modelling. Culture and religion have commonly prescribed types of foods that are acceptable and desirable, and proscribed those to be avoided—often with the goal of honouring traditional foods, or marking one population group as distinct from others. Food corporations and commodity groups indirectly provide food guidance through marketing. Government bodies have, since the mid-twentieth century, released food guides that promoted "healthy" eating patterns in the form of food groups, aiming to nurture strong and healthy populations. Earlier on, in North America, the goals of such dietary guidance were to foster resilient military personnel and a robust labour pool. A parallel goal of state-level guidance was the management of significant food economies. In Canada, for example, earlier food guidance centred mainly around dairy, meat, and wheat (Figure1).

As scientific research began revealing the association of certain dietary patterns with morbidity and early mortality from chronic disease, the implications for population productivity and state-borne medical costs became clear.[1] Health-based food guides worldwide began to place more emphasis on plant-food sources. Foods high in saturated fat, salt, and sugar were discouraged or deemed "extras". When nutrition research revealed the benefits of foods rich in soluble fibre and antioxidants, as well as the hazards of trans fats, guidelines were adapted accordingly. Recommended daily servings of meat, especially cured meat, were reduced. Medical organizations joined government health departments to promote this information, and it was enforced in public institutions such as daycares and hospitals (WHO, 1998).

Controversy related to state-based food guides came from several fronts. Developers of food guides in Canada tried to walk the tightrope of depicting health-based food groups while

[1] History of Canada's Food Guides from 1942 to 2007 - Canada.ca

simultaneously respecting the wishes of large commodity groups such as beef producers; avoiding disputes with global convenience-food corporations; and being silent on trade agreements such as the Canada-European Union Comprehensive Economic and Trade Agreement (which restricts advocacy for locally-produced food). The American MyPyramid showed only coloured segments with a figure ascending the pyramid steps—suggesting, misleadingly, that all types of foods could fit with a "healthy" diet as long as eaters remained active (Chiuve & Willett, 2007).

Another critique was aimed at the focus of food guides on key nutrients (e.g., calcium for the dairy group), which some considered reductionist (Lawrence et al., 2019). Scrinis (2014) labelled this perspective *nutritionism*, as it gave more emphasis to food constituents than to the value of the diet as a whole. He argued in particular that nutritionism enables the food industry to promote highly processed foods such as breakfast cereal or sugary drinks as "healthy" based on added micro-nutrients or claims about individual nutrients (e.g., cholesterol-free). Another example of nutritionism is the common conflation of meat or seafood with protein, although sufficient protein can be obtained from grains, pulses, nuts, seeds, dairy and eggs.

It is not clear that, over several decades, food guides have actually served to steer populations towards healthy eating, thereby lowering the risk of chronic diseases such as diabetes, cardiovascular disease and some cancers (IPES-Food, 2017). Population health data revealed that Canadians are far from meeting dietary requirements according to the standards set by the previous Canada's Food Guide for Healthy Eating (Garriguet, 2007). It is evident that new types of guidance with a wider range of goals may serve us better.

Recent changes in food guidance

National food guidance has begun to change in recent years. For example, in 2019 the Canadian Dietary Guidelines[2] replaced the previous emphasis on portion sizes and numbers in favour of proportions of food groups on a plate (Figure 1). The new guide is broader in scope, stating that "healthy eating is more than the foods you eat". In addition to encouraging whole, mostly plant-based foods, water as a beverage, and minimal consumption of highly-processed foods, the new guidelines promote cooking skills, label reading, eating meals together, awareness of environmental impact, and minimizing food waste.

[2] https://food-guide.canada.ca/en/guidelines/

Figure 1: Canada's Food Guide in 1977, 1992, and 2019[2]

The groundbreaking *Dietary Guidelines for the Brazilian Population* issued in 2014 set the stage for this more holistic type of food guidance (Sumner, 2016). It represented a new way of thinking about nourishment and food by emphasizing its sociocultural, health and environmental dimensions (Oliveira & Silva-Amparo, 2018). These changes opened the door to moving beyond conventional conceptions of food guidance to more critical approaches.

Why *critical* food guidance?

Beyond health-related dietary goals for society, we argue that food guidance must also reflect the expanding public awareness and uncertainty about the complexities and vulnerabilities of the current food system. Influential issues that have appeared more recently include water and soil depletion, climate destabilization, loss of biodiversity, injustices for food workers, animal welfare, persistent household food insecurity, food waste, depletion of fish stocks, and agricultural impacts on the natural environment (Goodman et al., 2014; IPES, 2016; Weis, 2013; Winson, 2013; WHO, 2017).

Consequently, academic and citizen groups have been devising an assortment of their own directives, recommendations, principles, and charters to promote alternative food environments and food behaviours that cumulatively support sustainable food systems (Wilkins, 2005). These ongoing debates and efforts can collectively be termed *critical food guidance.* Through critical examination of data, questioning of discourses and assumptions, and exposure of power dynamics (Koç et al., 2017), novel forms of food guidance can emerge.

Who will help create and promote critical food guidance? The contributors to this themed section provide dynamic examples of the actors involved, including Indigenous communities, farmers, hunters and fishers, food policy councils, consumers and educational institutions. They

show how critical food guidance is evolving and dynamic in nature, demanding inquisitive minds, detective work, and ongoing learning rather than conforming to fixed standards or the status quo.

From the perspective of critical food guidance, food ceases to be a faceless, placeless commodity that we consume without consideration of its effects on our bodies, our communities and our planet. Lifting the veil of commodity fetishism (Hudson & Hudson, 2003) by clarifying parameters that drive our food choices is one of the roles of critical food guidance. It also lays the groundwork for fresh solutions. Not a simple endeavour, this will require ongoing research, creative planning, supportive governance, and cultural adaptation. It means engaging with multiple segments of the food economy, locally and globally.

Debate around complex questions forms part of the infrastructure of critical food guidance. Further, critical interrogation of the notion of food guidance itself means we can ask: who is the guidance for, and who isn't it for? Who benefits from the guidance, and who loses?

Pioneers of critical food guidance

Critical food guidance is not new. One of the early advocates was Francis Moore Lappé (1971), the author of *Diet for a Small Planet*. Lappé warned that "our heavily meat-centered culture is at the very heart of our waste of the earth's productivity" (p. xi). Pointing out that dietary protein did not have to be sourced from meat, she offered guidelines and practical ways of vegetarian eating "that make the most of the earth's capacity to supply this vital nutrient."

Two other pioneering advocates of critical food guidance were Joan Dye Gussow and Kate Clancy (1986: p.1). In their seminal article "Dietary Guidelines for Sustainability", they proposed that "educated consumers need to make food choices that not only enhance their own health but also contribute to the protection of our natural resources". Twelve years later, Gussow (1999) responded to critics who found the term "sustainable diets" both confusing and threatening. She raised a fundamental question:

> How is it that we tend to accept as 'objective' assertions that the status quo is just fine and denounce as 'subjective' or 'biased' statements that question the way things are? (p. 195).

Gussow (1999, p. 199) further argued that "Truly sustainable food systems will be those that provide good jobs for all those working with food and good food for everyone who eats." Such pioneering efforts laid the groundwork for more recent, comprehensive understandings of sustainable food systems, which involve a

> coherent alignment of social justice, support for local economies, ecological regeneration and deep democratic engagement with producers,

> harvesters, processors, retailers, eaters and Indigenous Peoples (Levkoe et al., 2017, p. 5).

Such a critical lens allows us to analyze problems differently, and to design alternative forms of food guidance that can collectively move beyond the status quo.

Parameters for critical food guidance

Various concepts and models contribute to the development of parameters of critical food guidance. One concept is *transformative learning*, which involves "learning that transforms problematic frames of reference to make them more inclusive, discriminating, reflective, open and emotionally able to change" (Mezirow 2009, p. 22).

One instructive model, from the *Food Counts* report (Levkoe et al., 2017), presents pillars of food sovereignty that can be seen as a framework for critical food guidance, namely:

- building knowledge and skills;
- working with nature;
- valuing food providers;
- localizing food systems;
- putting control locally; and
- recognizing that food is sacred.

On a more operational level, Mason and Lang (2017) have developed guidelines for eating toward sustainability within six arenas: environment, health, social values, quality, economy and governance. For these authors, a sustainable diet:

- achieves balance between energy intake and needs;
- is based on minimally processed foods;
- includes moderate amounts of meat and dairy;
- includes nuts and seeds;
- limits fish and aquatic products to sustainable species
- prefers tap water as a beverage

Building on the above parameters and others, we suggest the following elements of critical food guidance with examples. We imply by this that if positive changes are made in these areas, progress will gradually happen toward a more sustainable food system.

- Health: food literacy, reduced environmental contaminants in food, minimal highly-processed foods, a mostly plant-based diet (unless geography dictates a diet rich in animal foods)

- Environment: healthy soil, safe water, reduced fossil fuel use, biodiversity, decreased food and packaging waste
- Society: environments that promote healthy eating and activity levels, commensality, sharing of resources, food security
- Culture: foods that promote identity, belonging, and intergenerational connection
- Economy: sustainable livelihoods, promotion of local, co-operative, social enterprises, fair trade agreements
- Governance: transparency and public involvement in policy decisions, subsidiarity, food sovereignty, application of the precautionary principle, civil commons, agricultural protectionism
- Ethics: social and environmental justice, the right to food, animal welfare
- Spirituality: respect for food considered to be sacred, beliefs/practices/rituals related to food.

While not exhaustive, these parameters lay the foundation for further work on critical food guidance. The contributors to this special issue begin to fill in the gaps by focusing on the areas of reframing and transforming food guidance, mindful decision-making about food choices, innovative applications of critical food guidance, and specific contexts in which transformation can occur. This emerging field of inquiry is dynamic and fluid, holding enormous promise for food production, consumption and procurement, as well as food studies itself.

References

Chiuve, S.E., & Willett, W.C. (2007). The 2005 food guide pyramid: An opportunity lost? *National Clinical Practice of Cardiovascular Medicine* 4(11),610-20.

Garriguet, D. (2007). Canadians' eating habits. *Health Reports* 18(2), 17-32.

Goodman, D. DuPuis, E.M., Goodman, M.K. (2014). *Alternative food networks: Knowledge, practice, and politics*. Routledge.

Gussow, J.D. (1999). Dietary guidelines for sustainability – twelve years later. *Journal of Nutrition Education* 31(4), 194-200.

Gussow, J.D., & Clancy, K.L. (1986). Dietary guidelines for sustainability. *Journal of Nutrition Education* 18(1), 1-5.

Hudson, I., & Hudson, M. (2003). Removing the veil? Commodity fetishism, fair trade, and the environment. *Organization and Environment* 16(4), 413-430.

IPES-Food. (2017). *Unravelling the food-health nexus: Addressing practices, political economy, and power relations to build healthier food systems*. The Global Alliance for the Future of Food and the International Panel of Experts on Sustainable Food Systems. http://www.ipes-food.org/images/Reports/Health_FullReport.pdf

IPES. (2016). *From uniformity to diversity: A paradigm shift from industrial agriculture to diversified agroecological systems*. International Panel of Experts on Sustainable Food Systems. http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf.

Koç, M., Bancerz, M., & Speakman, K. (2017). The interdisciplinary field of food studies. In M. Koç, J. Sumner & A. Winson (Eds.), *Critical perspectives in food studies* (pp. 3-18). Oxford University Press.

Lappé, F.M. (1971). *Diet for a small planet*. Ballantine Books.

Lawrence, M.A., Pollard, C.M., Vidgen, H.A., & Woods, J.L. (2019). The health star rating system – is its reductionist (nutrient) approach a benefit or risk for tackling dietary risk factors? *Public Health Research & Practice. 29*(1): e2911906.

Levkoe, C., Lefebvre, R., & Blay-Palmer, A. (2017). *Food counts: A pan-Canadian sustainable food systems report card*. https://fledgeresearch.files.wordpress.com/2017/05/food-counts-pan-canadian-sustainable-food-systems-report-card2.pdf

Mason, P., & Lang, T. (2017). *Sustainable diets: How ecological nutrition can transform consumption and the food system*. Routledge.

Mezirow, J. (2009). Transformative learning theory. In J. Mezirow, E. Taylor and Associates (Eds.), *Transformative learning in practice: Insights from community, workplace and higher education,* (pp.18-34). Jossey-Bass.

Oliveira, M., & Silva-Amparo, L. (2018). Food-based dietary guidelines: A comparative analysis between the dietary guidelines for the Brazilian population 2006 and 2014. *Public Health Nutrition, 21*(1), 210-217.

Scrinis, G. (2013). *Nutritionism: The science and politics of dietary advice.* Columbia University Press.

Sumner, J. (2016). Waging the struggle for healthy eating: Food environments, dietary regimes and Brazil's dietary guidelines. *Local Environment* 21(10), 1230-1242.

Weis, T. (2013). *The ecological hoofprint: the global burden of industrial livestock*. Zed Books.

WHO (2017). *Obesity*. World Health Organization. http://www.who.int/topics/obesity/en/

WHO (1998). *Preparation and use of food-based dietary guidelines*. World Health Organization and Food and Agriculture Organization of the United Nations. http://apps.who.int/iris/bitstream/10665/42051/1/WHO_TRS_880.pdf?ua=1&ua=1

Wilkins, J.L. (2005). Eating right here: Moving from consumer to food citizen. *Agriculture & Human Values* 22**,** 269–273.

Winson, A. (2013). *The industrial diet: The degradation of food and the struggle for healthy eating*. UBC Press.

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Narrative

Food charter as a critical food guidance tool in a rural area: The case of Bruce and Grey Counties in Southwestern Ontario

Donald C. Cole[a*], Laura Needham[b], and Philly Markowitz[c]

[a] Fairfields Organics, University of Toronto
[b] Public Health Grey Bruce
[c] Grey County, Ontario

Abstract

Food charters have been one means of mobilizing critical food guidance relevant discussions among stakeholders and policy makers in rural areas. As actors in the rural food system of Grey and Bruce counties, we describe the counties' charter development led by the Food Security Action Group. We deepen discussion of each of the six domains (health, social justice, culture, education, sustainable economic development, and environment) through examples of alternative food initiatives and practices, which both informed the charter and were supported by it. We emphasize the cross-domain synergies realized as examples of critical food guidance, while cautioning about the constraints facing county efforts in the face of ongoing changes at provincial to global levels that are not consonant with the Food Charter vision.

Keywords: Food charter; rural; food security; sustainability; agriculture

*Corresponding author: donald.cole416@gmai.com
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Introduction

As noted in the introduction to this special issue, one of the efforts to provide critical food guidance has been the development of food charters (Mendes, 2017). As articulated by Sustain Ontario (n.d.), "a Food Charter is a broad community statement and/or a set of goals that describe how the members of a specified geopolitical community want their food system to be." In this article, we will describe how the Bruce Grey Food Charter has provided a framework for participation in critical food guidance. We interpret critical food guidance to involve "academic and citizen groups … devising an assortment of directives, recommendations, principles, and charters to promote alternative food environments and food behaviours, which directly or indirectly challenge the capitalist economy and its growth-oriented and exploitative approach to food" (Sumner & Desjardins, 2022, p. 4).

Rural areas face unique challenges in and opportunities for developing sustainable approaches to healthy food systems (Sumner, 2005). Rural residents can face barriers to physical access to food along with higher prices for both transportation (Lenardson et al., 2015) and food (Miller et al., 2016; Piaskoski et al., 2020). Morton and colleagues (2008) found that, compared to poor urban households in Iowa, fewer rural households in poor Iowan counties accessed redistribution channels such as food banks. On the other hand, they engaged in more reciprocal sharing of fresh vegetables and fruits. Buck-McFadyen (2015), conducting research in Southern Ontario, found that limited access to rural childcare and employment opportunities were particular challenges related to income and food security among women-headed households. Being able to grow produce and hunt and fish to procure food were opportunities available in the rural environment, a practice in which urban dwellers were less able to engage.

A key part of the development of food charters has usually been a thoroughgoing discussion among a wide range of stakeholders of the state of the food system, including assets and barriers to food security in the region, as well as what can be done about the latter (Johnston & Andrée, 2019). In rural areas, agricultural commodity markets, weather, food prices for consumers compared to sale prices for farmers, and food access (e.g., transport of isolated rural seniors for food shopping) often dominate discussions about food, hence the discourse (Spoel & Derkatch, 2016) is likely to be different. Critical discussions about food, health, and sustainability provide an opportunity for questioning and mutual learning about local contexts within the broader food system.

Simultaneously, a variety of alternative food initiatives, such as consumer-producer cooperatives and community supported agriculture (CSA) operations (Levkoe, 2017), as well as alternative food practices (MacLeod, 2017), have emerged in rural regions. By alternative, we mean different from the dominant agri-food system, through programs and practices oriented towards different goals. They may harken *back* to the values and practices involved in agricultural production, fish harvesting (Lowitt et al., 2019), and food distribution and consumption practices from earlier in the rural region's history. They also envision *forward*, aiming for change in keeping with food citizenship efforts. Renting and colleagues (2012)

describe these as part of civic food networks, providing large scale examples globally of primarily rural initiatives in which civil society plays an active role in relation to the state and markets. Such food citizenship initiatives or alternative practices may provide an incentive for the development of a food charter with the hopes of scaling up concrete examples. Additionally, a food charter may act as a stimulus to growing new alternative food initiatives and practices. Both are part of Sumner and Desjardins' (Sumner & Desjardins, 2022) broad approach to critical food guidance, which promotes more nutritious food choices and more sustainable food systems simultaneously.

In this paper, we recount the conjoint development of a food charter and the alternative food initiatives and practices that provided input to the charter or were stimulated by it. We live and work in the two closely associated counties in Southwestern Ontario involved. Although all supportive of alternative food initiatives and practices, we provide different experiences, disciplinary backgrounds, and perspectives, in keeping with critical food guidance approaches. Donald Cole is an environmental health physician, ecological farm member, and former community engaged scholar. Laura Needham is a public health nutritionist with a strong equity orientation. Philly Markowitz is a municipal economic development officer with a long history of supporting agri-food initiatives. As a practice report, this paper is primarily based on the authors' experience and participation: Philly Markowitz and Laura Needham were involved in charter development and supporting related initiatives. We supplemented these with a review of reports, documents, and websites. As well, Donald Cole conducted key information interviews with prior consent, took notes, and passed them by interviewees for comment and correction (member checking), in keeping with ethical research practices, although formal ethics review was not conducted given the practice report nature of the work.

After a brief history of the Charter's development, we flesh out each domain of the Charter and its values. We then provide examples of activities that embody cross-domain linkages and exemplify potential for the Charter to be seen as a critical food guidance tool within the larger tent of Sumner and Desjardin's (Sumner & Desjardins, 2022) definition. We argue that the Charter has been capable of facilitating learning as well as crystalizing key shifts at multiple levels: from regional food system policies, to food system organizations' programs, to everyday practices by food producers, consumers, service providers, and the many others involved in rural food systems. We conclude with some reflections on the constraints to be addressed in deepening the use of the Charter as a critical food guidance tool.

Development of the Charter

The Bruce Grey Poverty Task Force came together as a collaborative project involving approximately eighty organizations and members committed to reducing and mitigating the impacts of poverty in the community. Food security is one of the primary pillars of action within the task force, which aims to support *local* collaboration, advocacy, and systems changes

towards achieving a food-secure Bruce Grey. This territory, or Saukiing Anishnaabekiing to use its Indigenous name, is more delimited than the provincial interpretation of "local" as any food produced in Ontario (Ontario Ministry of Agriculture, Food, and Rural Affairs, 2021).

A Food Security Action Group (FSAG) of the Bruce Grey Poverty Task Force was formed in 2013 and included two of the authors. Informed by other rural regions' guides to food charter development (Jaquith, 2011) and the generation of food security and economic development (Watson, 2013), the FSAG members engaged in broad public and stakeholder consultation, through both online surveys and stakeholder focus groups. Efforts were made to engage representatives from a variety of food systems perspectives, including producers and farming unions, food entrepreneurs, municipalities, community agencies, health professionals, and environmental advocates. Based on other regions' food policies, food councils, and food charters, along with community consultations, the FSAG identified six domains as relevant to a sustainable local food system: health, social justice, culture, education, sustainable economic development, and the environment. Complemented with a vision for a healthy, just, and sustainable food system, the six domains became part of the Bruce Grey Food Charter (BGPTF, n.d., see box 1).

Box 1: Bruce Grey Food Charter (BGPTF, n.d.)

A guiding document to assist in the development of policies and programs to promote a healthy and just food system in Grey and Bruce Counties. …In acknowledgement of the basic right to food, the Charter is a commitment to work together to build a vibrant, sustainable, food secure community. Based on community participation, a sustainable local food system will prioritize health, social justice, education, economic development, the environment, and culture.

BECAUSE WE VALUE **HEALTH**, WE SUPPORT

a) Public policy that recognizes food's contribution to physical, mental, spiritual, and emotional well-being
b) Making food readily accessible for our rural and urban residents, including adequate transportation links, neighbourhoods that encourage walkable and bikeable access to healthy food
c) Strategies to prevent and manage chronic diseases through access to affordable, healthy, safe, adequate, and culturally appropriate food
d) Baby friendly policies that protect, promote, and support breastfeeding through informed decision making

BECAUSE WE VALUE **SOCIAL JUSTICE**, WE SUPPORT

a) Making sure everyone has access to healthy food
b) A fair wage for the production of food, and a safe and respectful environment for all farmers and food workers
c) Allowing land access for people interested in growing and/or processing food
d) Income, education, employment, housing, and transportation policies and practices that support access to healthy, sustainable food

BECAUSE WE VALUE **CULTURE,** WE SUPPORT

a) Celebrating and promoting respect for and inclusion of traditional, cultural, and spiritual food diversity
b) Enhancing the dignity and joy of growing, preparing, and eating food
c) Strengthening links between rural and urban communities
d) Opportunities for all community members to be included and to make connections through the experience and sharing of food.

BECAUSE WE VALUE **EDUCATION**, WE SUPPORT

a) Food literacy and skill building initiatives that engage youth and students integrated in school curricula
b) Programs that train current and future farmers, home gardeners, food producers, and others involved in the food value chain
c) Integrating food literacy, community gardening, and seed saving into communities
d) Developing community gardens at schools and other public settings
e) Public education about the connections between our health, the environment, and our food choices
f) Public awareness of the role of agriculture in our lives

BECAUSE WE VALUE **SUSTAINABLE ECONOMIC DEVELOPMENT**, WE SUPPORT

a) Increasing the production, processing, distribution, and consumption of foods from Grey and Bruce
b) Promoting our region as a food, agricultural, and culinary destination
c) Food and agricultural research that is innovative, sustainable, and includes alternative food systems
d) Services and infrastructure that support local farms and the development of local food-related programs and businesses
e) Practices that recognize the detrimental impact of food transportation and strive to minimize environmental burden

BECAUSE WE VALUE **ENVIRONMENT**, WE SUPPORT

a) Farming practices that protect and enhance watersheds, wildlife habitat, soil, and biodiversity
b) Food production methods that sustain the natural environment in rural and urban settings
c) Sustainable development of agriculture, water, land use policies, and practices that support the production of healthy food

The Charter has become an important tool to inform local policy concerning food and agriculture. It has been a way to both develop a common understanding among agency members and food system activists, and to share that understanding through depositions to municipal councils—most of whom have members in the agri-food sector. Importantly, the Bruce Grey Food Charter has become part of the local policy landscape without cost to municipalities. With the COVID-19 pandemic laying bare multiple vulnerabilities in food systems, FSAG members

have utilized the Charter to facilitate more holistic discussions. Similar to other food system planning exercises (Clark, 2019), FSAG members include representatives from civil society (e.g., United Way, Salvation Army, Meeting Place), coalitions (e.g., Healthy Kids Community Challenge of Southeast Grey), food specific non-governmental organizations (e.g., OSHaRE in Owen Sound), and government at regional (public health), county (Grey County economic development), and municipal (multiple municipalities, including Owen Sound) levels. Municipalities particularly have turned to FSAG resource people to better understand issues of food insecurity during the COVID-19 pandemic. The collaborative network formed around Charter development has been able to serve marginalized community members without interruptions, even enhancing efforts through increased participation in food rescue and greater sharing of food.

Member organizations have also been able to modify their approach to food programs guided by the Charter. For example, the Grey Bruce Health Unit shifted from traditional, downstream nutrition programming (mostly individual behaviour-based guidance and education) to a form of critical food guidance based on an "upstream" food system approach (Raine, 2010) involving policy development, advocacy, and community capacity building. This systemic, more preventative approach combines food security, nutrition, and the social and ecological determinants of health (Lang, 2005; Raphael, 2003). Public-health dietitians and other staff are empowered to act on systemic issues that influence eating behaviours and health disparities (McCullum et al., 2005). This shift has resulted in a greater emphasis on community building, partnership development, and advocacy for health-promoting planning, policies, and programs (Desjardins et al., 2011), as exemplified in examples of initiatives and practice relevant to each domain of the Charter, which we now explore.

Health

All aspects of health—physical, mental, social, emotional, and spiritual—are regarded as relevant in the Charter (item (a) under Health in Box 1). Here, we provide examples of practices consistent with the Charter engaged in by coalitions, an inter-professional committee, an Indigenous community, and a vanguard chef.

The Grey Bruce Health Unit (GBHU) has supported programming and policy changes to improve health through nutrition, including advocacy for built environments that make healthier food choices more accessible, for example through a good food box delivery programme. The Southeast Grey Healthy Kids Community Challenge engaged a variety of sectors including local government, private business, schools, and public health. Communities, families, and children were inspired to support healthier food practices under the themes "Choose to Boost Your Veggies and Fruit" and "Water Does Wonders."

GBHU dietitians further collaborate with their primary care colleagues through the Grey Bruce Nutrition Committee (GBNC). This committee has recognized the value of addressing barriers to nutritious food choices across practice settings. The members have shared experiences

and established consistent language and resources related to food insecurity, breastfeeding, infant feeding practices, and malnutrition among older adults in our communities. By combining the voices of these professionals, the GBNC has been able to enhance their impact and encourage the use of best evidence in nutrition among other professionals.

Another initiative has been the planting of a 'Gtigaan Ki' Forest Garden (Hutter, 2013) by Saugeen First Nation. The garden includes fruit trees and traditional wild medicines. The coordinator of the Forest Garden reports to the Wellness Program coordinator of this Indigenous community, who also runs programs for the many members with diabetes. Similarly, the Bruce Botanical Food Gardens produces a wide range of heritage and rare plants from the counties, with substantial inputs for soil health (e.g., coffee grounds from a nearby franchise and green fertilizer from comfrey, which is high in potassium). With goals of preservation and education paired with practical application (e.g., children pick snails out of the garden), the gardens are open to all to pick produce and provide a donation as they are able. There is often extra produce supplied to needy families and food banks in nearby towns (Nan Grant, personal communication, Sept 2018).

Alison Rowe, a Walkerton-based chef, decided to reduce reliance on meat for her own and her husband's health. She led a monthly potluck called "Our Healthy Plate" and conducted a three-evening Transitions course in the local high school to help people transition from an "over-reliance" on meat sources to plant sources, with an emphasis on local foods. Her programming presaged the move exemplified by the most recent Canada's Food Guide (Health Canada, 2019). She has received referrals from local health providers for counselling people with chronic conditions that require dietary transitions (e.g., those with gout, obesity, and heart disease).

These examples link to items in the Health domain addressing food accessibility (b) and prevention and management of chronic diseases with culturally appropriate foods (c). Historically, the Healthy Communities Partnership addressed municipal and county policy (a) and the Grey Bruce Health Unit addresses baby friendly policies (d), while education efforts are addressed under the Education domain below.

Social justice

The Charter clearly recognizes that all Canadians have the right to food. Through public and stakeholder consultation, social justice action was identified as important to the vision for the Grey Bruce food system. Many Grey Bruce households struggle to reliably access the food they need due to financial constraints (FSAG, 2016). According to the 2019 Grey Bruce Nutritious Food Basket (GBHU, 2019a), costing for a reference family of four was $217.99 per week, or 36% of the maximum Ontario Works income. United Way of Bruce Grey (n.d.) hosts the Food Bruce Grey app, which reports meals provided on a monthly basis, with inputs from a wide range of produce distributors, food banks, and meal programs. Between March 1, 2020, and Feb 31, 2021, more than 160,000 meals were provided to community members in need, and 9,942 households (19,242 individuals) were served through food banks in Grey Bruce. This represents

a commitment of 25,811 volunteer hours (United Way of Bruce Grey, n.d.), yet the FSAG has maintained that use of local food charities is by only a fraction of the 20% of Grey Bruce households experiencing food insecurity in our region (GBHU, 2019b).

The second annual Fall Food Gathering (September 20, 2018) combined the work of the United Way's Food Bank Summit with the broader-based mandate of the Fall Food Gathering. Co-sponsored by the Grey Bruce Sustainability network and the Bruce Grey Poverty Task Force (BGPTF), the collaborative effort brought together food system players to connect, collaborate, share, and learn about current needs and opportunities to improve food security for all in Grey Bruce (BGPTF, 2018). Participants included not only those from a range of health and social services, but also people with experience living on low incomes, who inform and advocate for inclusion of their views.

Maryanne Buehlow from the Walkerton Food Bank described how she forged a partnership with the Foodland grocery store in town, gleaning meat when it was no longer saleable at the store according to corporate policies but could be prepared safely for a large community dinner sponsored by the food bank. The Fair Fields CSA (community supported agriculture) offered weekly shares of fresh, ecologically farmed produce for the food bank as well, donated by physician family friends of the farm. In Wiarton, the Salvation Army and GBHU initiated, and then the Green House of the Canadian Mental Health Association (CMHA), assumed leadership of a Good Food Box site as a "collective buying program [which] provides a grocery bin of fresh seasonal produce at a low price, encourages nutritious food choices, and promotes fresh fruits and vegetables" (Grey Bruce Good Food Box Program, n.d.).

The Grey Bruce Food Gleaning project has been working actively with farmers who lack the labour or time to harvest their entire crop. Initially enlisting students from Georgian Community School to pick raspberries, organizations like the Knights of Meaford now bring their hockey team to help. Volunteers take about 20% of the pickings, and 80% goes to programs. So many apples were gleaned that, after sharing them with school children, adolescents, and food bank members, some could be converted to apple sauce for sale through local markets. As word has spread, other organizations outside Meaford have become involved (e.g., the Southeast Grey Community Health Centre in Markdale). Food gleaning efforts continue to grow as local businesses and community organizations join the Food Rescue network that facilitates communication between the two sectors whenever excess food becomes available. Some local grocers have now established regular donations of food not anticipated to sell, saving disposal fees while reducing their contribution of organic waste and its associated greenhouse gases (Nikkel et al., 2019).

Co-chair of the Fall Food Gathering Jaden Calvert returned from food systems, horticulture, and organic farming training at the University of Guelph to his native Meaford to engage in community food system activities. A community organization, Golden Town Outreach, wanted to develop a community garden near geared-to-income housing, involving children and youth. The food bank and the high school provided land for plots and labour to build raised beds to improve accessibility for those with physical challenges. Together, they

wove participation in garden activities into school curricula, providing children from low-income families with education on nutrition and practical skills in gardening to impact their own and their families' food choices. The Community Mental Health Association aligned an outreach counselling service, linking food security (social justice) with mental health (health). Both the Meaford Community Gardens and CMHA have demonstrated leadership in establishing a Grey Bruce Community Gardens Network. The Network has hosted events with the support of the Grey Bruce Sustainability Network to engage others in establishing or enhancing their own community gardens locally.

These examples emphasize multiple efforts around Charter Social Justice item (a), to improve access to healthy food for everyone, and (c), providing land access for those interested in growing and processing food. Wages for food producers and workers (b) are more difficult to address, while the broader range of social determinants of access to healthy food are addressed by other BGPTF Action Groups, for example those on Income Security, Housing, and Transportation.

Culture

Dietitians of Canada has recognized that culture and food are intertwined, and that culture should be considered by dietitians in developing a sustainable food system in Canada (Carlsson et al., 2020): "Canadians value food, its origin and quality, and express identity and culture through foods" (p. 7). As the first humans on Saukiing Anishnaabekiing (now Grey-Bruce), Indigenous people developed a food culture which drew upon the vast fisheries resources of nearby Lake Huron and Georgian Bay (Cleland, 1982). Despite persistent fishing conflicts with settlers (Warry, 2000), the Chippewas of Nawash (Neyaashiinigmiing) continue to exert their food sovereignty by gathering sufficient fish for their own consumption and to sell through local outlets (Lowitt et al., 2019). Youngblood (2017) reports that "First Nations People in this area are already seeing changes … that could be related to climate change, such as smaller, unripe and harder-to-find berries, shorter and less abundant sweet grass, changes in timing of ripening and maturing of plants, lower lake water levels, less flowing water in creeks and streams, fewer wildlife, fewer fish and a general feeling that the environment is degrading" (p.24) (see also Environment domain 6 below). This highlights the importance of valuing all species in an area, as was done in the opening of the 2018 Grey Bruce Fall Food Gathering by Shirley John of the Saugeen First Nation. In keeping with Haudenosaunee food tradition (Gordon et al., 2018), she gave thanks for all the food plants. These Indigenous food systems contribute to food security of Indigenous people and sharing of food-based traditions.

Food-based traditions are also observed within the settler agricultural sector in Grey Bruce. Since agriculture became a major activity in the counties in the 1800's, agricultural societies have promoted fall fairs with a variety of historical and cultural activities (e.g., crafts, past agricultural practices). Although virtual during the pandemic, they help connect rural and urban members of the counties with local food production and processing. For example,

Sydenham's fall fair has been running for over 160 years and is geared to young students to encourage them to "plant gardens, create arts and crafts, […] raise livestock, take photos, and create short films" (Sydenham Fall Fair, 2020). Other agricultural societies have promoted community gardens to share the joy and continue the practice of growing food among children, as well as those with health challenges, in collaboration with the community health centre and mental health association.

Cultural initiatives involve embracing diverse cultures and their cuisines as well. The Eat Well Market in Hanover includes "Patricia Morgan, originally from Jamaica, [who] sells traditional West Indian prepared foods at the market. A former restauranteur, she moved with her family [to Hanover] last year and is now a regular vendor. Her food offerings… include such dishes as fried plantain, callaloo (spicy greens), and stewed goat" (Kenny, 2018). Chef Alison Rowe in Walkerton responded to those interested in learning about different food cultures by creating cooking classes in which participants learn to prepare dishes from different parts of the world. She notes that what has become accepted as traditional cuisine in Grey Bruce has actually been transformed over time, "from meat once or twice a week to several times a day" (Alison Rowe, personal communication, September, 2018) for many people. Previously part of the Grey Bruce Agriculture and Culinary Association, she aims to increase the diversity of cuisines that people can appreciate, particularly those with long traditions of plant-based foods. Hence, examples can be found for all Charter items (a-d) under Culture.

Education

Consistent with Sumner's (2005) emphasis on its role as part of the civil commons, education is a key domain in the Charter, and plays a prominent role in alternative food practices. GBHU members have worked on food literacy (LCDP, 2017), expanding this to include all the attributes, knowledge, and skills needed for healthful eating. Student nutrition programs in schools and the Grey Bruce Good Food Box program represent key opportunities to apply the food literacy framework and strengthen outcomes. A particular focus has been placed on inspiring health early in the lifecycle, in part by supporting at-risk prenatal and perinatal households through the Canada Prenatal Nutrition Program (CPNP). In partnership with Keystone Child, Youth, and Family Services, CPNP delivers group education, skill building, and peer-support opportunities to improve food literacy and health outcomes during pregnancy and early infancy.

"Grown in Grey" provides curriculum-matched education for grades four to six, with an emphasis on agriculture and related industries, including activities around food choices (grade four), nutrition facts and media influences on food choices (grade five), and biodiversity and healthy eating (grade six). Such programs are particularly important as fewer and fewer children grow up on farms, even in rural areas. For youth in Hanover, the

> Launch Pad Youth Activity and Technology Centre, a town-supported facility serving youth, between the ages of twelve and eighteen, in the Grey and Bruce County region… offers skills training to grow youth's aspirations and help them set and achieve personal goals. This year the Launch Pad added entrepreneurialism to its skills development program, and on June 2, became a vendor at Eat Well Market. Youth […sell] items they have created themselves or as a group from the Launch Pad's commercial kitchen utilizing in-season fruits and vegetables (Kenny, 2018).

Vendors have also started hiring youth to attend to shoppers at various market stalls, providing links to livelihoods.

For adults, cooking classes are provided both by independent chefs and through community programs. For example, in 2014, Golden Town Outreach partnered with the Municipality of Meaford to deliver cooking programs that bring all walks of life together to learn, cook, and share nutritious, culturally diverse meals. These cooking programs are designed to build food skills, to reduce social isolation, and to increase access to healthy food. They are supported by Grey Bruce Public Health's Healthy Babies Healthy Children program. New programs include the "Cooking with the Good Food Box" group in Walkerton, a virtual program with food kits for participants out of the Meeting Place in Tobermory that started during the COVID-19 pandemic, as well as a program based on a partnership between the Southwestern Ontario Aboriginal Health Access Centre (SOAHAC) and M'Wikwedong Indigenous Friendship Centre that also includes elements of Indigenous Food Sovereignty and traditional foods. These Education domain activities emphasize items (a-c) and (f). Others described above included community gardens (d) (Social Justice domain) and public awareness and education (fall fairs in the Culture domain).

Sustainable economic development

The majority (58% or 4265 km^2) of the total land area of Grey and Bruce Counties is farmland, mostly (65%) devoted to cash crops. In the province of Ontario, "Grey County lead[s] the production of apples (45% of provincial apple acreage), flaxseed, and area planted to canola, barley, and mixed grains" (FSAG, 2016, p. 7; Cummings et al., 2015). Further, unlike many rural areas, the number of farmers is actually increasing, with an influx of members of the growing Mennonite community as well as alternative kinds of producers, such as CSA operations. However, new farms are primarily smaller, as medium-sized farms decrease and large farms grow (Grey County, 2019). Bruce County has one of the longest functioning community pastures in Canada (fifty-five years), another form of land usage partnered with the Saugeen Valley Conservation Authority (Dadson, 2016). The commitment to build on both their agricultural heritage and newer food options led the counties to commission a Business Retention and Expansion study focused on agri-food (Ainley Group, 2018). It also stimulated the development

of an agri-food strategy for Grey County (Planscape, 2017). The latter included emphasis on supporting local food production, services, infrastructure, processing, and innovation, consistent with the Charter.

Supports for sustainable agricultural production are a key concern for local governments and farmers' organizations, as evidenced by Ecological Day in the 2018 Grey Bruce Farmers' Week, when two alternative producers were highlighted. Tarrah Young of Green Being Farm produces and directly markets pastured pork, poultry, eggs, and grass-fed beef, with a mandate of raising animals in a way that does not compromise their dignity or that of the environment (see Suderman, n.d.). Similarly, Linton Pasture Pork is a small farrow-to-finish operation, primarily an in-pasture family farm. It strives to ensure its animals are raised in a sustainable environment, are treated humanely, and are fed a diet that supports their natural growth cycle.

Historically, livestock markets thrived in the counties (e.g., Keady Livestock). More recently, farmers' markets have developed an explicit interest in promoting fresh and locally produced foods as a way to reduce food miles and encourage relationships between consumers and producers. For example, the Eat Well Market was started in Walkerton by chef Alison Rowe in 2011 to fill the gap in terms of health foods and alternative cuisine options in the area. She described long-term engagement with customers who made changes to their diet by incorporating more vegetables, thereby reducing their weight and becoming more energetic (A. Rowe, personal communication, September 19, 2018). Rosemary Crick, a nearby biodynamic vegetable producer, initially participated as a vendor in the Eat Well Market before taking on the volunteer coordinator role and working with the City of Hanover to support establishment of the market in the Hanover town square (Kenny, 2018). Crick took on the challenge of growing the market by gradually increasing vendors and reaching out to residents from Hanover and surrounding towns with the intention of developing a sustainable and socially responsible business option for local producers. She actively networked with other farmers' markets through the Green Belt Foundation's farmers' market group to gather ideas and garner support.

Another link to sustainable economic development is through Eat Local Grey Bruce, a food co-op with an online ordering system that delivers locally grown food to member-consumers' doors. It was launched in early 2015 and spearheaded by Thornston Arnold, who is a co-producer with his wife Kristine Hammel of Persephone Market Garden, co-founder of the Grey Bruce Centre for Agroecology, and consultant to the Ecological Farmers Association of Ontario. Governed by both producers and consumers, Eat Local Grey Bruce is incorporated as a not-for-profit co-op so it can receive donations and grants for co-op development work, start-up staffing, and volunteer coordination. Ahren Hughes was a producer board member from Blackshire Gardens who supplies ecologically grown beans, mushrooms, and other produce to the co-op, which he describes as one route among "a diversity of ways for people to access local food" (personal communication, August 2018). In relation to equity, much of the food they provide has been more affordable due to bulk buying from the former Ontario Natural Food Company, as well as from the Huron Mennonite auction. Further, they donate any surplus of fresh produce to the food bank in Owen Sound (connection to C.2, social justice). Ahren has

enjoyed the ongoing learning and contribution to the co-op as a viable model for providing food to people (as promoted by the Local Food and Farm Co-op) and for improving "collective well-being" in Grey Bruce. Eat Local Grey Bruce experienced a surge in demand and members from the start of the pandemic, transforming its operation to better serve its stakeholders (Kralt & Cole, 2021).

Supermarkets in the region have represented a more challenging aspect of sustainable economic development, particularly given their power in the agri-food marketplace. For grocery store franchises, such as Foodland and the Independent, "local food" encompasses food grown anywhere in Ontario, with distant greenhouse operations featured on in-store signage. Overall company policies designed to reduce risks of contamination (e.g., meat only from federally inspected slaughterhouses instead of provincially inspected ones) limit store managers' choices (Store managers, personal communications). However, some managers are authorized to procure five to ten percent of their stock from closer operations, including fresh produce such as corn and pumpkins grown in Grey Bruce, as well as preserved products such as apple cider produced on nearby organic apple farms (Filsinger's Organic Foods). Other local products, including sweeteners (honey and maple syrup), dairy products (cheese and yogurt), cured meats, and wine and ciders sold in the off-license area of their stores, are all available in the Owen Sound Foodland, for example.

Agri-culinary tourism is promoted as a way to stimulate the local food economy and form connections between producers, processors, and consumers. Once a hotbed for bootleggers during Prohibition, Grey and Bruce counties now have Vintners Quality Assurance (VQA) wineries, craft breweries, and heritage cideries using locally grown grapes, hops, and apples. Many can be visited on the Saints and Sinners Trail (Grey County, n.d.). The Grey Bruce Agriculture & Culinary Association promoted public awareness of local produce, preparations, and preserved foods. Its initiative resulted in a variety of agro-culinary trails to highlight both historical and current products of the region, such as the Apple Pie Trail. Hence, items (a-d) in the Sustainable Economic Development domain of the Charter are areas of activity, perhaps due to the involvement of the Grey County agri-food economic development staff in Charter formulation, with (e) needing more attention.

Environment

Both Grey and Bruce counties incorporate a wide variety of terrain (fields, forests, wetlands, urban areas, shoreline, and parkland) and soil types (Hoffman & Richards, 1954). Available environmental indicators framed around ecosystem health (Lam et al., 2014) found generally good conditions, although with important data gaps around biodiversity and trends in soil quality. The Grey Bruce Sustainability Network arose after the contamination of Walkerton's wells with runoff from livestock operations, resulting in many town members becoming ill and some dying (Ali, 2004). Partly as a response, more farmers developed Nutrient Management Plans, and these are now required provincially.

Early on, Grey County farmers were active in the development of Environmental Farm Plans, "an assessment voluntarily prepared by farm families to increase their environmental awareness in up to twenty-three different areas on their farm" (OSCIA, n.d.). Emphasis is on mitigating the potential for biological and chemical contamination of people, products, and environmental media. Over 2,500 people participated in workshops in the first decade (Ray Robertson, personal communication, October 2018), although implementation is harder to assess (Schmidt et al., n.d.). At the same time, pesticide application continues to threaten bee populations (one owner lost one third of their hives in a recent season), despite an increase in the number of apiaries in recent years (Grey County, 2019).

Concern has been voiced about declining fertility on leased farmland, where the incentive to invest in building the soil is reduced. One response is to link with farmers who follow healthy land management practices, either online or through face to face (F2F) matchmaking events (see Caldwell et al., 2015). Substantial numbers of newer farmers in Grey County are members of the Ecological Farmers Association of Ontario, experimenting with more sustainable practices on their farms. Similarly, increasing numbers of farmers are active with Alternative Land Use Services (ALUS) Grey Bruce, which "currently supports projects such as tree planting, wetland creation, buffer enhancement, exclusion fencing, grassland plantation/preservation, and pollinator habitat…" (ALUS, n.d.) The Grey Bruce ALUS coordinator has noted that "older farmers are involved to preserve their land for their grandchildren, while younger farmers are experimenting with multi-land-use systems as part of integrated farm operations plans" (Keith Reid, personal communication, October, 2018). The 2018 *Ag 4.0* conference included a focus on "innovation in agriculture and food production and also in soil and water conservation and climate change mitigation." (Grey County, n.d.) As those involved in a study of the agri-food sector (Ainley Group, 2018) noted, sustainable livelihoods were seen to depend on good crop rotation practices. As one farmer put it, "every farmer's aim should be to leave farmland better than they found it." Building organic matter ("the king") through green and barnyard manures is an example of re-discovering historic practices which were part of agri–culture (McLean & Atkinson, 1951; Shutt, 1898; Shutt & Wright, 1927).

Conservation authorities (Grey Sauble and Saugeen Valley) actively promote tree planting in the watersheds under their responsibility as part of erosion (due to water and wind) reduction and water source protection, particularly re-establishing strategically placed fence (hedge) rows. Saugeen Valley Conservation Authority sponsors a farmer-to-farmer outreach series entitled "Coffee, Crops & Donuts," with topics ranging from soil health to the economics of stewardship. Jaden Calvert, a municipal councilor and community food activist who served on the board of the Grey Sauble Conservation Authority, noted how doing both helped to "push forward social and environmental goals in municipal strategic plans". Terms like "ensuring sustainability" and "caring community" have begun to appear in municipal plans (Jaden Calvert, personal communication, October 2018).

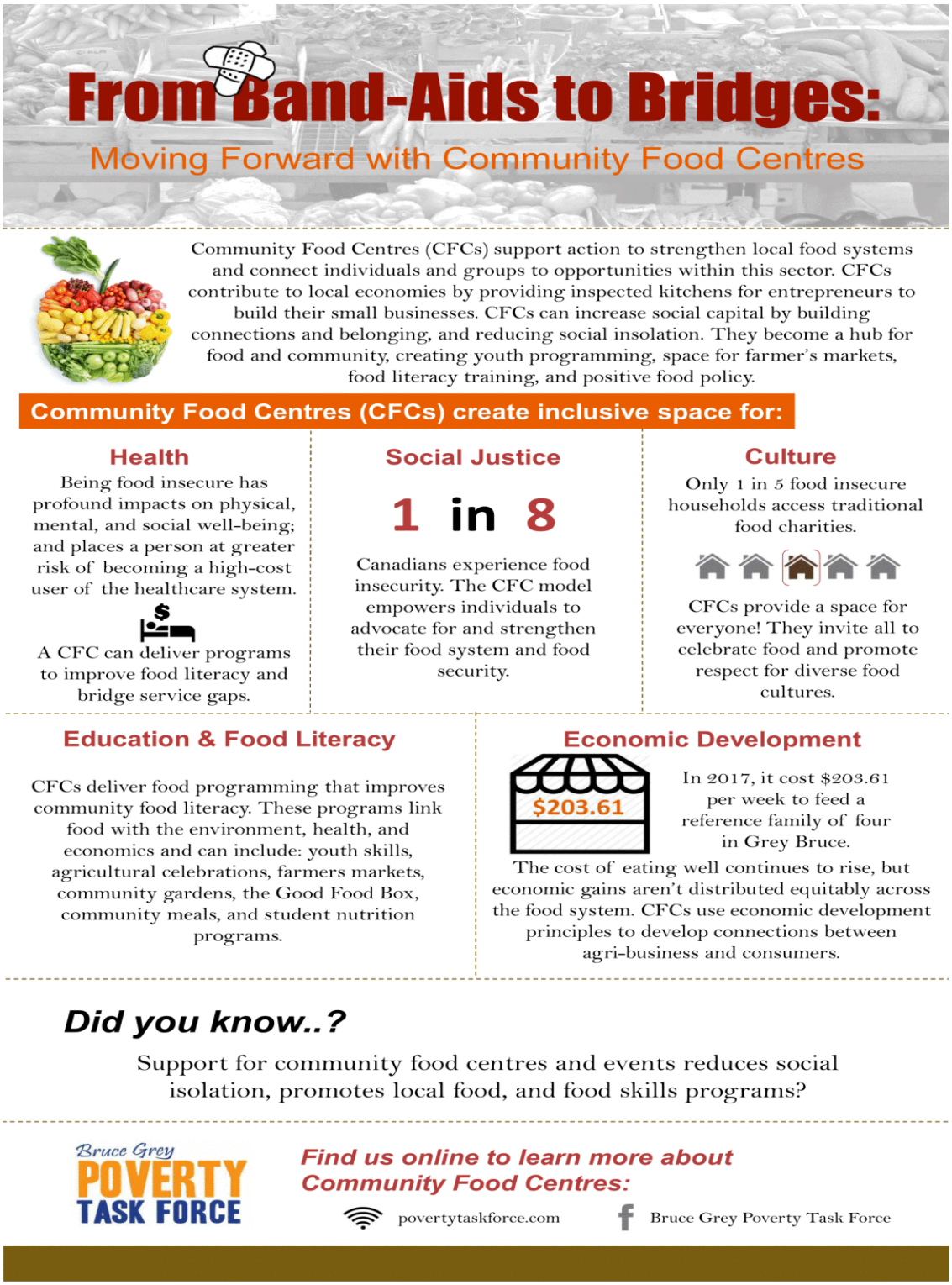
More recently, the Healthy Communities Partnership hosted a virtual Climate Change Conference (Oct 2020). Elements of the food system were discussed through concurrent sessions

on regenerative agriculture, food recovery, and food waste production. Building on the success of this event, the Grey Bruce Sustainability Network launched a virtual Sustainable Living Series (https://www.youtube.com/playlist?list=PLc7JvbEAIJLN0fcoeNqJqwd_988ux5faT) with keynote interviews including topics such as community gardens, regenerative agriculture, waste management, and nature-based solutions to improve carbon sequestration as key targets for both emission reduction and adaptation to climate change. These series allowed community members to engage with local experts and explore how individual and collective actions can positively influence the environment. Therefore, all (a-c) items in the Environment domain are being actively pursued in the counties.

Linkages across domains

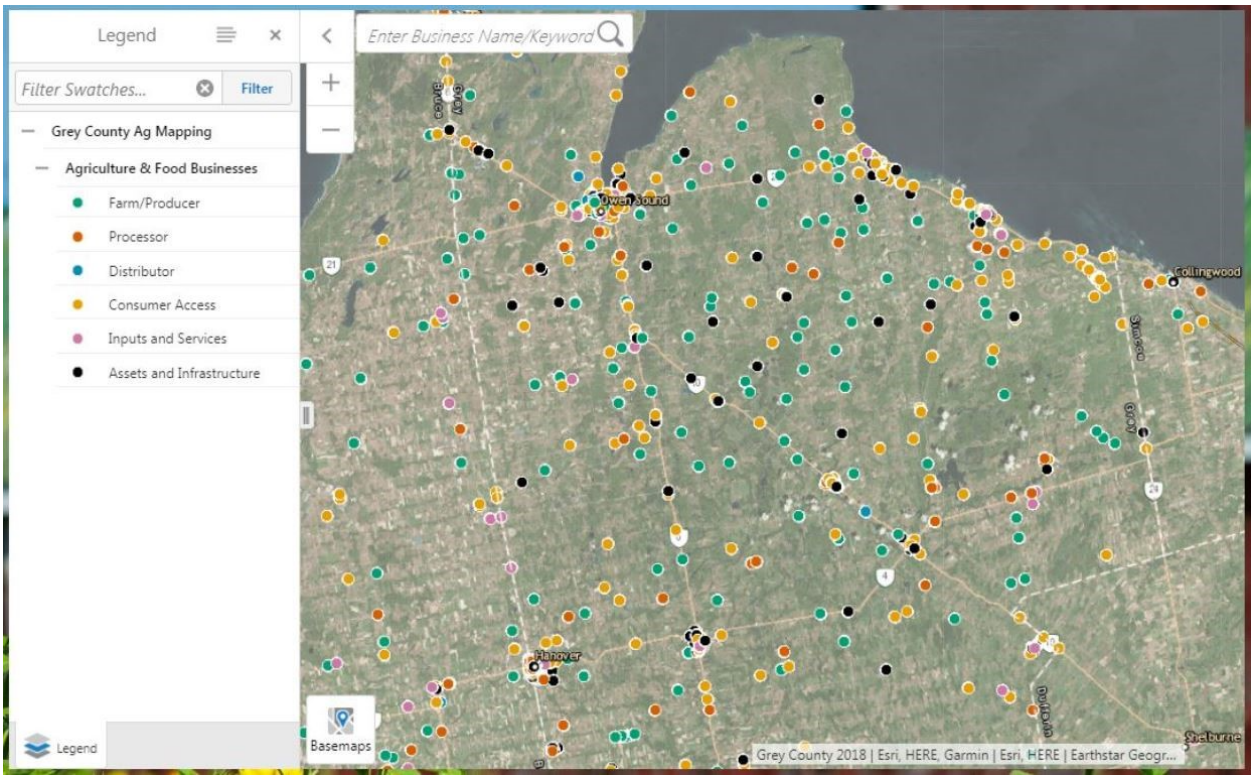
Linkages across domains are part of the message the FSAG wanted to convey in bringing the different domains together in the Charter. These linkages enhance the Charter's potential as a critical food guidance tool, given the breadth of sectoral involvement in Charter development and its value-based approach. For example, the FSAG engaged with the Municipality of Northern Bruce Peninsula and the Meeting Place, a local food charity, to adopt a more inclusive community food centre model. Community Food Centres are a prime example of integration across domains, incorporating health, social justice, culture, education, and economic development (see Figure 1).

Figure 1: From band-aids to bridges: Moving forward with community food centres



To bring production and consumption together with food security, Grey County set up a geographic information systems-based, interactive Agri-Food Asset Map (Grey County, 2019) (See Figure 2). It aims to support new connections in the food system towards alternative production and marketing options, food security, celebration of food hospitality, and social and economic development. The FSAG has partnered with Grey County to plot a more complete picture of food security assets, including how each asset connects with others. It aims to integrate food security across the value chain (i.e., values for consumers of food as well as for producers of food), in keeping with sustainable community food systems approaches. Nevertheless, the Agri-food Business Retention and Expansion research survey (Ainley Group, 2018) identified gaps in the value chain locally. In particular, several stakeholders identified a lack of abattoirs and distribution, which has been crucial during COVID-19 with large facilities closed across the country.

Figure 2: Map. Agriculture and food businesses



Screenshot from Grey County Agri-Food Asset Map

Bruce Botanical Food Gardens has built strong relationships with the nearby Old Order Mennonite community—a cultural handshake—reclaiming tools used in the past. They have reached out to nearby chefs and breweries using ingredients from the garden (culinary culture). Through workshops, they share food knowledge with children and adults, such as how to cook

with material from the garden. Similarly, although the primary drivers for attendees at Alison Rowe's workshops may be health concerns or inter-cultural interest, the response is one of education. Agro-culinary trails not only promote local economies, but also share history, grounding people in the stories of their food past.

Conclusion

Development of the Bruce Grey Food Charter was informed by existing alternative food initiatives and practices, through an ample, primarily multi-stakeholder collaboration, to borrow the term in Laforge and colleagues' (2017) typology. Applying Andrée and colleagues' (2019) analysis, FSAG members mobilized sufficient instrumental resources in a rural political-economic context, in which resting control was not seen as an option, in order to focus primarily on food security. Its accomplishment was primarily a discursive one, smoothing over the potentially conflicting interests and discourses that occur and can lurk behind Charter statements (Lafferty, 2015).

However, the Charter has encouraged innovations, in keeping with the mobilizing role of critical food guidance. These include change at municipal policy and regional organization levels (GBHU and Eat Well Grey Bruce), community food centres and farmers' markets at the community level, and community-supported agriculture at the family-household level. Such diversity is consistent with multiple levels in socio-ecological models of community food systems (Mader & Busse, 2011). In this way, the Food Charter has been a critical food guidance tool for nudging food systems at multiple levels.

One can argue that the initiatives described here predominantly exemplify demonstration projects and paths to transition rather than larger structural changes (see McInnes & Mount, 2017). The cooperative Eat Local Grey Bruce only involves about one percent of farmers and serves an equivalent percent of households in the region (Kralt & Cole, 2021). Similarly, meals served through the network of meal programs are estimated to serve a minority of those in need. Although sound data are not publicly available, supermarkets still sell the majority of food, and most of it comes from outside the two counties. In the wider provincial to global context, other changes are needed (MacRae, 2017).

Nevertheless, the Charter recognizes that food sovereignty policy development must be holistic and promote an understanding of food systems (Robinson & Penner, 2018), upon which change can be slowly built. Such a shared understanding was manifest in the documents and reports cited, the interviews conducted with food system actors for this paper, and our own experience as agri-food system actors. The sense of the whole was palpable across sectors and roles, along with insights into persistent challenges and emerging opportunities. Despite this, the ongoing commitment of Food Security Action Group members to maintaining a constructive dialogue in Bruce and Grey Counties remains essential for ongoing reflection and adaption required in critical food guidance. The introductory paragraph to the Charter notes, "the Charter

is a commitment to work together to build a vibrant, sustainable, food secure community." Efforts may wax and wane, as different food system actors have different interests and priorities over time (Johnston & Andrée, 2019) – many currently dominated by the COVID pandemic. Yet creative responses to the pandemic, highlighting growing food insecurity and the need for actions consistent with the Charter, have highlighted the Charter's role (United Way of Bruce Grey, n.d.). Hopefully, Bruce Grey citizens and food system actors continue to ask questions, to promote the Charter, and to build alternative food initiatives and practices into the future which gradually move the food system towards embodying the Charter values.

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References

Ainley Group. (2018). *Agriculture & agri-food value chain business retention & expansion (BR+E) study. Simcoe, Grey & Bruce Counties*. Trends Report. https://brucecounty.on.ca/sites/default/files/SGB%20BRE%20Final%20Trends%20Report%20jw.pdf

Ali, S.H. (2004). A socio-ecological autopsy of the *E. coli* O157:H7 outbreak in Walkerton, Ontario, Canada. *Social Science & Medicine, 58*(12), 2601-2612. https//www.doi.org/10.1016/j.socscimed.2003.09.013

Alternative Land Use Services (ALUS) Grey Bruce. (n.d.). *Grey and Bruce Counties have embraced the ALUS program and its principles, with very positive results for both agriculture producers and the community at large*. https://alus.ca/alus_community/alus-grey-bruce/

Andrée, P., Clark, J., Levkoe, C., Lowitt, K., & Johnston, C. (2019). The governance engagement continuum: Food movement mobilization and the execution of power through governance arrangements. In P. Andrée, J. Clark, C. Levkoe, & K. Lowitt (Eds.), *Civil society and social movements in food system governance* (pp. 19-42). Routledge.

Bruce Grey Poverty Task Force (BGPTF) (n.d.). *Bruce-Grey food charter.* https://www.publichealthgreybruce.on.ca/Your-Health/Eating-Well/Food-Charter

BGPTF. (2018). *Respect, validation & listening: Fall food gathering 2018*. https://povertytaskforce.com/2018/10/11/respect-validation-listening-fall-food-gathering-2018/

Buck-McFadyen, E. V. (2015). Rural food insecurity: When cooking skills, homegrown food, and perseverance aren't enough to feed a family. *Canadian Journal Public Health, 106*(3), e140–e146. https://www.doi.org/10.17269/CJPH.106.4837

Caldwell, W. J., Kraehling, P., Kaptur, S., & Huff, J. (2015). *Healthy rural communities tool kit – A guide for rural municipalities.* University of Guelph. https://www.ruralhealthycommunities.ca/

Carlsson, L., Revald Dorph, J., & Callaghan, E. (2017). *Sustainable food systems that promote healthy diets*: *A proposed roadmap for Dietitians of Canada summary of the Delphi inquiry process*. Dietitians of Canada. https://www.bth.se/wp-content/uploads/2017/07/Summary_Sustainable_Food_Systems__Healthy_Diets_2017-.compressed.pdf

Carlsson, L., Seed, B., & Yeudall, F. (2020). *The role of dietitians in sustainable food systems and sustainable diets*. Dietitians of Canada. https://www.dietitians.ca/Advocacy/Priority-Issues-(1)/Food-Policy/Sustainable-Food-System

Clark, J. K. (2019). Collaborative governance. The case of local food action planning. In P. Andrée, J. Clark, C. Levkoe, & K. Lowitt (Eds), *Civil society and social movements in food system governance* (pp. 164-182). Routledge.

Cleland, C. E. (1982). The inland shore fishery of the northern Great Lakes: Its development and importance in prehistory. *American Antiquity*, *47*(4), 761-784.

Cummings, A., Kanaroglou, P., Kubursi, A., & MacRae, R. (2015). *Dollars & sense: Opportunities to strengthen southern Ontario's food system*. J.W. McConnell Family Foundation, Metcalf Foundation, Friends of the Greenbelt Foundation. http://www.greenbelt.ca/dollars_and_sense_opportunities_2015

Dadson, L. (2016, July 21). *More than 100 people gather for 50th anniversary of Bruce community pasture*. The Kincardine Record. https://www.kincardinerecord.com/story.php?id=2753

Desjardins, E., Lubczynski, J., & Xuereb, M. (2011). Incorporating policies for a healthy food system into land use planning: The case of Waterloo Region, Canada. *Journal of Agriculture, Food Systems, and Community Development*, *2*(1), 127–140. http://dx.doi.org/10.5304/jafscd.2011.021.003

Food Security Action Group (FSAG) of the BGPTF. (2016) *Food security in Bruce Grey.* https://povertytaskforce.com/publications/

Gordon, K., Lickers Xavier, A., & Tait Neufeld, H. (2018). Healthy roots: Building capacity through shared stories rooted in Haudenosaunee knowledge to promote Indigenous foodways and well-being. *Canadian Food Studies*, *5*(2), 180-195. https://doi.org/10.15353/cfs-rcea.v5i2

Grey Bruce Good Food Box Program. (n.d.). *Wiarton good food box.* https://brucegrey.cioc.ca/record/GBA1656

Grey Bruce Health Unit. (GBHU). (2019a). *Nutritious food basket survey 2018. https://www.publichealthgreybruce.on.ca/Your-Health/Eating-Well/Cost-of-Eating-Well*

Grey Bruce Health Unit. (2019b). *Food insecurity in Grey Bruce* [Infographic]. https://www1.publichealthgreybruce.on.ca/Portals/0/Topics/Eating%20Well/Food%20Insecurity%20in%20Grey%20Bruce.pdf

Grey County. (2015). *Saints & sinners: Local craft beer, wine & cider.* https://www.visitgrey.ca/trip-ideas/saints-sinners-local-craft-beer-wine-cider

Grey County. (2019). *Agri-food asset map* https://maps.grey.ca/pages/agrifood

Grey County. (n.d.) Ag 4.0.2 digital agriculture conference. https://madeingrey.ca/news-events/ag-40-nov-1

Health Canada. (2019). *Canada's dietary guidelines*. Guidance Document Catalogue # H164-231/2019E-PDF. https://food-guide.canada.ca/en/guidelines/

Hoffman, D. W., & Richards, N. R. (1954). *Soil surveys of Bruce County (report 16) & Grey County (report 17)*. Experimental Farms Service, Canada Department of Agriculture and the Ontario Agricultural College. https://sis.agr.gc.ca/cansis/publications/surveys/on/on17/on17_report.pdf

Hutter, A. (2013). *Saugeen 'gtigaan ki' forest garden*. https://prezi.com/y2jqsr6nglrg/saugeen-gtigaan-ki-forest-garden/

Jaquith, M. M. (2011). *An assessment of Canadian food charters. Highlights and recommendations for the KFL&A Healthy Eating Working Group.* https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/_pdf/projects/FPN/Ordinances_Model_Policies/An_Assessment_of_Canadian_Food_Charters.pdf

Johnston, C., & Andrée, P. (2019). Pathways to co-governance? The role of NGOs in food governance in the Northwest Territories, Canada. In P. Andrée, J. K. Clark, C. Z. Levkoe, & K. Lowitt (Eds.). *Civil society and social movements in food system governance* (pp. 43-62). Routledge. https://doi.org/10.4324/9780429503597

Kenny, G. (2018, August 1). *Eat well market, Hanover*. The Rural Voice/The Citizen. https://www.huroncitizen.ca/eat-well-market-by-gary-kenny

Kralt, J. & Cole, D. (2021). Awakening to the need for community resilience: Experiences within a rural food distribution cooperative. *Journal of Critical Dietetics, 5*(3), 12-19. https://doi.org/10.32920/cd.v5i3.1401

Lafferty, J. (2015). Troubling place in alternative food practices: Food movements, neoliberalism, and place. In K. M. Fitzpatrick, & D. Willis (Eds.), *A place-based perspective of food in society* (pp. 221-240). Palgrave Macmillan.

Laforge, J. M. L., Anderson, C. R., & McLachlan, S. M. (2017). Governments, grassroots, and the struggle for local food systems: Containing, coopting, contesting and collaborating. *Agriculture and Human Values, 34*, 663–681. https://www.doi.org/10.1007/s10460-016-9765-5

Lam, S., Leffley, A., & Cole, D. C. (2014). Applying an ecohealth perspective in a state of the environment report: Experiences of a local public health unit in Canada. *International Journal of Environmental Research and Public Health, 12*(1), 16-31. https://doi.org/10.3390/ijerph120100016

Lang, T. (2005). Food control or food democracy? Re-engaging nutrition with society and the environment. *Public Health Nutrition*, *8*(6a), 730-737. https://doi.org/10.1079/PHN2005772

LCDP. (2017). *Food literacy project update #4*. https://www.publichealthontario.ca/-/media/documents/l/2017/ldcp-food-literacy-update-2017.pdf?la=en&sc_lang=en&hash=786826ED5A0FC08298E1AE5AE046042C

Lenardson, J. D., Hansen, A. Y., & Hartley, D. (2015). Rural and remote food environments and obesity. *Current Obesity Report, 4*(1), 46-53. https://www.doi.org/10.1007/s13679-014-0136-5

Levkoe, C. Z. (2017). Alternative food initiatives, food movements, and collaborative networks. A pan-Canadian perspective. In M. Koç, J. Sumner, & A. Winson (Eds.). *Critical perspectives in food studies* (pp. 348-362). Oxford University Press.

Lowitt, K., Levkoe, C. Z., Lauzon, R., Ryan, K., & Chief Sayers, D. (2019). Indigenous self-determination and food sovereignty through fisheries governance in the Great Lakes region. In P. Andrée, J. Clark, C. Levkoe, & K. Lowitt, (Eds.), *Civil society and social movements in food system governance* (pp. 145-163). Routledge. https://doi.org/10.4324/9780429503597

MacLeod, E. (2017). Ecological food practices and identity performance on Cape Breton Island. *Canadian Food Studies, 4*(1), 44-67. https://doi.org/10.15353/cfs-rcea.v4i1.172

Mader, E., & Busse, H. (2011). Hungry in the heartland: Using community food systems as a strategy to reduce rural food deserts. *Journal of Hunger, Environment and Nutrition, 6*(1), 45–53. https://doi.org/10.1080/19320248.2011.549377.

MacRae, R. (2017). Food policy for the 21st century. In M. Koç, J. Sumner, & A. Winson (Eds.), *Critical perspectives in food studies* (pp.307-319). Oxford University Press.

McCullum, C., Desjardins, E., Kraak, V. I., Ladipo, P., & Costello, H. (2005). Evidence-based strategies to build community food security. *Journal of the Academy of Nutrition and Dietetics, 105*(2), 278–283. https://doi.org/10.1016/j.jada.2004.12.015

McInnes, A., & Mount, P. (2017). Actualizing sustainable food systems. In M. Koç, J. Sumner, & A. Winson (Eds.), *Critical perspectives in food studies* (pp. 332-334). Oxford University Press.

McLean, A. J., & Atkinson H. J (1951, 1962). *Manures and composts*. Agriculture Canada Pamphlet #868.

Mendes, W. (2017). Municipal governance and urban food systems. In M. Koç, J. Sumner, & A. Winson (Eds.), *Critical perspectives in food studies* (pp. 286-304). Oxford University Press.

Miller, V., Yusuf, S., Chow, C. K., Mahshid, D, Corsi, D. J., Lock, K., Popkin, B., Rangarajan, S., Khatib, R., Lear, S. A., & Mony, P. (2016). Availability, affordability, and consumption of fruits and vegetables in 18 countries across income levels: Findings from the Prospective Urban Rural Epidemiology (PURE) study. *Lancet Global Health*, *4*(10), e695-e703. https://doi.org/10.1016/S2214- 109X(16)30186-3

Morton, L. W., Bitto, E. A., Oakland, M. J., & Sand, M. (2008). Accessing food resources: Rural and urban patterns of giving and getting food. *Agriculture and Human Values*, *25*, 107-119. https://doi.org/10.1007/s10460-007-9095-8

Nikkel, L., Maguire, M., Gooch, M., Bucknell, D., LaPlain, D., Dent, B., Whitehead, P., & Felfel, A. (2019). *The avoidable crisis of food waste: The roadmap*. Second Harvest and Value Chain Management International. https://secondharvest.ca/research/the-avoidable-crisis-of-food-waste/

Ontario Ministry of Agriculture, Food, and Rural Affairs. (2021). *Local food report, 2021 edition*. https://www.ontario.ca/page/ontarios-local-food-report-2021-edition

Ontario Soil and Crop Improvement Association (OSCIA). (n.d.) *Canada-Ontario environmental farm plan*. *A voluntary environmental education and awareness program*. https://www.ontariosoilcrop.org/oscia-programs/workshops-webinars/environmental-farm-plan/

Piaskoski, A., Reilly, K., & Gilliland, J. (2020). A conceptual model of rural household food insecurity: A qualitative systematic review and content analysis. *Family and Community Health*, *43*(4), 296-312. https://doi.org/10.1097/FCH.0000000000000273.

Planscape. (2017) *Grey County: A local agri-food strategy.* https://docs.grey.ca/share/s/KFPSGoOdQFWMiEzmEGLoFw

Raine, K. D. (2010). Addressing poor nutrition to promote heart health: Moving upstream. *Canadian Journal of Cardiology, 26*(Suppl C), 21C-24C. https://doi.org/10.1016/S0828-282X(10)71078-3

Raphael, D. (2003). Barriers to addressing the societal determinants of health: public health units and poverty in Ontario, Canada. *Health Promotion International*, *18*(4), 397–405. https://doi.org/10.1093/heapro/dag411

Renting, H., Schermer, M., & Rossi, A. (2012). Building food democracy: Exploring civic food networks and newly emerging forms of food citizenship. *International Journal of Sociology of Agriculture and Food*, *19*(3), 289-307. https://doi.org/10.48416/ijsaf.v19i3.206

Robinson, D., & Penner, S. (2018). *Understanding food sovereignty and policy through a community lens: food systems in rural and Indigenous Canada.* https://www.brandonu.ca/rdi/files/2018/10/Final-Presentation.pdf

Schmidt, C., Sweetland, J., & Mussell, A. (n.d.). *Potential role of the Ontario environmental farm plan in responding to sustainability demands of the agri-food supply chain.* George Morris Centre and Loblaw Chair in Sustainable Food Production. https://www.ontariosoilcrop.org/wp-content/uploads/2015/11/gmc_oscia_efp_final_report_june25_13.pdf

Shutt, F. T. (1898). *Barnyard manure; Its nature, functions, composition, fermentation, preservation and application*. Agriculture Canada Experimental Farms Bulletin # 31.

Shutt, F. T., & Wright, L. E. (1927). *Manures and fertilizers; Their nature, functions and application*. Agriculture Canada Bulletin – New Series # 92.

Spoel, P., & Derkatch, C. (2016). Constituting community through food charters: A rhetorical-genre analysis. *Canadian Food Studies, 3*(1), 46-70. https://doi.org/10.15353/cfs-rcea.v3i1.144

Suderman, S. (director). (n.d.). *To make a farm.* https://vimeo.com/44475386

Sumner, J. (2005). *Sustainability and the civil commons: Rural communities in the age of globalization.* University of Toronto Press.

Sumner, J., & Desjardins, E. Editorial to themed section on critical food guidance. *Canadian Food Studies*, 9(1), 1-3.

Sustain Ontario (n.d.). *Food charters in Ontario and beyond*. https://sustainontario.com/resources-2/food-charters-2/

Syndenham Fall Fair. (2020). *2020 167th Sydenham fall fair*. https://static1.squarespace.com/static/574860271d07c0e3dec45104/t/5ebeff1ef48d203bb950e2be/1589575461633/2020+Fair+Book.pdf

United Way of Bruce Grey. (n.d.). Food Security in Bruce Grey. https://unitedwayofbrucegrey.com/services-offered/food-security/

Warry, W. (2000). *Native fishing conflicts on the Saugeen-Bruce Peninsula* [Unpublished doctoral dissertation]. McMaster University. https://macsphere.mcmaster.ca/bitstream/11375/14000/1/fulltext.pdf

Watson, A. (2013). *Groundswell – A guide to building food security in rural communities*. North Kootenay Lake Community Services Society. http://www.nklcss.org/documents/groundswell/grndswl.pdf

Youngblood, K. M. (2017). *My food is my medicine, my medicine is my food - First Nations and Metis People of Grey and Bruce: A forage into traditional food use, climate change and health*. Grey Bruce Health Unit. https://www.publichealthgreybruce.on.ca/Portals/0/Topics/Healthy_Environments/Food%20is%20My%20Medicine-climate%20change%20FN.pdf

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Narrative

Religious food guidance

Michel Desjardins[a*]

[a] Wilfrid Laurier University

Abstract

This article reviews some of the ways in which food intersects with religion and argues that people's religious food habits prepare them to critically engage the food they eat. Religious food guidance is presented through five categories: permanent food restrictions, temporary food restrictions, food offerings, charity, and food for special occasions. The underlying rationale behind these food habits, and religion in general, allows religious people to be fully engaged in current discussions about how to align eating with best practices globally.

Keywords: Religion; religious; restrictions; food; fasting; offerings; charity; meat; community; Christians; Jewish; Muslims; Buddhists; Hindus; Jains

*Corresponding author: mdesjardins@wlu.ca
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Introduction

This article makes a case for the importance of religion, and religious people, in critical food guidance. The evidence comes primarily from extensive fieldwork that Ellen Desjardins and I have done in person within a wide range of religious communities around the world (throughout Asia, Europe, the Middle East, Africa, North and Central America), between 2006 and the present. This fieldwork, continually reviewed by my university's Research Ethics Board, to date has included nearly 300 semi-structured interviews with individuals who self-identify as religious.[1] It has helped to expand a subfield[2] within the academic study of religion. Scholars have long noted the role that food plays in the specific religion(s) they've explored, but the subfield of food and religion is relatively new. A mere handful of university courses, for example, are taught around the world on the topic, and it is rare to see sections devoted to food in introductory textbooks on the world's religions.

Many factors guide our food choices. Price is one. More Canadians will buy avocados at a dollar per kilo than they will at a dollar per avocado. Star power is another guiding factor. Food recommended by a popular actor or athlete is more likely to end up on someone's plate. The food industry, for its part, continues to design and market food that people find hard to resist. Canada's Food Guide is widely used, especially in institutions. Nutritionists also carry weight, although less than they might hope. Food writers have columns in mainstream media, and our social media platforms abound in food advice. Family and cultural traditions contribute to the mix. Dahl or pasta? Steak or tofu? Wild or domesticated meat, or no meat at all? Our bodies also guide our choices. Do I gain weight easily? Am I gluten or lactose intolerant? Physicians are also happy to tell us what to eat; so too our peers, as well as those engaged in animal rights discussions, gender studies, and environmental movements.

This article adds another factor to that long list: religion. Why? Because religion matters in the world, food matters to religion, and most academic discussions about food overlook religion.

Just how is religion linked to food? Consider the following five categories, which emerged from our data analysis. First, there are permanent food restrictions. Judaism and Islam's "Thou shalt not eat pork" is one type of restriction; Buddhism and Hinduism's "Removing meat from your diet makes it easier for you to become more spiritually developed*"* is another. Second, there are temporary food restrictions, or fasting practices, that range from total to partial short-term food avoidances, for a variety of reasons. Third, food offerings are made to beings in the spirit world, including ancestors and gods, with some also directed at religious leaders. Fourth, "feeding the poor," or food charity, is synonymous for many with being religious. This type of

[1] Select publications that emerged from this research include Desjardins (2013, 2015, 2016), Desjardins & Desjardins (2009, 2012), and Desjardins & Mulhern (2015).
[2] The two earliest collections of articles in this emerging subfield are Zeller et al. (2014) and Illman & Dahla (2015). These collections are good places to start in appreciating the types of questions that scholars situated in various parts of the world are asking, across traditions and across academic disciplines.

charity is a quasi-universal expression of religious ideals through the medium of food. And fifth, foods are an intrinsic part of special religious occasions. Think about Christmas, Diwali, or Chinese New Year—or another tradition you might know better—and specific food dishes are likely to come to mind more readily than anything else.

More categories could easily be added. The bottom line is that lived religion, as it is expressed across the world today, intersects with food in several respects. Religious food guidance is not only relevant to critical food guidance but can help align our food choices with our responsibilities as global citizens.

This field report is intended to engage readers grounded in food studies. Several words of caution: the worldviews and practices of religious individuals and groups are invariably more layered and complex than academic generalizations about them might suggest. Comparisons between religious traditions only increase those challenges. Also: "religion" goes by many names, including "spirituality" and "way of life," and can be understood and practised by adherents in vastly different ways. This article, therefore, does not speak for everyone whose mental universe includes belief in a spiritual reality. It is grounded in our extensive fieldwork, feedback from hundreds of students over the years in a senior course I continue to teach on this topic, and in my academic career as a scholar of religion.

Now imagine the following as you would a Nanaimo Bar. Part 1 is the base. It offers a more detailed overview of these five food-related categories, proposing how each one might engage critical food guidance. Part 2 is the custard layer, which focuses on those points of intersection. Part 3, the conclusion, is the chocolate ganache. It presents some creative examples of food guidance that emerge directly out of religious communities.

Part 1: The role of food in religion

This part expands on the five food-centric categories noted above: permanent restrictions, temporary restrictions, offerings, charity, and special religious occasions. The first two are more salient to my argument, but all five are relevant.

Permanent food restrictions

Religions quite often concern themselves with what their members should and should not eat. Foucault (1990) would have called this the moral problematization of pleasures.

One approach to religiously proscribed foods emerged in ancient India, and another in the Middle East. The Indian-based system—represented most clearly in Jainism, but also found in Buddhism and Hinduism and some expressions of Sikhism—is grounded in the principle of non-violence. It encourages people to eat food implicated in the least possible amount of violence. The killing of animals for food, in this context, is thought to produce the most violence, so meat

is the primary type of food that is restricted, or at least problematized. The Middle Eastern system—represented here most clearly by Judaism and Islam—takes a different position. This system is grounded in the principle that sacred texts are God's way of communicating directly with people and God's commands in those texts need to be obeyed without question. Some of those commands, given in the Bible and the Qur'an (Leviticus 11:1–47; Qur'an 2:168–169; 173), forbid the eating of certain foods.

The Indian- and Middle Eastern-based systems differ in tone when it comes to permanent food restrictions. The Indian-based religions are rooted in the notion of reincarnation: people are thought to be reborn countless times, until they manage to perfect themselves and escape their cycle of reincarnations. In that context, recommendations for better food behaviour can more readily be made. "You can advance in your spiritual development quicker," a religious sage in Varanasi told us, "if you reduce or remove meat from your diet." If one chooses to avoid this advice, life goes on, and spiritual progress is simply delayed. When it comes to meat eating, Jainism stands on the edge of this permissive ethical stance because non-violence (*ahimsa*) is at the heart of its ideology; to be "properly" Jain is to avoid eating meat.[3] Generally, though, in Indian-rooted religions the onus is placed on the individual to decide on the best way forward when it comes to restricting foods.

On the other hand, in Middle Eastern-rooted religions the food restrictions are fixed. The leaders of these religions believe that people have only one go-around on the earthly plane before their non-physical soul enters another space, to stay for eternity. Follow God's commands and you increase your chances of a pleasant eternity (in heaven). That context less easily allows for gentle nudges and slow progression. A "thou shalt not eat pork" command is more than a gentle nudge.

No reason is given in those sacred texts for these food restrictions. It was not uncommon in our interviews to hear Jews and Muslims argue that God, in giving these commands, intended to protect his people from the unhealthy aspects of pork, and that pigs are disgusting animals (dirty, promiscuous, omnivorous, etc.) that pass on their moral and carnal characteristics to those who eat their flesh (you are what you eat). But those reasons, and others like them, are insider attempts at explaining teachings that come with no explanation.

There are exceptions. For one thing, not all members of these religions adhere strictly to their group's food guidance, just as they do not always adhere to their group's guidance on other matters. Jews, for example, live their connection to Judaism in many ways. Some self-identify as atheists, many happily eat pork, and others spend their days reading sacred texts. Moreover, with few exceptions, the largest religious group in the world today—Christianity, an offshoot of Judaism—does not impose permanent food restrictions on its members. Given the numerical and

[3] For more information on Jain food practices, see the classic study by Mahias (1985), especially Chapter 4 (pp. 85–125).

global importance of Christianity it is possible to forget that most other religions advocate for some form of food restrictions.

How do permanent religious food restrictions matter for critical food guidance? Religious food restrictions in general, I would argue, sets the stage for someone to accept other types of food restrictions grounded in a different set of values and beliefs. People who belong to a religion that tells them they should be restricting their diet for religious reasons are well started on the path to critical food guidance. Negotiating what and what not to eat becomes part of their cultural DNA.

Permanent food restrictions found in Indian-based religions are more directly transferable to discussions surrounding critical food guidance because they are grounded in a set of clear ethical principles. Making one's diet accord with religious principles is easily extendable to other principles, such as sustainability of the land and animal rights. Moreover, the principle of non-violence itself, so often linked to religious food restrictions, is quite amenable to extension—for example, reducing the violence one does to the environment, the land, the animals, and the farmers who cultivate crops for us.

Temporary food restrictions

Temporary food restrictions among religious groups are even more common than permanent restrictions. Some involve total abstention from food and drink for a relatively short period. In addition to the Ramadan fast for Muslims, from sunrise to sunset during an entire month, there are, for example, the Bahá'í annual nineteen-day fast from sunrise to sunset (modelled on Ramadan) and the twenty-five-hour Yom Kippur fast in Judaism. Other fasts can involve the removal of one or more food and drink items for a set or indeterminate amount of time. One thinks of the forty-day Lenten period before Easter for some Christians, and various Hindu fasts that are intended to curry favour with a specific deity or holy person (e.g., with someone thinking "I'll refrain from eating my favorite sweet as a sign of my devotion to you and hope you can help me find a suitable spouse for my daughter").

Jains, abiding by their principle of non-violence and linking eating of any sort with violence (the less food taken in, the less violence committed), are frequent fasters. In fact, when approaching death some Jains, as an act of ultimate devotion, slowly withdraw from food until they die.

There are other reasons given for fasting. They include empathizing in some way with the sufferings experienced by ancestors and religious leaders (e.g., thinking "Jesus was crucified for my sins; the least I can do is fast for 40 days leading up to the commemoration of his death"), and creating room in one's life for thoughtful, spiritual development.

Temporary food restrictions, like the permanent ones, can prepare people to be guided more broadly in their food choices. How? Fasting puts pause to the cycle of meal after meal,

burger after burger. A religious individual is encouraged to eat with more intentionality.[4] Moreover, based on the fieldwork we have done, the temporary restricting of food—enough to feel hunger—is often accompanied by expressions of hope, justice, and a desire to do better for others. These ideals, and that mindfulness, are part and parcel of critical food guidance.

Offerings

Food is presented to gods and other entities in the spirit world, and sometimes to religious leaders, in many religious traditions. These offerings are symbolic and concrete ways of showing devotion to supernatural powers, and those intimately connected to them. In some parts of the world, food offerings are the most common public expressions of religiosity. "Come and eat!*"* is the offer when laying out the food to the spirits, or simply, "Know that we care about you, and trust that you will continue to shower us with your care."

Gods and various types of spirits are thought to be drawn into our material world by food. One feeds the ancestors, the bad spirits, and the good spirits to keep them happy, thank them for their help, ask them to help, and generally because…well, because that is what one does with food. One feeds the religious leaders as a sign of respect for what they do and to earn rewards in the spirit world.

Sometimes the spirits are even thought to enter the food itself, allowing people to ingest divinity. It is as though food were the membrane through which members of the spirit world cross over into ours. This process, for example, happens for Catholic and Orthodox Christians during their Communion ritual, when some form of bread and wine is transformed into the "body and blood of Christ," to be ingested by community members. These Christians are not alone in imagining that they take God in through food; if one adds Hindus, Sikhs, and Buddhists to Catholic and Orthodox Christians roughly a quarter of all people in the world, nearly two billion people, believe that spirits enter human bodies through food.

The idea that food can be the conduit between the material and spiritual worlds intersects with critical food guidance in two main ways. First, the offering of food significantly enhances the preciousness of food in people's minds. Sometimes a loaf of bread is just a loaf of bread, but bread can also be divinity. So too rice and maize, other staples on which people depend, that can possess divine power for religious individuals. Or that first mango of the season, as we appreciated one day in an elderly woman's home in a small town outside Matanzas, Cuba. Someone who is accustomed to conceptualizing food in this manner can readily understand the argument that food in this world—growing it, caring for it, eating it—is precious.

Second, some food offerings require specific plants, which can be threatened by environmental changes, including climate change that enhances the spread of invasive species.

[4] Note, for example, that Ramadan is as much about feasting (after the sun sets) as fasting (abstaining from food and drink from sunrise to sunset). Also crucial is the disruption of the regular practices of eating and drinking. An excellent, rarely cited study on the complexities of this fast is Diouri (1994); see also Möller (2005).

One sees this in Indigenous communities across the world, including Santería, a religion grounded in West African traditions. Priests from that tradition with whom we talked in Cuba and later in America bemoaned the disappearance of plants they considered necessary to draw the spirits into their communities. It certainly does not take much to convince those people that more care needs to be taken to preserve traditional crops and nurture the land.

Charity

Religions have long helped people cope with hunger. With few exceptions, religious groups aim to ease the pain of others by feeding their poor, and often the poor outside their communities. They do so in creative ways, including sharing food at their places of worship, setting up food banks, contributing to disaster relief operations, and distributing food to people in other countries.

Religious food charity is relevant to critical food guidance mainly because an increasing number of people are now facing food insecurity and famine due to human-generated causes like wars, climate change, and the loss of biodiversity.[5] This also comes at a time when religious groups in some places in the world, including Canada, are in decline. Charity is a type of food guidance that increases people's awareness of poverty and encourages them to share their food with others.

It is true that religious people often use charity to gain legitimacy and new members. It is also true that religions themselves are frequently the cause of poverty and food shortages due to their ideologies, the wars they generate and support, and their stance on contraception. And it is true that religious food charity can have a negative impact on a receiving country's economy. Still, it is fair to say that in many instances, religious people work hand in hand with those striving toward a more sustainable food system, recognizing that food charity is only one step on the road to poverty reduction.

Special religious occasions

Religion is reinforced through celebrations, and those special occasions are frequently anchored in food. The taste, smell, look, touch, and sound of food are all intrinsic to major religious festivals.

Religious people in every part of the world often grow up attaching certain foods to each festival they celebrate, and to special days that mark their weeks and months. The foods vary, to be sure, and as people move through their life cycle or migrate to other parts of the world those

[5] As Alicia Sliwinski reminds us, "a disaster is about the human failure to adequately manage risks" (2018, p. 9). People are always implicated in widespread hunger that results from "acts of God." Her study, an ethnographic analysis of the work of aid organizations in the immediate and extended aftermath of a series of earthquakes that hit El Salvador in 2001, includes an examination of the role of a group of Catholic nuns in addressing basic human needs, including hunger (see esp. pp. 64–75). The result is a nuanced critique of food charity.

foods can also change, but the turkeys, the jalebis, the bread, the couscous, the strawberries,[6] the rice, and the meat stews, for example, are almost always central to the celebration.[7] Here is one example, presented by Chitrita Banerji, a food writer who grew up in Bengal and now lives in the United States:

> Whenever I think of the autumn festival of Durga, and of the subsequent ones honouring the goddesses Lakshmi and Kali, I am overcome by the aroma of hot, puffy *luchis* (deep-fried puffed bread), of *alur dam* (slow-cooked spicy potatoes) nestling in a glistening, dark, tamarind sauce, of golden *chholar daal* (yellow split peas) spiced with cumin, coriander, cinnamon, and cardamom, its thick texture flecked with tiny coconut chips fried in *ghee* (clarified butter). The richness of meat cooked in a fragrant, spicy sauce extends pleasure to the edge of sin. My tongue wraps itself around the cool memory of a rice pudding made with milk evaporated to a rich, pinky-brown creaminess and combined with fragrant *gobindabhog* rice, crushed cardamom seeds, and pistachio morsels. (Banerji, 2006, p. 5)

Recipes like this abound, and for the most part people find ways to adapt their treasured recipes to fit changing times and places. If ground veal is no longer available for that Christmas meat pie, or if a cook no longer wishes to use veal in their cooking for ethical purposes, a replacement is chosen, and the celebration goes on.

Moreover, after talking with people across the world about the foods they prepare for special religious occasions, one thing stands out: the need for traditional food items that come as close as possible to those used in previous years. People are often passionately concerned about specific tastes and textures, and cooks want to reproduce them. Some tastes of childhood you never forget. In the words of Margaret Visser, "Food is tradition, largely because a taste acquired is rarely lost; and tastes and smells which we have known in the past recall for us, as nothing else can, the memories associated with them" (Visser, 1991, p. 29). Lily Cho (2010) makes a similar point regarding Chinese immigrants to Canada, arguing that the Chinese diasporic community is constituted not in history, but in memory, by which she means memory of tastes, with Chinese food and the small-town Chinese restaurant as productive of Chineseness in diaspora.

Not only are grandmothers brought into discussions at these times of the year, but people seek out specific foods and spices. Cooks distinguish themselves from others by relatively minor things items and practices. Having access to these spices, flours, rices, meats, and fishes now

[6] Lina Sunseri (2011), noting Oneida and other Haudenosaunee First Nations customs, says: "Strawberries are women's medicine, our responsibility.… For example, when we need some healing, physical or emotional, we eat them. Also, we are responsible for them, so we make strawberry juice for ceremonies, for everyone in the longhouse to drink" (pp. 130–131).

[7] For an example of how food practices in well-established religious festivals can change over time and across cultures, see Piercy (2007).

requires a well-honed global food chain, including the ongoing availability of these products. There are countless stories of people travelling with suitcases full of products from their homelands to recreate traditional dishes in their new host context (Sutton, 2001; Brown, 2017; Kershenovich Schuster, 2015).

Here is where the intersection with critical food guidance can be the strongest. It is in everyone's interest to link food to place, ensuring that traditional foods continue to be grown, in soils that give them the flavour of old. This is a global challenge that engages religious people, where they grew up and as they become part of global migrations.

Part 2: The role of religion in critical food guidance

The first part of this article reviewed some of the main ways in which food and religion intersect, touching on possible points of relevance when thinking of critical food guidance. This second part explores that relevance in a broader context.

A key aspect of critical food guidance is people's willingness to make changes to their food habits that might not directly benefit them. Meat might taste delicious, for example, but are people willing to curtail or completely remove meat from their diets when they discover the frightful ways in which most animals are treated before they become food for humans, or how much water it takes to raise a cow and how much greenhouse gas that cow produces? In addition, food might be cheaper at Walmart or on Amazon, but are people willing to pay more to support local farmers or to buy organic because that farming technique does more to keep the soil healthier for future generations? Changing our diet to benefit other living creatures and the planet itself, especially when that change hurts (the pocketbook, our eating culture, etc.), is not likely to have a high buy-in rate. Think about how hard it is to move people away from high fuel consumption vehicles, or to tax carbon in Canada, and how difficult it has been during the COVID pandemic to convince all people to act for the greater good.

The question I would like to pose here is one I raised in Part 1 of this article: Are religious people primed to make those tough changes, given the role that food already plays in their religious lives? My answer is yes.

Let me start with broad brushstrokes. My most important support for this claim that religion can be a fruitful nurturing ground lies in the general nature of religion itself, not in any of its food-related activities and beliefs. Here is the key issue (a generalization, to be sure, but still representative): inherent in religious belief is the view that people are part of something larger and more important than themselves. Even in situations where this belief makes people central (e.g., the biblical story that God created humans as his preferred creatures and gave them dominion over every other creature), many religious people still situate themselves within a broader, more significant cosmic structure that wields power over them. People are constrained, religion often argues, by more powerful forces and by expectations on how we can and should act.

I see this fundamental religious viewpoint as wholly consistent with the responsibility to choose a diet that has a broader impact—on one's health in general, on one's community, and on the planet. This is not to say that religious people in general can be expected to act for the greater good. My point is simply that they are suitably prepared to do so.

This core religious belief in something larger than oneself, something often unseen and untouchable, extends to religious food guidance, as I have noted already. A religious practitioner imagines their deity telling them: "You want to eat meat because it's delicious? Think again if you want your body to be optimally prepared to meditate. You want your prayers to reach me? Then obey what I tell you when it comes to eating pork and other meat that's not been properly slaughtered. You want help in attaining a particular goal? Then show me you're worthy of my help by restricting your diet." In other words, the religious mindset, by its very structure, sets up external constraints on people's food practices, and offers short- and long-term incentives for making personal changes.

Additional support for the claim that some religious people are primed to make dietary changes based on concerns for broader environmental, economic, and social realities is that their religion has already motivated them to adjust their diets for religious reasons, as discussed in Part 1. Adjusting one's diet for other reasons—because of our obligations to others—can be a natural next step, more so when what is already being constrained for religious reasons fits nicely into a more secular context. Not eating meat for spiritual reasons, as a Hindu, a Jain, or Buddhist might do, is certainly not far removed from the argument that food production globally would be more sustainable if people ate less meat. Even in cases where the food link is not so obvious—for example, in situations where people are used to restricting their diets to curry favour with a deity—the very practice of restraining oneself from eating otherwise delicious food, as I noted earlier, is naturally extendable to issues relating to critical food guidance. In short, if I were promoting the notion of critical food guidance to various groups, religious people would most certainly be a core part of my target audience.

To be sure, there are limitations to the picture I have just drawn. First, the long-term goal of religious people has traditionally been focussed on the individual, not on the sustainability of the planet and the other animals within it. Why follow the sometimes-stringent demands of the Jewish, Christian, Muslim, and Bahá'í God? To reap an eternity of rewards for oneself after death. Why restrain one's natural dietary urges and thus meditate with a clearer mind? To reincarnate in a better state and speed up the process of ridding oneself of the material world. Moreover, many religious ideologies have separated people from animals. They have not tended to recognize humans as one type of animal among others. Religion, in short, has internal complications and shortcomings when it comes to caring for the planet and other creatures in it.

Second, what people will do, or believe, when they belong to a religious group is unpredictable. Ideals are one thing; lived reality can be quite different. For example, the majority of Jews in North America who self-identify as religious do not adhere closely to the kosher laws

of their religion.[8] Similarly, most Hindus and Buddhists are not strict vegetarians, and second-generation Muslims whose families emigrated to Canada from Muslim-dominant countries are less likely to be constrained by their religion's food directives than their parents were back home. As with so much else in religion, there is a large degree of variation in both practice and belief within each group. Indeed, the lived religion we encountered in our fieldwork rarely aligned perfectly with textbook versions of people's religions.

Third, not all religions impose, or recommend, permanent or temporary food restrictions, and food-related components of religion are in general less pronounced now than they have been over the past centuries. In fact, although one should not conclude that Protestant Christians in general have no religious connections to food,[9] they often self-identify on the food front by saying that *they* do not have food restrictions, and *they* do not fast.[10] It is also less and less common for Roman Catholics to restrict their diet for religious reasons. Catholics, members of the world's largest Christian group and the largest religious group in Canada, used to distinguish themselves from Protestants by abstaining from meat on Fridays, and fasting for 40 days before Easter by removing one or two food treats during this period. Nowadays, Fridays for Catholics tend to come and go like all other days of the week, and pre-Easter (Lenten) fasts, when practised, are typically less food-centric than before.

In general, then, those who are religious in Canada tend to feel less and less pressure from their religious community to alter their eating. Several generations ago things would have been different. Currently, the religious link to food is more apt to be found in meals for special occasions, charity, and especially the eucharist, which many of them do not even imagine as a food ritual.[11]

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[8] The 2013 Pew Research Center Study entitled "A Portrait of Jewish Americans" concludes that only about 22 percent of American Jews keep kosher in their homes. That percentage would be even lower for food eaten out of the home.

[9] For an overview of the intersection of food and (mainly) Protestant religion in America see Sack (2000). See also Hicks (2014) for an entry point to African American foodways that focus on Protestant Christianity. Note too Cathy Campbell's book (2003), which describes how the author, an Anglican priest (and former university professor of nutrition), led her Winnipeg parishioners to a deeper understanding of food justice issues, transforming her church's worship context in the process. Jennifer Ayres' book (2013) comes closest to describing the intersection of food and Protestant Christianity in America in ways that are amenable to critical food guidance.

[10] This data comes from the dozens of interviews I have done with Protestants and the hundreds that my students have conducted with them over the last decade as part of their course requirements. There are notable Christian exceptions, including the Seventh-day Adventists, started by Ellen G. White, who advocate a vegetarian lifestyle (1938).

[11] This Last Supper, or Eucharist, ritual, enacted in most Christian churches, remembers the last supper that Jesus is said to have had with his closest colleagues just before he died. For centuries Christians remembered that event by meeting over an actual meal, repeating the words attributed to Jesus at that meal. Over time, the meal shrunk to a loaf of bread and some wine; these items are still presented in Orthodox Christian gatherings. Then it shrunk further. Catholics now typically commemorate that event by receiving a small, round, dried unleavened wheat wafer, sometimes accompanied by a taste of wine. This ritual is so far removed from an actual meal, and the wafer from actual food, that most Catholics do not imagine their most primary ritual as a food event, i.e., a food offering.

That said, the limitations expressed in the second part of this article—that religion on the whole is still more about "me" than "we," that lived religion sometimes bears little resemblance to "book religion," and that the food constraints reflected in several religions that could have primed the pump for broad discussions about food systems and the like are in sharp decline—do not invalidate the important role that religion can and does play on the global food front. Most expressions of religion encourage respect for the world outside our individual selves and for the transformative power of food. Religion can, indeed should, be an ally in discussions that encourage transformative changes to the way people engage with food, with each other and with the planet.

Part 3: Creative examples of religious food guidance

I promised you chocolate ganache in this concluding part. It comes in the form of examples of the positive role that religion not only can but does play in changing food habits.

Let me start with food waste. Wasting less of the food we grow, buy, and eat would go a long way toward reducing our carbon footprint, among other things. In many of the interviews we conducted, the equivalent of *thou shalt not waste food* and *thou shalt not overeat* came up time and time again, by practitioners of various religions.

Rachel Brown's 2016 doctoral dissertation, grounded in her fieldwork that examined the multi-faceted role that food plays in the lives of Muslim immigrants to France and Québec, underlines this point, among many others. In the interviews she conducted with North African Muslim immigrants to Montreal one theme that emerged was food waste. "In our religion waste is forbidden," one of her informants told her. "We tend to always keep in mind that other people are dying of hunger…and that we shouldn't waste food" (my translation). Brown (2016) goes on to say, in the same paragraph: "many of my informants still saw this as an essential food practice that separated them, that marked them as Muslim" (p. 304). While food insecurity for immigrants to our country is quite real, the comments by these Montreal Muslims help us to appreciate that some of them, at least, are leaders when it comes to recognizing and reducing food waste.

The following examples are taken from Aldea Mulhern's 2017 doctoral dissertation, the result of several years of fieldwork in Toronto's Jewish and Muslim communities. Other examples abound from practitioners of different religions, across the world.[12] She highlights

[12] For Jains see http://www.jainvegans.org/2012/11/food-ethics/; and Chapple (2006), arguing that some modern forms of Jainism re-interpret their tradition to enhance human-earth relations. Regarding Buddhism, the global practice of "Engaged Buddhism" has had the greatest impact on the food movement, reinforcing mindfulness for the planet. In that context, the teachings of Thich Nhat Hanh have been the most instrumental. Consider the following quote from one of his writings: "In Buddhism, the most important precept of all is to live in awareness, to know what is going on. To know what is going on, not only here, but there. For instance, when you eat a piece of bread, you may choose to be aware that our farmers, in growing the wheat, use chemical poisons a little too much. Eating the bread, we are somehow co-responsible for the destruction of our ecology. When we eat a piece of meat or drink

Shoresh, a not-for-profit Jewish organization based in Toronto: "Shoresh inspires and empowers our community to take care of the earth by connecting people, land, and Jewish tradition. Through nature-based Jewish education, healthy food production for vulnerable community members, environmental action, and sustainable Jewish products, we offer community members meaningful opportunities to be responsible stewards of the world around us" (Shoresh, 2020).

This kind of approach could come directly out of a manual on critical food guidance. To be sure, Shoresh emerges from a long and distinguished lineage of politically Left-leaning Jewish groups in this country and a highly educated Canadian Jewish population. Still, one should certainly not discount religious engagement with food that can be a good predictor of interest in broader food guidance.

My second example comes from several sources. It refers to a growing trend among North American Muslims to insist not only on halal but on healthful food, with "healthful" including locally grown, non-GMO, hormone-free, and organic.[13] Some Muslims go so far as to make an argument for vegetarian and vegan lifestyles that, they claim, are demanded by Islamic traditions given the nature of food production in the world today. Illustrations include an upscale butcher in Manhattan called Honest Chops (with its "honest to God" guarantee[14]), and a social enterprise called Saffron Road, a halal food brand that also embodies ethical consumerism: organic ingredients with no GMOs, no artificial ingredients, and no antibiotics.

Lest those examples seem idiosyncratic, Mulhern reminds us that one finds the same principles pursued in more traditional Muslim settings. The Noor Cultural Centre in Toronto is one instance. In addition to serving the Muslim community in ways that one would expect (children's education, marriage services, adult spirituality, and the like), this Centre also has "food-related programming that actively connects religion with alternative foodways," advocating "for more 'conscious' food practices, including local, organic, sustainable, humane, and social-justice-oriented food choices" (Mulhern, 2017, p. i).

These Muslim examples are both surprising and not surprising. Religious sensitivity to food in general helps, as I noted earlier; so too do the permanent and temporary food restrictions

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alcohol, we can produce awareness that 40,000 children die *each day* in the third world from hunger, and that in order to produce a piece of meat or a bottle of liquor we have to use a lot of grain. Eating a bowl of cereal may be more reconciling with the suffering of the world than eating a piece of meat. An authority on economics who lives in France told me that if only the people in Western countries would reduce the eating of meat and the drinking of alcohol by 50%, that would be enough to change the situation of the world. Only 50% less" (Hanh, 1987, p. 65).

[13] Contemporary Muslims who argue that meat-eating runs counter to the deepest Muslim ideals are not the first to make this argument, or to recognize that a new appreciation of vegetarianism among Muslims will take time. See the review of opinions in Folz (2006), and also Ali (2015).

[14] Their honest to God "guarantee" from their website reads as follows: "1 SOURCING We promise that all animals that enter Honest Chops are ethically-raised: no steroids, growth hormones, arsenics, or antibiotics—ever. 2 PROCESSING We promise that our meat is hand-slaughtered following Islamic guidelines. 3 DIGNITY We promise to pay our workers (butchers, drivers, managers) dignified wages. 4 TRANSPARENCY We promise to give you annual updates on our suppliers and local supply chains. 5 BUILDING COMMUNITY We promise to always try our hardest to provide meat and cooking supplies from local farmers and artisans. 6 CONSISTENCY Most importantly, we promise to always be honest and transparent to our stakeholders—you."

found in Islam, which prepare Muslims to think seriously about food. Many younger Canadian Muslims are as concerned, if not more, with the health of the planet as their non-Muslim friends. Add their religious food sensitivities and you have a potent mix.

In closing, what we see in these Jewish and Muslim examples are clear, unambiguous instances of religious people critically engaging the food they eat—as Koç et al. (2017) note, examining evidence, unearthing values, questioning power, and encouraging social change. Despite the unpredictable nature of religious responses in general, it is not by chance that the Jews and Muslims we encounter here advocating for healthier food that is respectful of the environment, workers, animal welfare, the local economy, and their God's wishes, should be members of two religious groups that practice strong food guidance. Religion matters, with these groups and others, in supporting and generating new approaches to eating, and engaging constructively with the world.

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References

Ali, K. (2015). Muslims and meat eating: Vegetarianism, gender, and identity. *Journal of Religious Ethics*, *43*(2), 268-288.

Ayres, J. R. (2013). *Good food: Grounded practical theology*. Baylor University Press.

Banerji, C. (2006). *Feeding the gods: Memories of food and culture in Bengal*. Seagull.

Brown, R. D. (2016). *Immigration, integration and ingestion: The role of food and drink in transnational experience for North African Muslim immigrants in Paris and Montréal* [Unpublished doctoral dissertation]. Wilfrid Laurier University.

Brown, R. D. (2017). Bread beyond borders: Food as evidence for Thomas Tweed's theory of religion. *Bulletin for the Study of Religion*, *46*(2), 9-18.

Campbell, C. C. (2003). *Stations of the banquet: Faith foundations and food justice*. Liturgical Press.

Chapple, C. K. (2006). Jainism and ecology: Transformation of tradition. In R. S. Gottlieb (Ed.), *The Oxford handbook of religion and ecology* (pp. 147–159). Oxford University Press.

Cho, L. (2010). *Eating Chinese: Culture on the menu in small town Canada*. University of Toronto Press.

Desjardins, M. (2013). Religious studies that *really* schmecks: Introducing food to the academic study of religion. In W. Arnal, W. Braun & R. McCutcheon (Eds.), *Failure and nerve in the study of religion* (pp. 147-156). Equinox.

Desjardins, M. (2015). “Imagining Jesus, with food.” *Scripta Instituti Donneriani Aboensis* 26, 47-63.

Desjardins, M. (2016). The Desjardins diet for world religions paradigm loss. In C. R. Cotter & D. G. Robertson (Eds.), *After world religions: Reconstructing the introductory course in religious studies* (pp. 123-137). Acumen.

Desjardins, M. & Desjardins, E. (2009). Food that builds community: The Sikh *langar* in Canada. *Cuizine: The Journal of Canadian Food Cultures/Revue des cultures culinaires au Canada*, 1(2). https://doi.org/10.7202/037851ar

Desjardins, M. & Desjardins, E. (2012). The role of food in Canadian forms of Christianity: Continuity and change. In F. Iacovetta, V. Korinek & M. Epp (Eds.), *Edible histories, cultural politics: Towards a Canadian food history* (pp. 116-132). University of Toronto Press.

Desjardins, M. & Mulhern, A. (2015). Living sacrifice: Rethinking Abrahamic religious sacrifice using field narratives of Eid ul-Adha. In V. D. Arbel, J. R. C. Cousland, R. Menkis & D. Neufeld (Eds.), *Not sparing the child: Human sacrifice in the ancient world and beyond* (pp. 190-212). Bloomsbury.

Diouri, A. (1994). Of leaven foods: Ramadan in Morocco. In S. Zubaida & R. Tapper (Eds.), *Culinary cultures of the Middle East* (pp. 233–55). I. B. Tauris & Co Ltd.

English Standard Version Bible. (2001). ESV Online. https://esv.literalword.com/.

Folz, R. C. (2006). *Animals in Islamic tradition and Muslim countries*. Oneworld.

Foucault, M. (1990). *The use of pleasure: Volume 2 of the history of sexuality* (R. Hurley, Trans.). Vintage. (Original work published 1984).

Hanh, T. N. (1987). *Being Peace*. Parallax.

Hicks, D. S. (2014). An unusual feast: Gumbo and the complex brew of Black religion. In B. E. Zeller, M. W. Dallam, R. L. Neilson & N. L. Rubel (Eds.), *Religion, food & eating in North America* (pp. 134-153). Columbia University Press.

Holy Qur'an. (A.Y. Ali, Trans. & T. Griffith, Ed.). (2001). Wordsworth.

Honest Chops. (2020). https://honestchops.com/

Illman, R. & Dahla, B. (Eds.). (2015). *Religion and food*. Scripta Instituti Donneriani Aboensis *26*.

Kershenovich Schuster, P. (2015). Habaneros and shwarma: Jewish Mexicans in Israel as a transnational community. *Scripta Instituti Donneriani Aboensis*, *26*, 281-302. https://doi.org/10.30674/scripta.67458

Koç, M., Bancerz, M., & Speakman, K. (2017). The interdisciplinary field of food studies. In M. Koç, J. Sumner, & A. Winson (Eds.), *Critical perspectives in food studies* (pp. 3–18). Oxford University Press.

Mahias, M-C. (1985). *Délivrance et convivialité: Le système culinaire des Jaina*. Éditions de la maison des sciences de l’homme.

Möller, A. (2005). *Ramadan in Java: The joy and jihad of ritual fasting*. Almquist & Wiksell.

Mulhern, A. (2015). What does it mean to 'Eat Jewishly'? Authorizing discourse in the Jewish food movement in Toronto, Canada. *Scripta Instituti Donneriani Aboensis*, *26*, 326–48. https://doi.org/10.30674/scripta.67460

Mulhern, A. (2017). [Unpublished doctoral dissertation]. University of Toronto.

Noor Cultural Centre. (2020). https://noorculturalcentre.ca/

Pew Research Center. (2013). A Portrait of Jewish Americans. http://www.pewforum.org/2013/10/01/jewish-american-beliefs-attitudes-culture-survey/

Piercy, M. (2007). *Pesach for the rest of us: Making the Passover seder your own*. Schocken.

Sack, D. (2000). *Whitebread Protestants: Food and religion in American culture*. St. Martin's Press.

Saffron Road. (2020). https://saffronroad.com/

Shoresh. (2020). https://shoresh.ca/

Sliwinski, A. (2018). *A house of one's own: The moral economy of post-disaster aid in El Salvador*. McGill-Queen's University Press.

Sunseri, L. (2011). *Being again of one mind: Oneida women and the struggle for decolonization*. UBC Press.

Sutton, D. E. (2001). *Remembrance of repasts: An anthropology of food and memory*. Berg.

Visser, M. (1991). *The rituals of dinner*. HarperCollins.

White, E. G. (1938). *Counsels on diet and foods: A compilation from the writings of Ellen G. White*. Review and Herald Publishing Association.

Zeller, B. E., Dallam, M. W., Neilson, R. L., & Rubel, N. L. (Eds.). (2014). *Religion, food, and eating in North America*. Columbia University Press.

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Field Report

Critical food guidance from the Slow Food movement: The Relationship Barometer

Brooke Fader[a*], Michèle Mesmain and Ellen Desjardins[b]

Abstract

The Slow Food movement embeds food guidance that encourages interaction with local food production and appreciation of local cuisine. It advocates critical thinking and actions that support the preservation of traditional food practices, as well as environmental considerations around food harvesting and processing. We begin by contextually situating Slow Food as a movement and a change agent. We then introduce a critical guidance tool called the Slow Food Relationship Barometer, developed by Fader and Mesmain from their experience in southern Vancouver Island, British Columbia. This tool is meant for use by advocacy groups and policy makers rather than individuals. It is based on the view that identifying and assessing the multiple relationships intrinsic to a local food product—from origins to the table—can reveal pathways toward its improved sustainability. We illustrate how the Relationship Barometer can be applied to the case of wild and farmed salmon, which also underlies the Slow Fish movement.

Keywords: Slow food; Slow fish; food movement; food guidance; food relationships; wild salmon local food systems

*Corresponding author: edesjardins@canadianfoodstudies.ca
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Introduction

The Slow Food movement involves food guidance that encourages active engagement with robust, local food systems. This guidance can be seen as *critical* because it offers insights and tools to broaden food practices beyond dominant paradigms, and raises awareness about how we think, feel, and make decisions about food. Slow Food guidance is not about numbers or nutrients; rather, it is as diverse as its local chapters around the world. It encompasses a set of principles based on respect for and curiosity about food traditions, the protection of sustainable growing and harvesting methods, support for just working conditions, thoughtful meal preparation with locally grown or harvested ingredients, and pleasurable consumption in the company of others. These principles are strengthened by a strong belief that change is fostered by group dynamics more than individual consumer choices. Enabling and furthering those scenarios has led Slow Food to embrace a mix of gastronomic, social, ecological, economic, and political elements (Pietrykowki, 2004; Andrews, 2008; van Bommel & Spicer, 2015).

Building on an earlier history of gastronomic and political action, Slow Food emerged in Italy in the mid-1980s as an antidote to the phenomenon of fast food that was spreading rapidly worldwide. Founder Carlo Petrini saw fast food as a threat to one of the pillars of Italian identity: the leisurely enjoyment of wholesome foods derived from skilled farmers, fishers, producers, and chefs who enable unique and high-quality food environments—as well as the relationships that bind those food communities together. The *Slow Food Manifesto*, released in 1989, predicted dire consequences resulting from the consumption of pervasive, highly processed convenience foods, accompanied by fast-paced lifestyles. To attempt to reverse this trend, the *Manifesto* promoted international efforts to preserve and celebrate local food cultures. A snail symbolizes the movement.

The *Slow Food Manifesto for Quality*, written some years after the original *Manifesto*, focuses on the principles of "good, clean, and fair." *Good* implies that "a food's flavor and aroma, recognizable to educated, well trained senses, is the fruit of the competence of the producer and of [the] choice of raw materials and production methods, which should in no way alter its naturalness." *Clean* signifies that "the environment has to be respected and sustainable practices of farming, animal husbandry, processing, marketing and consumption should be taken into serious consideration. Every stage in the agro-industrial production chain, consumption included, should protect ecosystems and biodiversity, safeguarding the health of the consumer and the producer." *Fair* means that "social justice should be pursued through the creation of conditions of labor respectful of man [sic] and his rights and capable of generating adequate rewards; through the pursuit of balanced global economies; through the practice of sympathy and solidarity; through respect for cultural diversities and traditions" (Slow Food Manifesto for Quality). Although these principles were defined some time ago, and some aspects may appear elitist and outdated, their basic intent and simplicity remain applicable.

This field report begins by contextually situating Slow Food, first as a distinct food movement, and then as a change agent. It is notable that the organization has its early origins in

Italy, eventually growing internationally and taking a clear place among the many alternative food networks (AFNs) that have emerged over the three decades since Slow Food's formal inception. We ask: What activities have made Slow Food distinct among AFNs? What strategies have made Slow Food successful in recruiting members and promoting its philosophy? How does the Slow Food movement act as a change agent?

We then draw attention to a form of critical food guidance called the Slow Food Relationship Barometer, developed by the first two authors from their experience on southern Vancouver Island in British Columbia, Canada. The Barometer is based on their view that Slow Food is about relationships—the many connections that are inherent to any type of food in its path from origins to the table. An example of wild salmon is offered to show how the Barometer can facilitate awareness of various connections, historical and current, regarding a species or its product. The resulting analysis reveals the complexity inherent to any food, in its unprocessed and processed versions, and encourages assessment of relevant social, economic, political, and environmental factors.

Slow Food as a movement

Alternative food movements or networks currently exist with many diverse formats and agendas, but they generally have a set of goals that aim to achieve more sustainable, healthy, just, and democratic food systems. AFNs oppose, but work in parallel to, the dominant industrial, productionist food systems, rather than try to transform them (Andrée et al., 2019). As alternative movements, they tend to promote an *ecologically integrated paradigm* (Lang & Heasman, 2004) that values biodiversity, agro-ecological techniques, multidisciplinary knowledge, energy/waste reduction, and improved links between land and consumption. Strategically, AFNs engage a combination of actors who serve as warriors, builders or weavers (policy advocates, food initiative creators, and group connectors, respectively), who can complement and reinforce each other's work (Stevenson et al., 2007).

As an AFN, Slow Food has stood out from others due to its primary emphasis on the sensorial appreciation of food, which it has partnered with both ecological and social-justice principles (Pietrykowski, 2004; Sassatelli & Davolio, 2010). A related and emphasized component of the Slow Food philosophy is conviviality, through which people share their lives, food, and knowledge, and shape a collective vision. Additionally, Slow Food is distinctive in its support for creating economic markets for tradition-linked artisanal products (Sassatelli & Davolio, 2010; van Bommel & Spicer, 2015). Examples include cheeses, wines, coffee, artisan beef, Ugandan fruit, local honey, Canadian Red Fife wheat, and many more.

The artisan support process has been aided by the movement's active bridging of production and consumption by forming connections among farmers, fishers, chefs, and consumers (Labelle, 2007). The expectation is that when foods are sourced and sold locally, an

inherent feedback loop is created that enables not only high quality and good flavor, but also community cohesion and food security (Goodman et al., 2014). Such food security emerges, ideally, from the inherent capacity of the community to sustain local food production—both rural and urban—when both the food ecology and the livelihoods of local producers are respected. To encourage this development synergistically, Slow Food guidance nudges consumers to see themselves as "co-producers" (Slow Food, Responsible Consumption and Food Labelling, 2015). Taking this idea to an even deeper level, Carlo Petrini declared at Terra Madre in 2014 that planting a garden is a political act.

Through its food communities and local chapters, called *convivia* in most countries, Slow Food spread beyond Italy to 160 different countries by 2019. Notably, the movement's presence is marked by international foundations, specific projects, events, and festivals. The Slow Food Foundation for Biodiversity was instituted in 2003, and the University of Gastronomic Sciences in Pollenzo, Italy, has been active since 2004. Key projects have included the Ark of Taste, which catalogues traditional foods at risk of extinction; the Chefs' Alliance, which links restaurant cooks with local food producers; and the Presidia, which are community groups that help sustain traditional foods of small-scale producers.

A campaign called Slow Fish was initiated in 2005 to raise awareness about sustainable fishing, to preserve the traditional knowledge of fishing communities, and to build relationships with small-scale fishers to ensure their survival. The Slow Fish initiative has continued strongly across Canada, and campaigns have taken place in Italy, Denmark, Morocco, India, Australia, USA, and the Democratic Republic of the Congo. Slow Fish USA has hosted a series of webinars to address the "recovery potential of fishing communities and seafood eaters" after the COVID-19 pandemic, aiming to "turn the tide away from industrial seafood and toward seafood that is good, clean, and fair for all" (Slow Food USA/Slow Fish, 2021).

Terra Madre festivals are a hallmark of Slow Food, bringing together thousands of people to taste, network, and learn. These festivals are held in Torino, Italy, every other year, and also internationally. Several of them are Indigenous Terra Madre festivals, where representatives of Indigenous communities meet to share and preserve their food cultures. In Canada, national Slow Food summits are held in different provinces every year (Slow Food, History).

Slow Food's worldwide growth is evident from the yearly increase in the number of websites, film screenings, lectures, news releases, reports, handbooks, fact sheets, position papers, and posters in multiple languages and on multiple topics. Messages are "multi-storeyed and multi-storied" (Frost & Laing, 2013). Arguably, however, Slow Food guidance takes root most effectively by actual sensory experience—through tasting workshops, cooking groups, collective meals, and learning opportunities with food producers.

A critique of the Slow Food movement, and of AFNs in general, is that they tend to be elitist and dominated by people of white, European heritage. Donati (2015) contends that Slow Food's efforts to create distinct "ethics of taste," locally and internationally, also result in cultural othering. She suggests that the movement needs to "recognize its own heritage of privilege derived from an economic system shaped by imperialism and to actively resist

nostalgic renderings of the 'other,' however well intentioned, which run the risk of fetishizing cultural diversity and sentimentalizing struggles for cultural or economic survival. This requires more meaningful dialogue between Slow Food and those it seeks to support in order to create a space of mutual respect and recognition of difference." (p. 227)

Similarly, in their edited volume about food justice, Alkon and Agyeman (2011) have typecast the alternative food movement, including Slow Food, as being in denial of the experience of people of colour. Mostly from the vantage point of the American agri-food system, their message to AFN activists is that they must recognize their privileged positionality and "invisible whiteness" (Guthman, 2011, p. 263) as they promote fresh, sustainably grown foods that are unaffordable, unavailable, and unacceptable to most poor people and people of colour. They argue that, in order to stimulate true food justice, AFNs should aim to be "polycultural" (Alkon & Agyman, 2011, p. 1) by incorporating cultural food meanings and practices that are inclusive of all societal subgroups into any strategies or strategic alliances that counter the industrial food system.

In another vein, Lotti (2010) has critiqued Slow Food's "commoditization of products and taste," noting that this process emerged from its rejection of agricultural homogenization, but has ironically come to resemble aspects of that same system (p.72). She argues that while Slow Food promotes agrobiodiversity, it also seeks to protect local food products and the traditions embodied in them, thereby contradicting its own claim to alternativeness.

While this critique may be valid in certain contexts, Slow Food's efforts to revive and protect local food experience and history can be understood as alternative—because these traditions, together with the valuable skills and knowledge they harbour, are in danger of being lost. The presidium guidelines introduced by Slow Food are not meant to minimize food system diversity, but to enhance it globally (Slow Food Presidium Guidelines). In this sense, the guidelines also serve to enhance the sustainability of endangered foods like wild salmon.

In this paper, we introduce the Relationship Barometer as a tool that in some ways responds to the aforementioned critiques of the Slow Food movement. Rather than imposing guidance from a singular source or ideal, it supports contextually relevant valorization by revealing the multiple, relational dimensions embedded in food and food products. Participation of knowledge keepers who share their cultural practices is key to this guidance.

Slow Food as a change agent

The authors have noted from their own experience that many people engaged with Slow Food say they feel more grounded through a shared sense of purpose and greater capacity to situate themselves in a complex, shifting world.

Slow Food's structure aims to enhance engagement

Historically, membership in Slow Food's convivia was based on an annual membership fee structure, set by the international office in Italy (Petrini & Padovani, 2006). The movement has recognized, however, that this model was missing avenues to engagement for many people. Consequently, Slow Food is redesigning the convivia structure in favour of *communities*—ones that are based on cohesive factors such as location (e.g., southern Vancouver Island), a food production method (e.g., cheesemakers), or a current issue (e.g., saving wild salmon). This fits with Slow Food's underlying principle to let nature guide food choices, which means that these choices are flexible, fair, inclusive, respectful of the environment, adaptable to harvests and seasons, and supportive of local food customs. As more people engage with Slow Food values, the goal is to expand the reach of the organisation beyond membership or structure, thus encouraging genuine and lasting change.

Structurally, therefore, Slow Food now recognises that its potential as a change agent lies within the smaller local communities of the global network. That is, each community creates their own mandate for what is important locally, using Slow Food values and resources as a guide. The functional, influential elements within these food communities are the residents themselves. For example, the act of visiting farms and becoming familiar with the land guides food choices at the individual level, such as eating in season, and cooking from scratch from what is in abundance locally. Peer-to-peer interaction results in information sharing among friends and family, such as co-workers who share recipes and preserve food together, or a neighbour who introduces others to a new market or restaurant. This direct, producer-consumer food guidance is seen as locally adaptable to the specific needs of each community. It should transcend socioeconomic status and highlight ethnic or cultural food practices through diverse social engagement within the local food community.

Furthermore, at the local level, Slow Food guidance calls for respect for traditional or land-based knowledge. From this comes the strong sense of responsibility, among Slow Food members, of publicizing the current food-related issues affecting people in thousands of rural and urban communities on six continents. The essential follow-up to understanding those issues is the development of local, sustainable solutions that encourage investing in the natural biodiversity of each unique food region.

Initially Slow Food's promotional images focussed on people enjoying meals together based on high-quality foods from small-scale producers—all to "celebrate the rich varieties and aromas of local cuisines," according to the *Slow Food Manifesto* (Portinari, 1987). Over the next few decades, while the spotlight on pleasure and taste remained strong, attention shifted significantly to environmental issues: climate change, reduced fish species and stocks, loss of biodiversity, land grabbing, food waste, genetic engineering, greenhouse gas emissions from farm animals, and reduced bee populations. Animal welfare also became a concern related to food choices. These problems were seen as industrial and political barriers to the availability of,

and control over, local food sources by citizens. From here the term *eco-gastronomy* became a key term within the Slow Food movement. The potential tension between the two seemingly distinct goals of sensorial pleasure and environmental activism has been seen as complementary among Slow Food members (Pietrykowksi, 2004; Sassatelli & Davolio, 2010).

Digging a bit deeper into the effectiveness of Slow Food's experiential focus to influence behaviour change, Gaytán (2007) has pointed to the multiple "imaginaries" with which people can understand and process the complex local and global efforts towards good, clean, and fair food. With these understandings of food, he argues, consumers can and do go beyond the triad of price, (familiar) taste, and convenience that is commonly believed to drive most food choices. Similarly, Hayes-Conroy (2010) explored the sensory, "visceral" experience of people who were involved with Slow Food projects. The language of her research participants suggested that "cognition and taste merge…inside the body to create their lived eco-political preferences of food" (2010, p. 738). Eating mindfully regarding the human and environmental relationships of food, in other words, can become enjoyable in and of itself.

Hayes-Conroy noted that for Steve, a Nova Scotian chef who bought food for his restaurant at a farm market and a fish monger, "the acts of seeing, smelling, and sampling fresh, local, unique, artisanal, ecological, and/or fairly produced foods were what Slow Food (SF) was all about, and these experiences generated vigor for continued association with the movement" (2010, p. 738). Furthermore, "Steve demonstrated that SF was not simply about encouraging bodily experience of these foods, but also about finding and feeling many kinds of human connection forged through food. His relations with the farmers from whom he sources, with his customers, with other SF business owners, and with us as researchers interested in food, tends to affect his minded-body in a way that energizes him" (Hayes-Conroy, 2010, p. 738).

This insight leads us to the next section, in which we discuss a guidance tool around the relational nature of Slow Food.

The Slow Food Relationship Barometer

The Slow Food values of good, clean, and fair serve as basic principles, but are not helpful to evaluate individual products or production methods that are inherently complex in nature. This is especially true when the multiple embedded relationships are examined, which are often contradictory and sometimes surprising. The relational approach rarely leads to a simple, clear appraisal, but it is always informative.

As a Slow Food convivium leader on southern Vancouver Island and international coordinator of Slow Fish, we (Fader and Mesmain) have developed the Slow Food Relationship Barometer, a tool that identifies a spectrum of options to consider when assessing a particular food item, production method, or outlet. It is based on our assertion that:

> Slow Food IS relationships! The relationships we create or destroy, nurture or neglect are the foundation of our work. By qualifying the relationships we have with our food, we are able to discern whether the product is good, clean, and fair. In recognizing these relationships, we are able to honour and improve the way we impact our community, our environment, and our lives. This relationship gauge will help each of us to discover whether we want to actively promote, quietly support, gently ignore, or rally against a food product or food production method or entity. The Slow Food Relationship Barometer is a tool; use it and improve upon it (Fader & Mesmain, 2019, Figure 1).

Figure 1: The Slow Food Relationship Barometer

To highlight the various types of relationships associated with a food product, the barometer names eight dimensions: nature, community, history and identity, economy, Indigenous tradition, producer connections, politics, and unintentional outcomes (Figure 1). The factors that populate each of these relationship categories for a specific food or food product in a certain place and time can be assessed as enhancing, creating, neglecting, or destroying. The information for this assessment is based on local experience and knowledge.

The resultant analysis yields a broad, complex picture—more complex than the graphic in Figure 1 suggests—one that is useful to help determine sustainable solutions that also respect traditions. It reminds us that the choices made around harvesting,

processing, and purchasing food can have different effects on the food source, its ecology, and people involved in it. In this way it fits with the Slow Food philosophy and, most importantly, it can guide businesses (small and large), advocacy groups, and policy makers towards informed choices.

The overall outcome resulting from the Relationship Barometer approach is not linear or axial, but relational. Murdoch (2006) has described relational spaces as products of multiple interrelations, meaning they are "cross-cut by differing processes and practices, some that emanate from within, some that emanate from without" (p. 18). Relations, in this perspective, are "inevitably double-edged: they can facilitate movement and access; equally they can entrench confinement and exclusion" (pp. 22–23). Applying relationality to the concept of Slow Food, Murdoch contends "Slow Food also has spatial significance: the movement is concerned by the rupture that has been affected between spaces of production and spaces of consumption, and it seeks to close the gap between the two by bringing consumers to spatially embedded foods. It also wishes to reassert the natural bases of food production (seasonality, ecological content, etc.) and the role of cultural context (tacit knowledge, culinary skills, etc.)" (2006, p. 170).

To illustrate this relational approach, Table 1 shows the types of questions that can be asked to unpack each of the eight dimensions in the Barometer. Table 2 applies these questions to a specific case, a comparison of wild and farmed salmon on the west coast of British Columbia. The findings become an information spectrum about the product, revealing the multiplicity of relationships that exist simultaneously for a food. The overall aim is for the more destructive or neglectful relationships to be minimized or avoided, and the more creative or enhancing ones to be encouraged. Such analysis of a food product can serve to guide stakeholders who normally hold more limited perspectives, but may be willing to be introduced to more diverse understandings. Moreover, it can be influential at the levels of community action or broader policy making.

Table 1: Questions that can help elucidate the dominant direction of a food product's relationships, for each dimension

RBD	Questions to help determine the **dominant direction** for each Barometer dimension (for any food product)			
	Enhance	**Create**	**Neglect**	**Destroy**
Nature	How does production enhance knowledge of the environment?	Describe the relationships that occur between the food system and the eco-system	How does this food interact with its environment through its life span?	What are the pre-production inputs and the post-production waste factors?
Community	In what ways does this food contribute to building and developing a sense of community?	What role does production of this food have within the community?	How does this production involve or impact other, neighbouring communities?	How does the production of this food impact the community, now and in the future?
History & Identity	What is the link to the land's past and culture? Will this history be sustained by supporting production?	Does this food have a history and cultural identity?	How does history influence production, and what impacts might this have on the region's future?	Why is this product necessary? What is at risk of being lost if we lose this food?
Economy	How is the production process and business model addressing a larger picture of *good, clean & fair* food?	Is the primary goal of this production to create high quality, healthy food?	In what ways is the production process and business model designed to create a local economy?	Is the primary goal of this production to maximize profit?
Indigenous Tradition	What cooperation and relationships are the indigenous communities asking for?	How is this food production honouring the traditional knowledge and current needs of indigenous communities?	In what ways are assumptions being made about what the indigenous community needs or wants?	In what ways will this food production perpetuate stereotypes and cultural appropriation?
Producer Connections	How is the producer's connection to their food production enhancing their life & those close to them?	What is the relationship and story between the producer and the product?	Could the producer be more connected, or better supported, by production?	What barriers prevent the producer from being deeply connected to the production of the product?
Unintended Outcomes	How will you be held accountable and responsible for any unintentional risks that emerge?	In what ways can the risks of the product and production process be mitigated?	What risks are being overlooked considering you are responsible for growing/raising/harvest-ing a living species?	What are the risks of the product and production process?
Politics/ Democratic Principles	How do you hope your food product or production impacts the political climate?	In what ways is the product political?	How is the product influenced by local/national/interna-tional politics?	What advocacy needs to be done on a political level to ensure the product is protected?

Table 2: Food product relationships and dominant directions for each Relationship Barometer Dimension (RBD): The example of wild and farmed salmon in Canada

RBD	What is the relationship of wild and farmed salmon in each Dimension?	Dominant Direction
Nature	**Wild salmon** are a keystone species in the creation of the ancient forests and waterways of British Columbia.	enhance
	Farmed salmon require unnatural inputs in salmon feed and have been linked to environmental and wild salmon stock degradation.	destroy
Community	For many generations First Nations and other Canadians have enjoyed **wild salmon**, from a sacred ceremony to a neighbourhood barbeque. Often, families fish together.	enhance
	Farmed salmon is disconnected from the community, the facilities are closed to the public, and the majority is not consumed locally.	neglect
History & Identity	**Wild salmon** are a link to First Nations culture and identity, presently and in the past.	create and enhance
	The history of **farmed salmon** is a corporate story for profit. It's detached from cultural identity and threatens the existence of wild salmon.	neglect and destroy
Economy	**Wild salmon** have historically been fished by First Nations peoples for their communities, but have been kept out of commercial licenses, so there is a contentious relationship around the economy of wild salmon and who owns the quota to catch it. Still, wild salmon is caught for local consumption and usually shared between the members of the band.	relationship could be enhanced
	Fishers who control their fishing quota will retain a larger portion of the landed value than those who have to lease quota. The DFO operates different quota systems on the east and west coasts of Canada. There is no **wild salmon** left on the East Coast.	neglect
	The primary goal of **farmed salmon** is to create profit through aquaculture. Salmon farms are owned by large corporations and employ fewer people than wild fisheries, so their connection to their local economy is neglected.	destroy and neglect
Indigenous Tradition	**Wild salmon** are considered sacred by all First Nations peoples of the West coast, but some bands have invested in farmed salmon in their community. Traditional knowledge around fishing, smoking, preparing and sharing of wild salmon has helped to create a cultural heritage.	enhance
Producer Connections	The Okanagan **wild salmon** connected all First Nations from the mouth of the Columbia river up to the Okanagan lake, which shared information, stories, prayers and the harvest to ensure the salmon would come back year after year. After almost losing the salmon, the bands came together again to restore the waterways and culture for the salmon to return.	enhance
	Farmed salmon are secluded production facilities from which the fish is shipped elsewhere, so connections with local communities are limited to low paying jobs. Higher paying jobs tend to go outside the community. The larger the scale of the farm, the weaker the relationship between the owner of the company and the locals. Often several corporate entities control different aspects of the farming industry: hatcheries, forage fisheries and feed producers, and the salmon farmers.	neglect
Unintended Outcomes	The Okanagan initiative to get the **wild salmon** back was a hugely restorative initiative which addressed all fronts. Of course, bringing a fish back into waterways from which is has been absent for over 60 years conveys risks to the ecosystem which has developed during that time, but the local ONA research center observed and collected data on wild fishes for years to understand if they could be carriers of "new" viruses before reintroducing them into their natural habitat by freeing the waterways from manmade obstacles.	enhance and create
	Farmed salmon raised in open ocean nets do little to mitigate huge potential risks, from viruses to escapes, nor the toxicity of entrants and waste products on the whole aquatic ecosystem.	destroy
Politics/ Democratic Principles	The Okanagan initiative has helped recreate a dialogue and restore **wild salmon** relationships at different political levels, within First Nations bands themselves, from both Canada and USA, with the water authorities and DFO's inland water department, as well as regional authorities. It covers what had become a governance gap by accumulating knowledge and healthy environmental practices along the waterways.	create and enhance
	In BC, the DFO withheld critical information from the Cohen commission which was given the task to investigate the harm caused by the **salmon farms** to the wild stocks to understand how much democratic principles have been eroded over this sector.	neglect and destroy

Summary of the Relationship Barometer assessment of wild and farmed salmon

Table 2 is an example of the Relationship Barometer applied to farmed versus wild salmon. It becomes clear that wild salmon—especially given their link with First Nations traditions and positive environmental impacts—foster mostly creative and enhancing relationships, while farming salmon tends towards neglectful and destructive relationships.

As evidenced by this analysis, the Relationship Barometer is not simple or straightforward to use. It requires considerable research and knowledge gathering, with emphasis on both pros and cons surrounding a food product and its production method. While most consumers, producers, and distributors may not be able to commit to the time involved, the tool can guide groups who seek in-depth understanding of a food product's multiple dimensions.

Discussion

The Relationship Barometer is conceived as a dynamic tool because food webs are themselves dynamic. Seasons change, animals and plants go through annual cycles, ocean and river systems vary, and human communities shift in their choices and activities. Government policies, which also change over time, have consequences that may favour one group over another. A broad-based, relational assessment of relevant factors can serve to inform advocates for local growers or harvesters with insights and persuasive arguments beyond the more obvious economic factors.

An application of this relational paradigm is the *Wild Salmon Manifesto* (Slow Food in Canada, 2014), adopted by Slow Food in Canada, with guidelines pertaining to both east and west coasts of the country. Such guidelines are meant to inspire advocacy and action. An example of this is illustrated by recent activism related to seafood harvesting in British Columbia (Slow Food in Canada, Save Our BC Fisheries, 2018). While almost 90 percent of landed seafood from coastal BC is shipped to international markets, local supply lines that benefit coastal communities—from fishing families to small seafood stores and restaurants—were facing collapse in 2020. This was exacerbated by COVID-19 restrictions. To address this inequality, Slow Fish Canada organized under the banner of Fisheries for Communities. Made up of fishers, harvesters, First Nations fisheries, purveyors, chefs, and fishing advocacy and environmental groups, they actively engaged with fisheries politicians, both provincially and federally. They succeeded in convincing (through a multi-pronged array of information as would be derived from the Relationship Barometer) and pressuring Fisheries and Oceans Canada with a social media campaign to reverse some policy decisions that were harmful to local seafood stocks and harvesters (Fisheries and Oceans Canada, 2018). Fisheries for Communities and Slow Fish Canada continue to advocate, motivated by a core belief that relationships among local fishing

communities are an integral part of their cultural heritage and local food shed, and must be preserved.

Conclusion

In this field report we have described the basic principles, structure, and strategies of Slow Food. We have argued that those elements, taken as a whole, serve as a form of critical food guidance for those who wish to form communities of action to sustain and celebrate local, traditional foods and food products. Knowledge and awareness about particular food ecologies and economies are a key part of the development and growth of such communities. A tool such as the Relationship Barometer is meant to facilitate more in-depth understanding of the existing complexities of food relationships. It is intended to provide critical food guidance by highlighting:

- the development of sensory investment (derived from local knowledge, awareness, and experience) to guide food-related practices and choices;
- support for the livelihoods of local fishers, farmers, processors, retailers, and chefs;
- strengthened environmental sustainability; and
- enhanced food-related cultural/social context of community residents.

The Slow Food Relationship Barometer can help assess any food product by the members of a local community—whether defined by geography (rural or urban), foods (e.g., fish, fruit, grains, beef), or processing practice (e.g., dairy, honey, bread, wine, olive oil). Based on the results of the assessment, a community or group might choose to take collective action. It may also instigate research projects to fill gaps in information, or consult with key actors such as Indigenous residents who can offer unique social and agronomic perspectives on the natural foods of an area.

It is notable that the critical guidance of Slow Food does not focus on a goal of improving human health or preventing chronic disease, unlike most official, national food guides. Similarly, the eight dimensions of the Slow Food Relationship Barometer do not include health. According to the Slow Food philosophy, it is assumed that food is "healthy" when it is free of artificial chemicals and pesticides and is as natural as possible; such food is then chosen mostly because of its sensory qualities, cultural value, and its relationships to local economies and sustainable ecologies (Petrini & Padovani, 2006). No research has been conducted to date that compares indicators of health among participants who eat according to a national food guide as opposed to those who follow the critical guidance of Slow Food.

A challenge to the Slow Food movement internationally is the disconnect between the growth aspirations of the original Slow Food leaders based in Italy, and the reality of different food communities in distant countries who do not always cherish Italian oversight. While Slow

Food positions itself as a global network of local communities, meeting this goal requires a concerted effort by a multitude of dedicated volunteers—ones who are flexible enough to embrace diversity and change.

Overall, however, the influence of Slow Food guidance has been to continuously support local food producers and harvesters around the world who operate justly and sustainably. It has encouraged environmental improvements, cultural rejuvenation, and an identity and food culture entrenched in Slow Food values. The cascading effects—from a simple bite of food to a change agent affecting economies, environments, and cultures—is what drives Slow Food, not only as an organisation, but as a movement. When empowered by critical food guidance, including that of the Slow Food Relationship Barometer and the many other forms of guidance that are described in this journal issue, people can arrive at decisions and advocacy efforts on their own.

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Michèle Mesmain has worked for 10 years at the Slow Food International headquarters, mainly as the international coordinator of the Slow Fish network. She has taken her love of food culture a step further and is currently learning to cultivate vineyards, olive groves, and fruit trees in southern Tuscany.

Brooke Fader is a founding member of Slow Fish Canada and Community Leader of Slow Food Vancouver Island & Gulf Islands. Her restaurant, Wild Mountain Food & Drink in Sooke, BC, is certified by the Slow Food Chef's Alliance. Brook continues her advocacy work to revitalize BC fishing communities at http://www.slowisland.ca/2018/01/campaign-to-save-our-bc-fisheries.html

Ellen Desjardins has retired from a career in public health nutrition as well as teaching, program development, writing, and advocacy in the area of sustainable food systems in Ontario. She is a

co-founder and the former editor-in-chief of *Canadian Food Studies,* and now lives on Vancouver Island.

References

Alkon, A. H., & Agyeman, J. (Eds.). (2011). *Cultivating food justice: Race, class, and sustainability.* The MIT Press.

Andrée, P., Clark, J. L., Levkoe, C. Z., & Lowitt, K. (Eds.). (2019). *Civil society and social movements in food system governance.* Routledge.

Andrews, G. (2008). *The slow food story: Politics and pleasure*. Pluto Press.

Donati, K. (2015). The pleasure of diversity in Slow Food's ethics of taste. *Food, Culture & Society*, *8*(2), 227-242.

Fisheries and Oceans Canada (2018*). Cohen response status update – October 2018*. https://www.dfo-mpo.gc.ca/cohen/report-rapport-2018-eng.htm

Frost, W., & Laing, J. (2013). Communicating persuasive messages through Slow Food festivals. *Journal of Vacation Marketing, 19*(1), 67-74. https://

Gaytán, M. S. (2007). Globalizing resistance: Slow food and new local imaginaries. *Food, Culture & Society, 7*(2), 97-116.

Goodman, D., DuPuis, E. M., & Goodman, M. K. (2014). *Alternative food networks: Knowledge, practice, and politics*. Routledge.

Guthman, J. (2011). "If they only knew": The unbearable whiteness of alternative food. In A. H. Alkon & J. Agyeman (Eds.), *Cultivating food justice: Race, class, and sustainability* (pp. 236-282). The MIT Press.

Hayes-Conroy, A. (2010). Feeling Slow Food: Visceral fieldwork and empathetic research relations in the alternative food movement. *Geoforum 41*(5), 734-742. http://dx.doi.org/10.1016/j.geoforum.2010.04.005

Lang, T. & Heasman, M. (2004). Food wars: The global battle for mouths, minds and markets. Earthscan.

Labelle, J. (2007). A recipe for connectedness: Bridging production and consumption with slow food. *Food, Culture & Society 7*(2), 81-96.

Lang, T., & Heasman, M. (2004). Diet and nutrition policy: A clash of ideas of investment? *Development 47*(2), 64-74. doi:10.1057/palgrave.development.1100031

Lotti, A. (2010). The commoditization of products and taste: Slow Food and the conservation of agrobiodiversity. *Agriculture and Human Values 27*(1), 71-83.

Murdoch, J. (2006). *Post-structuralist geography: A guide to relational space*. Sage.

Petrini, C. & Padovani, G. (2006). *Slow food revolution: A new culture for eating and living.* Rizzoli International Publications.

Pietrykowski, B. (2004). You are what you eat: The social economy of the Slow Food movement. *Review of Social Economy*, *62*(3), 307-321.

Portinari, F. (1987). *The Slow Food manifesto, Gambero Rosso*. https://www.slowfood.it/chi-siamo/manifesto-dello-slow-food

Sassatelli, R. & Davolio, F. (2010). Consumption, pleasure and politics: Slow Food and the politico-aesthetic problematization of food. *Journal of Consumer Culture, 10*(2), 202-232.

Slow Fish in Canada (2022). Slow Fish in Canada (slowfood.ca)

Slow Food in Canada (2014). A wild salmon manifesto for Slow Food Canada. https://slowfood.ca/slow-fish-canada-adopts-a-wild-salmon-manifesto/

Slow Food in Canada, Save Our BC Fisheries (2018). https://slowfood.ca/save-our-bc-fisheries/

Slow Food, History (nd). https://www.slowfood.com/about-us/our-history/

Slow Food Manifesto (1989). https://slowfood.com/filemanager/Convivium%20Leader%20Area/Manifesto_ENG.pdf

Slow Manifesto for Quality (nd). https://www.slowfood.com/wp-content/uploads/2015/07/Manifesto_Quality_ENG.pdf

Slow Food Presidium Guidelines (nd). https://www.fondazioneslowfood.com/en/what-we-do/slow-food-presidia/guide-lines/

Slow Food, Responsible Consumption and Food Labelling (2015). www.slowfood.com/slow-food-europe/what-we-do/responsible-consumption-and-food-labelling

Slow Food USA, Slow Fish (2021). https://slowfoodusa.org/slow-fish/

Stevenson, G. W., Ruhf, K., Lezberg, S., & Clancy, K. (2007). Warrior, builder, and weaver work. In C. Hinrichs & T. Lyson (Eds.), *Remaking the American food system: Strategies for sustainability* (pp. 33-62). University of Nebraska Press.

van Bommel, K. & Spicer, A. (2015). Slow Food as a social movement. *International encyclopedia of the social & behavioral sciences* (2nd ed.). Elsevier.

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Field Report

Critical food guidance in action: The history of the Toronto Food Policy Council

Lori Stahlbrand [a]* and Wayne Roberts

[a] George Brown College

Abstract

This field report links food and city policies by tracing the history of the Toronto Food Policy Council (TFPC). We bring the insider perspective of Canadian food policy practitioners and staff leads of the TFPC—one of the first food policy councils in a major city when it was established in 1990, and an example of critical food guidance in action. We present six insights about food as a tool of critical food guidance, gleaned from our experience at the TFPC. We argue that: 1) Food is at the centre of the planetary crisis; 2) Cities are where the planetary crisis is coming home to roost; 3) Food is multifunctional and can solve many city problems; 4) Civic engagement is essential, and food policy councils are a pivotal tool; 5) Solutions must be place-based, and food is a place-maker; and 6) Action must be people-centred.

Keywords: Toronto Food Policy Council; food-city nexus; people-centred food policy; civic engagement; multifunctionality; critical food guidance

*Corresponding author: lori.stahlbrand@georgebrown.ca
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Introduction

Many projects can be described as a voyage, not a destination, and the Toronto Food Policy Council (TFPC) is among them. We may never know the destination, or if we will get there, but we see a path worth taking. This field report highlights the experience of two Canadian food policy practitioners and staff leads of the TFPC[1]—one of the first food policy councils in a major city when it was established in 1990—and an example of not only successful food planning and policy in motion (Blay-Palmer, 2009), but also of the food-city nexus and critical food guidance in action.

The history of the TFPC, and the insights with respect to future food planning and policy based on our experience, resonate with critical food guidance. In their invitation to the Special Issue, the guest editors introduced the concept of critical food guidance and described it in terms of going beyond healthy eating to embrace broader issues associated with environmental, social, and economic sustainability. This matched the concerns of the TFPC from its origins in addressing food insecurity to its focus on civic engagement, place and people-centred action. Aiming to combine healthy eating patterns with efforts toward more sustainable food systems, the guest editors encouraged submissions that linked the food we eat with the sustainability of the world around us. In particular, they asked prospective authors to submit working examples of critical food guidance, such as food policy councils. Providing a history of the TFPC seemed like a perfect choice: the TFPC recognized early the unsustainability of the industrial food system, its policy reports highlighted links between food and the sustainability of the city, it supported nascent food movements, and it showcased community food assets.

In 2007, new pathways linking food and city policies—the food-city nexus—opened up. That year, for the first time in history, city populations outnumbered rural (North Carolina State University, 2007). This emboldened the new urban majority to see cities as the bedrock for momentous opportunities and challenges. The same year was also a turning point for local food. “Locavore” was named word of the year, a sign that rising urban interest in food was creating brash new choices—beyond the stale debates between health food and junk food, or herbivore versus carnivore (Oxford University Press, 2007). Local food led people in cities to renew relationships with their nearby countryside and food producers. Local and sustainable were also being paired in a new debate (The Metcalf Foundation, 2008). Food presented gateways to different ways of living, not just different ways of eating. This was suggested by three key books of 2007: Alisa Smith and J.B. MacKinnon’s (2007) *The 100-Mile Diet*, Barbara Kingsolver’s (2007) *Animal, Vegetable, Miracle*, and Alice Waters’ (2007) *Delicious Revolution*. Not that lifestyle choices defined the range of interests and issues. The *Guardian*, circulated daily to a worldwide influential readership, featured many stories about food waste, school meals and the environment (Cairns, 2007). The year ended with a global food crisis in the fall, when demand

[1] See TFPC (2022). Wayne Roberts staffed the TFPC from 2000-2010. Lori Stahlbrand was the staff lead from 2017-2019.

for grain as feedstock for ethanol fuel sent grain prices soaring. Would the poor starve while the rich used once-affordable food staples to fill the gas tanks of their luxury cars? Riots were predicted for the new year in dozens of cities as speculators drove up food prices again (Watts, 2007). True, most food was produced in countryside and coastline villages, but the riots showed that the future of food would be contested in cities.

This was confirmed in 2015, when Milan officials, in partnership with the UN's Food and Agriculture Organization and others, issued the Milan Urban Food Policy Pact, and called on other cities to join them (Milan Urban Food Policy Pact, 2015). The brief statement (Milan Urban Food Policy Pact, 2015) warned that the planetary crisis of unsustainable environments would surely affect "the task of feeding cities" (p.1) The rapid rise of urban populations, the Pact said, "necessitates re-examination of the ways in which cities are provisioned with food and water" (p.1) because food and water will be central to a wide range of city issues, including "poverty, health and social protection, hygiene and sanitation, land use planning, transport and commerce, energy, education, and disaster preparedness" (p.1). The statement advised that "most interventions will have an impact on multiple dimensions (economic, social, health and environment) of sustainable development" (p.3). Leaders of more than 200 cities, home for 350 million people, have since signed the Milan Pact (Milan Urban Food Policy Pact, 2015). The food-city nexus had moved to centre stage.

In this field report, we look at the history of the TFPC, drawing on its thirty-year involvement with public health, citizen engagement, multiculturalism, food insecurity, food waste, urban agriculture, green infrastructure, social enterprises, and community partnerships. We begin by discussing the origins of the TFPC and the context for its emergence. We then discuss the TPFC and its focus on the multifunctionality of food, civic engagement, place and people-centred action, and community-based food assets. We conclude with some ruminations about future food planning and policy, informed by our experience with the TFPC, and link the TFPC to critical food guidance.

The origins of the Toronto Food Policy Council

Food policy councils are made up of representatives and stakeholders from—ideally—all five sectors of the food system (production, consumption, processing, distribution, and waste recycling) (Harper et al., 2009). Support for and interest in these organizations has grown significantly since the creation of the first food policy council in the early 1980s (Schiff, 2008). Acting as both forums for food issues and platforms for coordinated action, food policy councils "identify and propose innovative solutions to improve local or state food systems, spurring local economic development and making food systems more environmentally sustainable and socially just" (Harper et al., 2009, p. 2). This reflects the work of the TFPC.

Created as a vehicle for food citizenship (Welsh & MacRae, 1998), the TFPC is a pioneer in urban food policy. Blay-Palmer (2009) describes it as a positive force for social change

because it can activate the kind of transformations that result in a more just city. In spite of challenges, she explains how the TFPC "moves food issues onto a suite of agendas, making food considerations more visible and relevant to policy makers, businesses, citizens/eaters, chefs, farmers, food processors, and activists, among others" (Blay-Palmer, 2009, pp. 402-403). For Blay-Palmer, the TFPC offers an example of cutting-edge food policy innovation in action.

This innovation was clear from the beginning of the TFPC. In the mid-1980s after the first food banks had opened, Mayor Art Eggleton was appalled that Toronto should sink to this indignity, and convinced City Council to fund the startup of FoodShare, later the largest local food-security organization in North America, to find alternatives to food banks. When that effort failed to stem the tide of poverty and dependence on food charity, Jack Layton, a radical and inventive city counsellor and Board of Health Chair, together with his Executive Assistant Dan Leckie, proposed that Toronto set up a food policy council, in part inspired by local activists and the London Food Commission. Along with the mayor, they tapped into the city consensus: food banks were an emergency measure, part of an emergency food system, and the long-term response had to be based on comprehensive government policy.

The TFPC was launched as a sub-committee of the Toronto Board of Health in 1990, with policy as the operative word. But the TFPC's assignment to do supportive food policy stood in stark contrast to the neoliberal/austerity turn focussed on privatization, deregulation, and liberalization (see Harvey, 2006). Despite the best efforts of the TFPC and many other organizations, no sustained effort to roll back poverty levels, which lead to food bank use, has ever been implemented across North America. Indeed, Torontonians made 1.45 million visits to food banks in 2020 (Daily Bread Food Bank & North York Harvest, 2019).

This is not to say that progress has not been made in understanding the issues and obstacles to food security. Rod MacRae, the founding staff lead for the TFPC, wrote several seminal policy papers adopted by the TFPC during his nine-year tenure (TFPC, 1994, 1995, 1996, 1997, 1998a, 1998b, 1999). In 1992, he and the TFPC prepared a Toronto Declaration on Food and Nutrition, which was adopted by the Board of Health (Toronto Board of Health, 1992). It declared that healthy food choices should be promoted for all Torontonians, that all Toronto residents should be able to access them, and that local farmers should be supported to grow healthy food for local markets as a way of ending Ontario's trade deficit in food. In effect, the declaration redefines the food bank problem as a public health challenge. Since the 1980s, the visionary conviction of Toronto Public Health has been repeatedly well-stated: public health policy and resources need to focus "upstream", where health problems are caused and determined, and not fixate "downstream", where the results depend on expensive and ineffective cures to preventable diseases.

MacRae and TFPC members also made the compelling link in their series of policy briefs cited above that the industrial food system was responsible for a deadly combination of three main factors: the inability to provide healthy food to people on low income, the inability to prevent the rise of chronic diseases flowing from unhealthy foods, and the inability to limit the environmental damage done by pesticides and intensive production methods in agriculture. As

MacRae outlined it, the food system is dominated by large corporations, which sell food products that earn them a profit, with no necessary commitment to good health, local employment, or environmentally responsible production methods. In other words, there is no understanding of food as a public good. This is quite exceptional, even in a capitalist economy, where non-food industrial sectors include public goods as well as private profits. Transportation includes public roads and public transit. Health includes public health and public hospitals. Water and energy include public utilities. Shelter includes public housing. Culture includes public broadcasting. There's no such public infrastructure associated with the food sector. This was the nub of the TFPC's food system analysis in its first decade.

The Toronto Food Policy Council and the multifunctionality of food

While the first decade of the TFPC brought the food-health connection into the foreground, the second and third decades moved toward a deeper understanding of the food-city nexus and food's centrality in addressing a full range of issues related to people, place, and planet that belong on a local government agenda. Traditionally, local city governments often focus on issues such as parks, transportation, and policing. In contrast, a food mandate can encourage cities to take major initiatives on behalf of people, places, and the planetary environment. "Think globally, act locally" comes of age.

In 1998, the Ontario government ordered Toronto and five adjoining suburban city governments to amalgamate into one common metropolitan city (Chidley & Hawaleshka, 2013). All six governments had vigorously opposed amalgamation but recognized that they had no constitutional choice but to follow orders. Amalgamation had unexpected positive consequences for the TFPC. Overnight, it doubled the number of people and issues it could speak for, making it a metropolitan and not simply a city body. Within months of being hired at the TFPC, Wayne Roberts (co-author of this chapter) was assigned to co-lead the Food and Hunger Action Committee (FAHAC) for the newly amalgamated city (City of Toronto, 2000, 2001a, 2003). Roberts also had an opportunity to write a comprehensive critique of the new city's draft Official Plan and ensure that food was included (TFPC, 2001). Over a four-year period, amalgamation offered TFPC staff and members a crash course on the food-city nexus.

As befitting the opportunity to start fresh with a new policy in an area that few local governments had formal policy on—namely, food and hunger—FAHAC invited community leaders active in confronting food insecurity to join its steering committee. That allowed Kathryn Scharf, on staff with FoodShare, as well as citizen-chair of the TFPC, to play a leading role in both the TFPC and FAHAC. The staff leads of the FAHAC process came from two city divisions, public health and social development.

Following unanimous adoption of the FAHAC report *The Growing Season* by Toronto City Council, TFPC staff turned attention to the City's Official Plan (City of Toronto, 2019). The TFPC's report on Toronto's Official Plan, *The Way to a City's Heart is Through its Stomach*,

was widely circulated among planners and planning students across North America. Planners were beginning to awaken to food as a city planning issue (Pothukuchi & Kaufman, 2000). For the first time, food received multiple mentions in the Official Plan. The TFPC report anticipated the Milan Pact's call for cities to identify food as having strategic importance for city wellbeing and brought to the fore for the first time the need for cities to act on food issues. The FAHAC report presented to City Council highlighted the multifunctional nature of food and its ability to help solve a wide range of problems in the city. Multifunctionality fulfills two functions: it positions food policy councils as "solutionaries," people who contribute solutions, not problems, to policy discussions; and it also raises the profile of new, creative, and affordable solutions to problem areas known to be hard to solve.

The Toronto Food Charter, submitted alongside the FAHAC Report, was unanimously approved by Toronto City Council in 2001 (City of Toronto, 2001b). It implicitly and explicitly acknowledges the food-city nexus and the multifunctionality of food. While the Charter itself features a list of things a city should do about food, the appendix to the Charter outlines ten ways that food programs enhance city wellbeing—perhaps the first such listing in a formal government document. The Toronto Food Charter is the guiding document of the TFPC. It sets the tone for community-based critical food guidance, by providing the principles that all TFPC members commit to work towards. The Charter identifies the public interest that governs all members, over and above the interests of any stakeholder group.

The next breakthrough in the TFPC's strategic appreciation of foods' role in cities came almost ten years later. The Medical Officer of Health, Dr. David McKeown, and his assistant Barbara Emanuel asked TFPC staff to help develop a Toronto Food Strategy. In 2010, the team produced its report, *Cultivating Food Connections: Toward a Healthy and Sustainable Food System for Toronto* (Toronto Public Health, 2010). The consultation process engaged a far reaching group of City division heads, community leaders, academics, and citizen groups. The resulting report was one of the first city-wide food strategies anywhere, explicitly designed to encompass the entire city, not just one division, such as health or community development. It was also one of the first documents to explicitly identify food as a lever for addressing non-food problems.

The concept of leverage came to the attention of TFPC staff during a tour of low-income housing projects with community gardens. A manager responsible for cleaning up litter noticed that wherever people in housing projects thought nearby land was part of their community, they cared for it, and wherever they felt unwelcome, they let it degrade. She became a champion of neighborhood food projects as a way to reduce littering (Roberts, 2014). Leveraging food can also influence traffic jams, a much-cursed problem in the city, widely said to cost billions of dollars annually in lost time and opportunities (Star Editorial Board, 2018). Almost one quarter of trucks on the road are carrying food, according to a U.S. Department of Agriculture study (USDA Agricultural Marketing Service, 2011). Reducing traffic also means reducing air pollution—now regarded as one of the world's top killers (Le Page, 2019). The concept of leverage offered a blueprint to all city divisions to help them identify ways of using food

programs to reduce divisional costs, increase divisional revenues, or improve divisional services.

The Toronto Food Policy Council and its focus on civic engagement, place, and people-centred action

By its third decade, the TFPC settled into an unspoken understanding that the combination of neoliberalism and austerity had shut down any opportunities to make significant advances in the fields of social, economic, and public health policies. As early as 2001, a TFPC publication on city planning (Roberts, 2001) took note of Saskia Sassen's masterful analysis of post-industrial, post-Fordist world cities, where a new economic elite set its eyes on global markets, rather than domestic markets that depended on well-paid workers who could afford to buy the many goods they produced (Sassen, 1991). There was to be no overarching policy to achieve food security akin to Canada's much loved publicly funded universal healthcare. Nor would substantial but more piecemeal policy initiatives be considered to reduce food insecurity. Toronto's drift into such a fate was sealed by the successful mayoralty campaign of a far-right politician, Rob Ford, in 2010.

But as often happens, one door closes and another opens. The TFPC became a pivotal space for an emerging food movement. This nascent open-ended movement was based in civil society organizations and young food enthusiasts who were inspired by local and sustainable food, Italy's Slow Food movement, and the ideas behind food security and food sovereignty. Their positive, imaginative, and joyful visions and energies offered a glimpse into the possibilities of an alternative understanding of food policy. In practice, the TFPC continued to play a brokerage role, linking citizen experts and City policy staff with each other. But the TFPC also provided a platform that convened civil society leaders who could manage and steer emerging issues and relationships.

GrowTO: An Urban Agriculture Action Plan for Toronto (City of Toronto, 2012) is an example of how policy has played out in the food-city nexus. Developed by the TFPC with staff lead Lauren Baker, it was unanimously adopted by Toronto City Council in 2012. Both the process and the content of the report illustrate the dawning of a new policy era. Talented community and academic leaders pitched in. One participant, Dr. Joe Nasr, had co-authored the UN's first publication on the topic (Smit et al., 1996). Baker herself was a pioneering rooftop grower and social entrepreneur during the 1990s (Roberts et al., 1999). The GrowTO Action Plan highlights the many ways individuals and community groups can take leadership and agency. Initiatives will happen in home backyards, apartment roofs, boulevards, schools, parks and hospitals, the report predicted. It was ground zero for urban agriculture as a partnership between public policy and citizen action.

It is not a surprise that urban agriculture has become one of the most active areas of food-related community-based activity. Gardening brings multifunctionality down to earth. It is

inherently place-based, making use of the unique features of city neighbourhoods. For example, in Toronto, lands located in flood plains are being made available for urban farms in the heart of the city.

Urban agriculture also lends itself to multiple partnerships, often with neighborhood groups. TFPC meetings, held monthly at City Hall, have become a space where residents interested in urban agriculture can meet and plan. The TFPC's Urban Agriculture Working Group is perhaps its most active. Community-based leaders, with the support of the TFPC, advocated for Toronto's Mayor to declare an annual Urban Agriculture Day in 2017 in early September (TFPC, 2017). The TFPC, with support from staff lead, Lori Stahlbrand (co-author of this chapter), participated actively in what has evolved into Urban Agriculture Week, organizing tours of urban agriculture projects, and devoting its September meeting to the theme of growing food in the city.

This action-oriented approach, which focussed on projects and programs in partnership with community organizations, extended to the Toronto Food Strategy Unit, which was formed within Toronto Public Health in 2011. The manager, Barbara Emanuel, put an emphasis on "action learning" —a process involving "a small group working on real problems, taking action and learning as individuals, as a team, and as an organization…to develop creative, flexible and effective responses to pressing problems" (World Institute for Action Learning, n.d.). The most celebrated program launched by the Toronto Food Strategy Unit is Community Food Works. The program was developed in 2014 to give Toronto residents on a low income the skills and education they need to find work in the food industry. The program includes Food Handler Certification, as well as nutrition education and social networking opportunities. Community Food Works for Newcomers opened the program to recent immigrants and refugees. In 2017, Community Food Works for Newcomers won the top Milan Pact Award (Milan Urban Food Policy Pact, 2017).

The Toronto Food Policy Council and community-based food assets

The TFPC's next project reveals how a food policy council can enable and catalyze urban communities. As the TFPC's staff lead in 2017, Lori Stahlbrand was tasked with reworking the Food By Ward (FXW) project identifying community-based food assets across the city (TFPC, n.d.). The TFPC launched the interactive FXW map on its website in 2018. It was designed to showcase the range of community food assets across the city. Literally and figuratively, it put food's value to community development on the map. FXW was also designed to inspire and support self-identified food champions to advocate for food policies and programs with their City Councillors. The project aimed to grow the City's appetite for using food assets to solve city problems, and to make it easier and more transparent for City staff and community-based agencies to develop food assets strategically. FXW also enhanced community capacity through a

toolkit providing information on how to contact a City Councillor, organize a meeting, speak to the media, and so on.

The Food By Ward map has been accessed many thousands of times since its June 2018 launch. Community partners report that they regularly use it to help clients access services such as food banks, school-meal programs, community gardens, and farmers markets. It has also become an advocacy tool within city government to ensure that food is included in all major policies and strategies, including Toronto's Poverty Reduction Strategy and Climate Change Action Plan (City of Toronto, 2017, 2018). FXW is in keeping with the overarching philosophy of the TFPC that food is a lever to link civic health and public policy. FXW can help decision makers problem solve and give both community food advocates and municipal staff a better understanding of the role of neighbourhood food environments and infrastructure in the creation of a healthy, equitable, and sustainable city.

Mapping community-based assets helps identify and assess the current condition of a community, facilitates communication among stakeholders, foregrounds problems, and contributes to the design of solutions. The FXW project helps food advocates overcome a major challenge—the lack of visuals convincing cities that food is a lever that can be used to solve multiple city problems. Planners typically use maps for internal purposes. FXW was the first initiative in Canada to use asset mapping to look both inward and outward from city offices. It helps put food on the city agenda by engaging city staff and politicians, and by providing them with a useful tool for understanding the role of food in cities. It also engages citizens and provides a forum for citizen participation.

The FXW initiative shows what can be done by one staff person with skilled and enthusiastic community backing. Literally thousands of volunteer hours from TFPC and Toronto Youth Food Policy Council members and many others went into developing this initiative—from collecting data and connecting with food champions to producing advocacy tools and organizing workshops and the public launch. It testifies to citizen commitment to build a healthy, just, and sustainable food system for the city. After the initial launch, there was a great deal of discussion about how to keep the data current and how to stimulate further engagement. The online interactive map was only made possible because of many more volunteer hours updating the resources listed on the map, as well as data sharing agreements with partners. The FXW initiative showcases community capacity building. It engages people and gives them something to show for their efforts, using simple tools to measure progress, and to support continuous improvement. It is the culmination of thirty years of the food-city nexus, which has spurred us to consider the concept of critical food guidance.

Future food planning and policy

Our years of experience at the TFPC have been transformative and they have inspired us to put forward some insights with respect to future food planning and policy.

Food is at the centre of the planetary crisis

"Food is implicated in the most important health, environmental, economic, social and political challenges of our time" (Hawkes & Parsons, 2019, p.1). For example, the food system produces almost one-third of all greenhouse gases (Vermeulen et al., 2012). It is heavily reliant on fossil fuels in the form of synthetic pesticides and fertilizers, as well as fuel for machinery and long-distance transportation. It plays a role in loss of biodiversity and the destruction of habitat to make way for monoculture crops. Agriculture is the largest polluter of fresh water (Molden, 2013). More than 30 percent of the food produced is wasted (Gustavsson et al., 2011). By 2050, plastic waste in our oceans, much of it food packaging, will outweigh all the animal life in the sea (World Economic Forum & Ellen MacArthur Foundation, 2016). There is also massive social displacement and food insecurity accompanying the climate crisis. The United Nations estimates that only eleven years remain in which to prevent irreversible damage from climate change (United Nations, 2019). For these reasons, we need to heed the warning of Rees (2019) and acknowledge that food is at centre of the planetary crisis.

Cities are where the planetary crisis is coming home to roost

Cities are already confronting the first signs of the planetary crisis. Roads, sewage systems, electrical grids and other city infrastructure can't take the pounding of today's unpredictable weather. Unprecedented heatwaves are creating public health emergencies. Rapidly increasing urban populations mean traffic jams are getting worse, as is air pollution. Displacement and rural depopulation contribute to a lack of jobs and affordable housing (Roberts, 2016; United Nations Habitat III, 2016). The resulting economic polarization is creating larger inequities, social unrest, and political polarization. At the same time, cities are coming into their own as a global force to be reckoned with. As they take a larger role in international climate leadership, cities will increasingly champion food as an indispensable tool to prevent social and environmental calamities.

Food is multifunctional and can solve many city problems

Multifunctionality was first associated with agriculture, referring to the fact that agriculture can produce ecosystem services and social benefits, as well as food and fibre (Renting et al., 2009). But thinking of food more broadly as multifunctional is a bedrock of critical food guidance. There are two reasons for this, one is that multifunctionality opens food to the economies of scope, not the economies of scale. "Scale economies" mean that food producers are on a treadmill of producing more to keep their prices down so they can sell cheaply. "Scope economies" are multifaceted, which means, for example, that part of the value of a green roof comes from harboring endangered pollinators, from keeping rain on the roof to be soaked up by

plants rather than rushing down a flooded street, from cooling the city air with evaporation, and so on. Producing food becomes just one of many benefits of the green roof. Second, multifunctionality means food can be a lever for addressing multiple non-food problems of cities that no other sector of the economy can match (Toronto Public Health, 2010). For example, a community garden stores carbon and rainwater, makes use of compost from food waste, helps feed several families, supports physical and mental health, provides a safe outlet for youthful energy, builds skills, increases food literacy, and creates opportunities for social inclusion and newcomer integration. Food is key to the "wealth of relations" or social-capital formation on which cities depend for cohesion and sociability, especially as the world faces greater social displacement in the form of immigrants and refugees than ever before (Wooster, 2019). Food's multifunctionality means that a key question to be answered is "What can food do for cities?"

Civic engagement is essential, and food policy councils are a pivotal tool

City bureaucracies, organized in silos, are not well designed to take advantage of the multifunctionality of food. Yet cities need solutions for the complex interrelated problems they are facing such as developing resilience in the face of shocks and stressors caused by the planetary crisis. Food policy councils are a form of deliberative democracy, providing a tool for tapping into citizen expertise from civil society and business, as well as from community-based grassroots organizations and engaged citizens (Reybrouck, 2016). As it becomes more difficult to develop and fund government policy, community-based solutions in the form of pilots, programs and partnerships will become more important, and provide proof of concept for risk-averse cities fearful of major policy initiatives. Food policy councils enable government of, for, and by the people by treating food as a "whole-of-government", "whole-of-society" multifunctional issue (Dubé et al., 2014).

Solutions must be place-based, and food is a place-maker

Every city is different, with diverse strengths and weaknesses. The geography of a city—whether river or seaside, at high or low elevation, temperate or tropical, sprawling or compact—will play a role in determining how it will be affected by the planetary crisis. Place is one of the prominent issues that fell off the agenda when food's contributions were narrowly defined around supply chains and nutrients. It's what led William Rees, originator of the concept of the ecological footprint, to argue that "the most food secure populations by the second half of the twenty-first century will be those populations that have deliberately chosen and planned to relocalize as much of their own food systems as possible" (Rees, 2019, p. 6).

Action must be people-centred

People-centred food policy—as distinct from supply chain-centred policy or nutrient-centred food policy—is well suited to cities. If cities are to claim and chart their own course on food initiatives, they need a unique and unifying concept that relates specifically to local and city government needs, mandates, jurisdictions, and capacities. People-centred food policy fits that bill. Cities and food specialists are beginning to recognize that cities need food because of what food uniquely does for people in cities. People-centred food policy and programs deal with the people side of food. They address how food brings people together in good times and in crises like the COVID-19 pandemic, how it shapes popular culture, how it supports peoples' exploration of different cultures, how it addresses loneliness, how it speaks to mental health and wellbeing, how it gives people a sense of belonging, how it can help at-risk youth and how it can be used by cities to engage citizens in supporting complete streets, green roofs and walls, urban agriculture, urban forestry, thriving restaurant districts, agro and culinary tourism, horticultural therapy, and ultimately the best shot at food security in a world facing climate chaos.

Conclusion

The Toronto Food Policy Council (TFPC) has been operating at the interface of food and city policy for over thirty years. Formed in 1990, near the beginning of food becoming a civic issue, it remains at the forefront of articulating the new landscape for the food-city nexus.

The insights reflected here with respect to future food planning and policy that we developed as a result of our experience at the TFPC reinforce the links between the history of the TFPC and critical food guidance. In their invitation to the Special Issue, the guest editors expressed the need for recommendations that could help to mitigate food-related problems and enhance collective action for holistic change. Our insights pinpoint food as being at the centre of the planetary crisis and recommend civic engagement and people-centred action, with food policy councils as a form of deliberative democracy.

In our admittedly biased opinion, the TFPC's relative success is due to many factors. First and foremost, the TFPC started early, before all levels of government had received the neoliberal memo. Second, the TFPC was nested in a high-profile and progressive public health department. Indeed, Toronto Public Health's innovative approach had already inspired the World Health Organization's Ottawa Charter for Health Promotion (WHO, 1986). Toronto Public Health wisely accorded the TFPC and the TFPC's staff lead freedom of speech and action—as befits an advisory body. Thanks to that combination of high profile and autonomy, the TFPC has always been able to recruit from "the best and the brightest" of Toronto food advocates and thought leaders. The TFPC also chose to strictly identify itself and all its members as serving the public interest in food policy, as laid out in the Toronto Food Charter. This means that the TFPC does not identify as a stakeholder body struggling to find common ground among food banks, supermarkets, racialized minorities, academics, food processors, and others—a central issue with which many other food policy councils have grappled. Because of its commitment to the public

interest, the TFPC has been able to work through consensus, and to show leadership and gain public and media credibility on major issues of public concern, such as food security.

The TFPC has benefitted from many strong leaders, and has engaged a host of knowledgeable, committed council members from a variety of walks of life. Having permanent city staff assigned to the TFPC has meant that these highly skilled and busy food people could bring their expertise to the TFPC, knowing that there would be some capacity to make their investment of time worthwhile. The work of all these people and our insider perspective regarding the TFPC has given us insight on which to base suggestions for critical food guidance.

Ironically, as this field report was being written, proposed deep cuts from the Ontario government to Toronto Public Health have threatened the TFPC's very existence. More recently, the pressures on Toronto Public Health to cope with the ongoing COVID pandemic have put broader food issues on the back burner, and risk closing off an opportunity for ongoing input from citizen experts and grassroots leaders, just as the importance of the food-city nexus is being globally acknowledged. Whatever the future brings, the TFPC has provided a model for food planning and policy that embodies critical food guidance and the food-city nexus in action.

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References

Blay-Palmer, A. (2009). *The Canadian pioneer: The genesis of urban food policy in Toronto. International Planning Studies, 14*(4), 401-416. https://doi.org/10.1080/13563471003642837

Cairns, G. (2007, November 21). A cause to diet for. *The Guardian*. https://www.theguardian.com/environment/2007/nov/21/guardiansocietysupplement.ethicalliving

Chidley, J., & Hawaleshka, D. (2013, December 16). *Toronto's struggle against amalgamation*. The Canadian Encyclopedia. https://www.thecanadianencyclopedia.ca/en/article/torontos-struggle-against-amalgamation

City of Toronto. (2000). *Planting the seeds – Food and hunger action committee – Phase 1 report, May 2000.* https://sustainontario.com/greenhouse/resource/planting-the-seeds-food-and-hunger-action-committee-phase-1-report-may-2000/

City of Toronto. (2001a). *The growing season – Food and hunger action committee – Phase 2 Report, 2001.* Sustain Ontario. https://sustainontario.com/greenhouse/resource/the-growing-season-food-and-hunger-action-committee-phase-2-report-2001/

City of Toronto. (2001b). *Toronto's food charter.* Sustain Ontario. https://sustainontario.com/greenhouse/custom/uploads/2019/03/Toronto-Food-Charter-2001.pdf

City of Toronto. (2003). *Tending the garden, food and hunger action committee final report, July 2003.* Sustain Ontario. https://sustainontario.com/greenhouse/resource/trending-the-garden-food-and-hunger-action-committee-final-report-july-2003/

City of Toronto. (2012). *GrowTo report: An urban agriculture action plan for Toronto (2012).* Sustain Ontario. https://sustainontario.com/greenhouse/resource/growto-report-an-urban-agriculture-action-plan-for-toronto-2012/

City of Toronto. (2017). *Toronto poverty reduction strategy.* City of Toronto. https://www.toronto.ca/city-government/accountability-operations-customer-service/long-term-vision-plans-and-strategies/poverty-reduction-strategy/

City of Toronto. (2018). *TransformTO climate action strategy*. TransformTO Net Zero Strategy & GHG Inventories. https://www.toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/transformto/transformto-climate-action-strategy/

City of Toronto. (2019, February). *City of Toronto official plan*. City of Toronto. https://www.toronto.ca/city-government/planning-development/official-plan-guidelines/official-plan/

Daily Bread Food Bank, & North York Harvest. (2019). *Who's hungry: 2018 profile of hunger in Toronto.* Daily Bread. https://www.dailybread.ca/research-and-advocacy/whos-hungry-report2021/#:~:text=Who's%20Hungry%202021%20Report,visits%20ever%20recorded%20in%20Toronto

Dubé, L., Addy, N. A., Blouin, C., & Drager, N. (2014). From policy coherence to 21st century convergence: A whole-of-society paradigm of human and economic development. *Annals of the New York Academy of Sciences, 1331*(1), 201–215. https://doi.org/10.1111/nyas.12511

Gustavsson, J., Cederberg, C., Sonesson, U., van Otterdijk, R., & Meybeck, A. (2011). *Global food losses and food waste: Extent causes and prevention*. Food and Agricultural Organization of the United Nations. http://www.fao.org/3/mb060e/mb060e00.htm

Harper, A., Shattuck, A., Holt-Giménez, E., Alkon, A., & Lambrick, F. (2009). *Food policy councils: Lessons learned*. Food First. https://foodfirst.org/wp-content/uploads/2014/01/DR21-Food-Policy-Councils-Lessons-Learned-.pdf

Harvey, D. (2006.) Neo-liberalism as creative destruction. *Geografiska Annaler, 88B*(2), 145-158.

Hawkes, C., & Parsons, A. (2019). *Rethinking food policy: A fresh approach to policy and practice.* Centre for Food Policy, City University of London. https://www.city.ac.uk/__data/assets/pdf_file/0005/570443/7643_Brief-1_Tackling-food-systems-challenges_the-role-of-food-policy_WEB_SP.pdf

Kingsolver, B. (2007). *Animal, vegetable, miracle: A year of food life*. HarperCollins.

Le Page, M. (2019, March 12). *Does air pollution really kill nearly 9 million people each year? New* Scientist. https://www.newscientist.com/article/2196238-does-air-pollution-really-kill-nearly-9-million-people-each-year/

Milan Urban Food Policy Pact. (2015). *Text of the Milan urban food policy pact.* https://www.milanurbanfoodpolicypact.org/the-milan-pact/

Milan Urban Food Policy Pact. (2017). *Milan Pact Award Winner 2017*. https://www.milanurbanfoodpolicypact.org/milan-pact-awards/milan-pact-awards-2017/

Molden, D. (Ed.). (2013). *Water for food water for life: A comprehensive assessment of water management in agriculture*. Routledge. https://doi.org/10.4324/9781849773799

North Carolina State University. (2007, May 25). *Mayday 23: World population becomes more urban than rural.* ScienceDaily. https://www.sciencedaily.com/releases/2007/05/070525000642.htm

Oxford University Press. (2007, November 12). *Oxford word of the year 2007: Locavore*. OUPblog. http://blog.oup.com/2007/11/locavore/

Pothukuchi, K., & Kaufman, J. L. (2000). The food system. *Journal of the American Planning Association, 66*(2), 113–124. https://doi.org/10.1080/01944360008976093

Rees, W. E. (2019). Why place-based food systems? Food security in a chaotic world. *Journal of Agriculture, Food Systems, and Community Development, 9*(Suppl. 1), 5–13. https://doi.org/10.5304/jafscd.2019.091.014

Renting, H., Rossing, W. A. H., Groot, J. C. J., Van der Ploeg, J. D., Laurent, C., Perraud, D., Stobbelaar, D. J., & Van Ittersum, M. K. (2009). Exploring multifunctional agriculture: A review of conceptual approaches and prospects for an integrative transitional framework. *Journal of Environmental Management, 90*(2), S112–S123. https://doi.org/10.1016/j.jenvman.2008.11.014

Reybrouck, D. V. (2016). *Against elections: The case for democracy*. Random House.

Roberts, W., MacRae, R. J., & Stahlbrand, L. (1999). *Real food for a change.* Random House of Canada.

Roberts, W. (2001). *The way to a city's heart is through its stomach: Putting food security on the urban planning menu.* Toronto Food Policy Council. https://sustainontario.com/greenhouse/custom/uploads/2019/03/The-Way-to-a-Citys-Heart-is-Through-its-Stomach-Wayne-Roberts-2001.pdf

Roberts, W. (2014). *Food for city building: A field guide for planners, actionists, and entrepreneurs.* Hypenotic Inc.

Roberts, W. (2016, October 11). *A new urban agenda and a new nexus: Habitat 3 meets in Quito.* Medium. https://medium.com/@wayneroberts/a-new-urban-agenda-and-a-new-nexus-habitat-3-meets-in-quito-645351741c20

Sassen, S. (1991). *The global city: New York, London, Tokyo.* Princeton University Press.

Schiff, R. (2008). The role of food policy councils in developing sustainable food systems. *Journal of Hunger & Environmental Nutrition, 3*(2-3), 206-228. https://doi.org/10.1080/19320240802244017

Smit, J., Nasr, J., & Ratta, A. (1996). *Urban agriculture: Food, jobs, and sustainable cities.* United Nations Publication.

https://www.cityfarmer.org/smitbook90.html#:~:text=Urban%20agriculture%20offers%20towns%20and,and%20unhygienic%20if%20poorly%20practiced.

Smith, A., & MacKinnon, J. B. (2007). *The 100-mile diet: A year of local eating*. Random House.

Star Editorial Board. (2018, October 12). *Toronto needs action on road congestion.* The Toronto Star. https://www.thestar.com/opinion/editorials/2018/10/12/toronto-needs-action-on-road-congestion.html

The Metcalf Foundation. (2008). *Food connects us all: Sustainable local food in southern Ontario*. Metcalf Foundation. http://metcalffoundation.com/wp-content/uploads/2011/05/food-connects-us-all.pdf

Toronto Board of Health. (1992). *Toronto Declaration on Food and Nutrition*. TCC. Toronto, ON.

Toronto Food Policy Council (TFPC). (1994). *Reducing urban hunger in Ontario: Policy responses to support the transition from food charity to local food security.* Sustain Ontario. https://sustainontario.com/greenhouse/resource/reducing-urban-hunger-in-ontario-policy-responses-to-support-the-transition-from-food-charity-to-local-food-security-1994/

Toronto Food Policy Council (TFPC). (1995). *Stories of micro food enterprises and implications for economic development.* Sustain Ontario. https://sustainontario.com/greenhouse/resource/stories-of-micro-food-enterprises-and-implications-for-economic-development-1995/

Toronto Food Policy Council (TFPC). (1996). *Food retail access and food security for Toronto's low income citizens*. Sustain Ontario. https://sustainontario.com/greenhouse/resource/food-retail-access-and-food-security-for-torontos-low-income-citizens-1996/

Toronto Food Policy Council (TFPC). (1997). *Recombinant bovine growth hormone: How its licensing contradicts existing policies, rules, and regulations and sets Canadian agriculture on the wrong course*. Sustain Ontario. https://sustainontario.com/greenhouse/resource/recombinant-bovine-growth-hormone-how-its-licensing-contradicts-existing-policies-rules-and-regulations-and-sets-canadian-agriculture-on-the-wrong-course-1997/

Toronto Food Policy Council (TFPC). (1998a). *Cutting out the fat: Changing food and agricultural policies, programs, regulations, and pricing mechanisms to reduce the production, distribution, and consumption of fat in our food system.* Sustain Ontario. https://sustainontario.com/greenhouse/resource/cutting-out-the-fat-changing-food-and-agricultural-policies-programs-regulations-and-pricing-mechanisms-to-reduce-the-production-distribution-and-consumption-of-fat-in-our-food-system-1998/

Toronto Food Policy Council (TFPC). (1998b). *Making consumers sovereign: How to change food information systems so food shoppers are the informed consumers governments and businesses say they should be*. Sustain Ontario. https://sustainontario.com/greenhouse/resource/making-consumers-sovereign-how-to-change-food-information-systems-so-food-shoppers-are-the-informed-consumers-governments-and-businesses-say-they-should-be-1998/

Toronto Food Policy Council (TFPC). (1999). *A wealth of food: A profile of Toronto's food economy (1999).* Sustain Ontario. https://sustainontario.com/greenhouse/resource/a-wealth-of-food-a-profile-of-torontos-food-economy-1999/

Toronto Food Policy Council (TFPC). (2001). *The way to a city's Heart is through its stomach: Putting food security on the urban planning menu* (2001). Sustain Ontario. https://sustainontario.com/greenhouse/resource/the-way-to-a-citys-heart-is-through-its-stomach-putting-food-security-on-the-urban-planning-menu-2001/

Toronto Food Policy Council (TFPC). (2017, August 15). Mayor Tory proclaims September 15th "Urban Agriculture Day." https://tfpc.to/mayor-tory-proclaims-september-15th-urban-agriculture-day/

Toronto Food Policy Council (TFPC). (n.d.). *Food by ward.* https://amandajekums.carto.com/builder/56343d08-323b-44fa-a386-5e9e3d65e2fb/embed

Toronto Food Policy Council (TFPC). (2022). *What is TFPC?* About TFPC. http://tfpc.to/about.

Toronto Public Health. (2010). *Cultivating food connections: Toward a healthy and sustainable food system for Toronto*. Toronto Public Health. https://feedva.org/wp-content/uploads/2019/02/Cultivating-Food-ConnectionsToronto-Food-Strategy-FINAL.pdf

United Nations. (2019, March 28). *Only 11 years left to prevent irreversible damage from climate change, speakers warn during general assembly high-level meeting.* Meetings coverage and press releases. https://www.un.org/press/en/2019/ga12131.doc.htm

United Nations Habitat III. (2016). *New urban agenda*. http://habitat3.org/documents-and-archive/new-urban-agenda/

USDA Agricultural Marketing Service. (2011). *Chapter 13: Truck transportation*. Study of rural transportation issues. https://www.ams.usda.gov/services/transportation-analysis/rti

Vermeulen, S. J., Campbell, B. M., & Ingram, J. S. I. (2012). Climate change and food systems. *Annual Review of Environment and Resources, 37*(1), 195–222. https://doi.org/10.1146/annurev-environ-020411-130608

Waters, A. (2007). *The art of simple food: Notes, lessons, and recipes from a delicious revolution.* Penguin Random House.

Watts, J. (2007, December 4). Riots and hunger feared as demand for grain sends food costs soaring. *The Guardian*. https://www.theguardian.com/world/2007/dec/04/china.business

Welsh, J., & MacRae, R. (1998). Food citizenship and community food security: Lessons from Toronto, Canada. *Canadian Journal of Development Studies/Revue canadienne des études du développement, 19*(4), 237-255. https://doi.org/10.1080/02255189.1998.9669786

Wooster, M. M. (2019, June 19). *What can government do to increase America's social capital?* Philanthropy Daily. https://www.philanthropydaily.com/what-can-government-do-to-increase-social-capital/

World Economic Forum, & Ellen MacArthur Foundation. (2016). *The new plastics economy: Rethinking the future of plastics*.

https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics

World Health Organization (WHO). (1986). *The Ottawa charter for health promotion*. World Health Organization. https://www.who.int/healthpromotion/conferences/previous/ottawa/en/

World Institute for Action Learning. (n.d.). *What is action learning?* World Institute for Action Learning. https://wial.org/action-learning/

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Review Article

How to enhance the health and well-being of Canadians: Effective food and meal-based guidelines and policies that fit the facts and face the future

Jean-Claude Moubarac[a*], Jane Y. Polsky[b], Milena Nardocci[a], and Geoffrey Cannon[c]

[a] l'Université de Montréal
[b] St. Michael's Hospital
[c] University of São Paulo

Abstract

Diet-related diseases and disorders in Canada are a national public health emergency, now and as projected. One main reason is that the national food supply has become increasingly dominated by ultra-processed food and drink products, mostly snacks, that displace dietary patterns based on fresh meals. Policies and practices that will enhance the good health and well-being of Canadians of all ages, regions, classes, and social and ethnic groups, and that will benefit society, the economy, and the environment forever, are immediate and imperative priorities. Current programs, including the 2019 *Canada's Food Guide*, are moving in the right direction, but are too slow and have notable limitations. Compelling and consistent evidence from studies conducted in Canada and by independent research teams all over the world shows that the main issue with food, nutrition, and health is not nutrients, as has been assumed, but the nature, purpose, and degree of food processing. This is already recognized by UN agencies and an increasing number of national governments. This review examines the evidence on the impact of diets high in ultra-processed food on human and planetary health. It also comments on recent Canadian food guidance. It then introduces the NOVA classification, which takes food processing into account, and analyzes the recent Canadian diet in terms of food processing. Finally, this review proposes healthy eating and policy recommendations that strengthen the

*Corresponding author: jc.moubarac@umontreal.ca
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2019 *Food Guide,* so as to reduce the burden of diet-related disease and enhance the health and well-being of the Canadian people.

Keywords: Food guidance; food processing; ultra-processed foods; diet and nutrition; food policy

Introduction

Unhealthy food systems and resulting dietary patterns are a major cause of chronic non-communicable diseases and premature death in Canada and worldwide (Alam et al., 2019; Branca et al., 2019; GBD 2017 Risk Factor Collaborators, 2018; Swinburn et al., 2019). They also degrade the environment and are damaging socially, culturally, and economically (Seferidi et al., 2020; Gonzalez Fischer & Garnett, 2016). Modern industrialized societies will become increasingly damaged unless food systems are transformed to become healthy and sustainable. National dietary guidelines can serve both as a beacon of trusted food guidance and a facilitator of transformative societal changes. This is evident in the new 2019 *Canada's Food Guide,* which emphasizes healthy food patterns and meals, and the need for sustainable dietary patterns (Health Canada, 2019).

We here propose further steps forward. These are based on what is now consistent and compelling evidence that the main driver of unhealthy diets and thus of related chronic diseases and disorders is not just foods or nutrients, individually or in combination. Rather, it is the displacement of freshly prepared dishes and meals, most notably since the 1980s, by ready-to-consume ultra-processed food and drink products that consist mostly or even solely of industrially manufactured ingredients and additives (Monteiro, 2009; Monteiro et al., 2013, 2017).

In Canada and other fully industrialized countries such as the U.S., the U.K., Australia and New Zealand, on average up to half or even more of all dietary energy consumed now comes from ultra-processed foods and drinks (Elizabeth et al., 2020). Despite this, food processing has been largely overlooked and neglected in epidemiological and nutritional studies, and also in public policy recommendations and actions. The 2019 *Canada's Food Guide* does address food processing, but incompletely.

In this narrative review, we provide an overview of the health, social, cultural, and environmental impacts of industrialized diets high in ultra-processed foods. We state that the nature, purpose, and degree of food processing requires far more attention in dietary guidance and across government and civil society. We begin by outlining the nature of industrialized diets and by discussing past food guidance, the current 2019 *Canada's Food Guide,* and Brazil's 2014 *Dietary Guidelines.* We then define and explain the NOVA food classification, which takes food processing into account (Monteiro, 2009; Monteiro et al., 2017), and outline the Canadian diet

according to the NOVA classification. We conclude by making universal dietary recommendations that reinforce and build on the current Canadian *Food Guide.*

The intolerable burden of industrialized diets

Unhealthy diets have become the biggest food-related driver of disease and premature death around the world (Branca et al., 2019; Swinburn et al., 2019). They are major causes of obesity, diabetes, and other chronic non-communicable diseases such as stroke, heart disease, and metabolic syndrome (Branca et al., 2019; GBD 2017 Risk Factor Collaborators, 2018). In Canada, the prevalence of adult obesity increased from 9.7 percent in 1970–1972 to 14.9 percent in 1998, and by 2009, one in four Canadians had obesity, a figure that has remained practically unchanged (Katzmarzyk, 2002; Statistics Canada, 2020). As of 2015, one in four Canadians (25.1 percent) aged over 20 years have been diagnosed with hypertension, and nearly one in ten (8.5 percent) with ischaemic heart disease (CCDI, 2017). Nearly one in ten Canadians (9 percent) are now living with diabetes (Diabetes Canada, 2019).

Chronic diseases reduce quality of life, lower levels of productivity, and increase levels of disability and in some cases premature death. The cost of treating and managing such diseases, sometimes life-long, places an intolerable burden on Canada's healthcare system, jeopardizing its stability and the well-being and economic prosperity of Canadians (Canadian Diabetes Association, 2009; Canadian Standing Senate Committee on Social Affairs, Science and Technology, 2016).

Predominantly industrialized diets are a product of industrialized food systems dominated by transnational and other huge food corporations (Moodie et al., 2013; Swinburn et al., 2019). Such food systems also have a disastrous effect on planetary health and thus future human prospects (Nesheim et al., 2015; Seferidi et al., 2020; Gonzalez Fischer & Garnett, 2016). Examples include intensive exploitation of soil, heavy use of chemicals, and the vast amounts of water and energy required for industrial food production and processing. Many industrial food products contain reconstituted meats coming from the highly polluting, intensive rearing of cattle (Herrero et al., 2013; Ripple et al., 2014). Their plastic packaging despoils land and oceans (Andrades et al., 2016; Seferidi et al., 2020). The industrial food system causes between 20 and 30 percent of greenhouse gas emissions globally (Vermeulen et al., 2012).

Despite the destructive consequences of the modern industrial food system on health and the environment, there have been only a few public policies and systematic actions in Canada designed to improve the food system and thus dietary patterns (Vanderlee et al., 2019). In addition, over the last few decades, there has been little to no improvement in the overall state of diet or health of Canadians (Polsky et al., 2020; Polsky & Garriguet, 2020; PHAC, 2018; Tugault-Lafleur & Black, 2019). Globally, no country has yet reversed its obesity epidemic (Roberto et al., 2015).

Flaws in previous Canadian food guidance

Prior to the current 2019 *Canada's Food Guide*, the national Canadian dietary recommendations were those in the 2007 *Eating Well with Canada's Food Guide* (Health Canada, 2011). They made recommendations for amounts of foods ("servings") to consume from among four "food groups" in order to ensure adequate intakes of various macro- and micronutrients. In 2014, Health Canada released a *Surveillance Tool* to compare actual food consumption with the recommendations in the 2007 *Food Guide* (Health Canada, 2014). This was based on a technique of "nutrient profiling" where all foods were classified based on their content of four nutrients and dietary constituents: total fat, saturated fat, sugars, and sodium.

Food systems have evolved dramatically over the last century. Yet nutritional science and food guidance have been, and in most countries largely still are, conceived and defined in terms of the early twentieth century focus on micronutrients and deficiency diseases, such as scurvy and rickets, as well as a focus on food quantity measured in calories (Mozaffarian et al., 2018; Scrinis, 2013). Beginning in the second half of the twentieth century, food guides switched attention to the prevention of chronic non-communicable diseases, but remained focussed on nutrient content, and have identified health merely as the presence or absence of physical diseases caused by too little or too much of one or more nutrients—an approach known as 'nutritionism' (Mozaffarian et al., 2018; Scrinis, 2013).

But food is more than its nutrient constituents. The risk of common diet-related chronic diseases is largely determined by diet as a whole. The effect of diets and foods on health are due to their synergetic effect—their concerted action (Jacobs et al., 2009). Fresh and minimally processed foods are mostly prepared and consumed in combination, as dishes and meals. The effect of specific types of nutrients and food on the risk of diseases and also on good health and well-being should therefore be studied within the context of dietary patterns as a whole (Jacobs et al., 2009; Mozaffarian, 2017; Vandevijvere et al., 2013).

Also, until recently, dietary guidelines have failed to address sustainability. They have been designed to help prevent disease among those who use them, while ignoring future generations and the relationship of food with society, culture, economies, and the environment (Gonzalez Fischer & Garnett , 2016).

The 2019 *Canada's Food Guide*

In 2015 Health Canada's Office of Nutrition Policy and Promotion began the process of revising the 2007 *Canada's Food Guide*, beginning with a review of the literature and discussions with experts in public health and nutrition, and two public consultations. Officials from Health

Canada stated that they would not meet with representatives of food and drink corporations (Health Canada, 2016).

In 2016, a Canadian Senate Committee published *Obesity in Canada: A Whole-of-Society Approach for a Healthier Canada* (Canadian Standing Senate Committee on Social Affairs, Science and Technology, 2016). Witnesses who informed the report stated that the ever-increasing marketing and availability of processed and ready-to-eat foods had contributed to a sharp decrease in consumption of whole foods and a corresponding increase in consumption of ultra-processed foods (Canadian Standing Senate Committee on Social Affairs, Science and Technology, 2016, p. 10). Canadians were still consuming too much energy-dense and nutrient-poor foods. The Senate report recommended important revisions to the 2007 *Guide*, as part of a multi-pronged approach (twenty-one recommendations) to prevent obesity.

In late January 2019, the newly revised *Canada's Food Guide* (Health Canada, 2019) was published, laying out general healthy eating recommendations for Canadians. In the coming years, Health Canada intends to release tools to help researchers and health professionals gauge adherence to the *Food Guide's* recommendations about "what to eat" and "how to eat" (CIHR, 2020).

The 2019 *Food Guide* addresses most of the issues outlined above and responds to the 2016 Senate report. The new *Food Guide* gives general advice on healthy foods. On the *Food Guide Snapshot*, these are shown on a plate with recommendations: "have plenty of vegetables and fruits" (one-half of the plate), "eat protein foods" (one-quarter), "choose whole grain foods" (one-quarter), and "make water your drink of choice" (Health Canada, 2019). This moves away from specified servings and food groups. Milk and dairy products, a specific food group throughout the history of Canadian dietary guides, are now put within "protein foods."

The 2019 *Food Guide* has garnered wide acclaim (CMA, 2019; Dietitians of Canada, 2019; Heart and Stroke Foundation of Canada, 2019; Webster, 2019). Prominent Canadian obesity expert Yoni Freedhoff said that it "is incredibly different from all of its predecessors. Gone is dairy as its own food group…gone is wishy-washy language that excused refined grains, gone are explicit recommendations to consume two glasses of milk and two to three tablespoons of vegetable oils daily, gone is overarching fat-phobia, gone is juice being a fruit and vegetable equivalent, gone is the notion that sugar-sweetened milk is a health food, and gone is an antiquated nutrient-focussed approach" (Freedhoff, 2019).

The 2019 *Food Guide* steps away from a predominantly nutrient-based approach and towards a more holistic approach to food and health. Recommendations include cooking more often, taking time to eat and share meals, and being aware of food marketing. They address what to eat, and also how to eat, and so include the family and community, society and the environment (Health Canada, 2019). The guide also recommends favouring plant-based diets, and eating less meat and milk and dairy products.

These are all important and welcome developments. However, the *Food Guide* does have shortcomings. One of these is the omission of recommendations to eat locally produced food. Further, one of the guide's recommendations remains nutrient-based: "protein food" puts

together all foods high in protein, whether of plant origin, such as beans, nuts, and seeds, or of animal origin, such as meat, fish, milk, and dairy products. This emphasis on protein is liable to lead consumers to favour foods high in protein rather than overall food quality, and to encourage industry to "fortify" ultra-processed foods (Scrinis, 2013, 2016) with sources of protein, such as "high-protein" versions of mass-produced packaged breads, or "veggie" burgers high in plant-based protein substances and other additives.

The *Food Guide* also identifies unhealthy foods as "highly processed products," defining these as "processed or prepared foods and beverages that contribute to excess sodium, free sugars, or saturated fat" (Health Canada, 2019). Processed meat, deep-fried foods, sugary breakfast cereals, biscuits and cakes, confectionery, sugary drinks, and many ready-to-heat packaged dishes are given as examples. But this overlooks the big issue with ultra-processed food products, which is not just nutrients, but the ways in which they are processed, and the use of cosmetic and other additives that make these products artificially palatable and often quasi-addictive (Monteiro et al., 2013; Moodie et al., 2013; Moubarac et al., 2014a; Zinöcker & Lindseth, 2018).

Consistent and compelling evidence now shows that dietary patterns and dietary quality are shaped by the nature, extent and purpose of food processing (Batal et al., 2018; Crovetto et al., 2014; Fardet, 2016; Julia et al., 2017; Louzada et al., 2017; Luiten et al., 2016; Marrón-Ponce et al., 2018; Moreira et al., 2015; Moubarac et al., 2017; Poti et al., 2015; Steele et al., 2017; Wahlqvist, 2016). In 2020 alone, at least six reviews and meta-analyses of existing evidence concluded that diets high in ultra-processed foods are associated with increased risk of a range of diet-related outcomes including overweight, obesity and cardiometabolic conditions and disorders (Askari et al., 2020; Chen et al., 2020; Elizabeth et al., 2020; Meneguelli et al., 2020; Pagliai et al., 2021; Santos et al., 2020).

The Brazilian *Guidelines*

During the process of revision of the 2007 Canada's *Food Guide*, the 2014 national official Brazilian *Dietary Guidelines* (Brazilian Ministry of Health, 2014) were often cited as a model for Canada. (Canadian Standing Senate Committee on Social Affairs, Science and Technology, 2016). Although the 2019 *Food Guide* has indeed adapted much of the approach of the Brazilian *Guidelines*, these do have features not found in the Canadian guide.

The Brazilian *Guidelines* address the principles and recommendations for healthy eating for everybody. They were formulated as required by the federal Ministry of Health by a team at the University of São Paulo led by Carlos Monteiro, of which two of the authors of this paper were members. These *Guidelines* use a holistic approach. They take into account food processing, cooking practices, the contexts of eating, the food environment and sustainability. They specify the ways in which foods are processed, prepared, and eaten. They recommend

eating regularly and carefully, eating in appropriate environments with little or no distractions, and when possible, eating in company (Brazilian Ministry of Health, 2014). In particular, unlike the 2019 *Canada's Food Guide*, the Brazilian *Guidelines* explicitly recommend avoidance of ultra-processed foods because of their damaging effects on health and on culture, social life, and the environment.

The Brazilian *Guidelines* are based on an explicitly stated set of principles (Box 1). First among these is that diet is more than the intake of nutrients. Diet refers not only to foods and meals, but also to the cultural and social dimensions of food choices, food preparation and modes of eating. All of these shape health and wellbeing.

Food guidance based on select nutrients and dietary energy is thus inadequate. The effects of food come not from individual nutrients or substances found in these foods, but more so from their combinations or interactions within the food matrix. The context of food consumption, such as eating alone or in front of a screen, can also affect which foods are consumed and their quantities.

Box 1

The five principles of the *Dietary Guidelines for the Brazilian Population*

1- Diet is more than intake of nutrients

2- Dietary recommendations need to be tuned to their times

3- Healthy diets derive from socially and environmentally sustainable food systems

4- Different sources of knowledge inform sound dietary advice

5- Dietary guidelines broaden autonomy in food choices

The *Guidelines* also aim to broaden people's food choices by promoting autonomy and critical thinking. They do not recommend amounts or portion sizes of food. Instead, they promote long established dietary patterns, with guidance on how to choose foods and prepare dishes made from fresh and minimally processed foods in combination with processed culinary ingredients (largely oils, sugar, and salt). Another principle stated in the *Guidelines* is that healthy diets derive from socially and environmentally sustainable food systems, where the means of production and distribution of food promote social justice and environmental integrity.

Features such as these make the Brazilian *Guidelines* a breakthrough in thinking about food and well-being, positive health, and avoidance of disease. Their recommendations are based on many diverse sources of knowledge, including clinical, experimental, population and social studies, and also on food cultures and customs that have evolved over many generations. They are designed, when suitably adapted, to be universal.

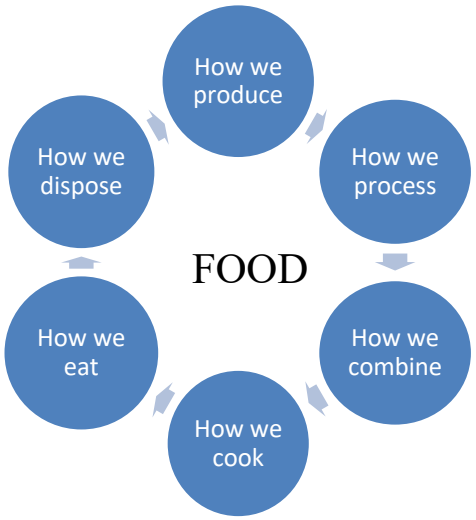
The NOVA food classification

The Brazilian *Guidelines* feature the NOVA food classification. This is based on the nature, extent, and purpose of food processing. Its method was proposed early this century (Monteiro, 2009), and has now been tested, developed and refined by independent teams from many countries, including Canada, the U.S., the U.K., France, Spain, Norway, Australia, New Zealand, Brazil, Mexico, Colombia, and Chile (Monteiro et al., 2017; Elizabeth et al., 2020).

Almost all food is processed in some way. Food is not healthy or unhealthy simply because it is "processed." Precise distinctions need to be made according to the nature, extent and purpose of processing, with examination of the impact that different types of food processing have on well-being, health, and disease (Moubarac et al., 2014b).

Food processing, as specified by NOVA, includes physical, biological, and chemical processes used on foods after their separation from nature and before they are prepared for cooking and consumption (Monteiro et al., 2017, 2019). NOVA thus identifies food processing as a powerful influence on the quality of diets. Other relevant food practices, aside from processing, are also fundamental to understanding the relationship between technology, diet and health, since human diets are inherently anthropogenic (Ludwig, 2011; Wrangham, 2010). Figure 1 depicts the process of how food is produced (for example, by intensive or agroecological agriculture), how it is cooked (for example, types of oils and methods of cooking used) and how it is consumed (for example, alone in front of the television or with others), and other relevant practices influencing the quality of diets.

Figure 1: Six food practices relevant to the quality of diets and health.



NOVA emphasizes the personal, social, cultural, economic, and environmental value of freshly prepared dishes and meals. It enables the study of food systems, food supplies and dietary patterns, within and between countries and over time. It also enables analysis of food groups,

foods and nutrients (Pan American Health Organization, 2016). NOVA classifies all foods and drinks into four distinct groups, as follows (Monteiro et al., 2017, 2019):

- unprocessed and minimally processed foods
- processed culinary ingredients
- processed foods
- ultra-processed foods

Unprocessed and minimally processed foods

Unprocessed (or "fresh" or "whole") foods come from plants or animals without industrial processing. Minimally processed foods are unprocessed foods altered in ways that do not add or introduce any new substance, but which often involve the removal of parts of food. They include fresh, dry, or frozen vegetables, tubers, grains and legumes, plain tofu, fruits and nuts, and meats, fish, seafood, eggs, and milk. Minimal processing techniques typically preserve the food, aid its use, preparation, and cooking, and improves its palatability (Monteiro et al., 2017, 2019).

Processed culinary ingredients

Processed culinary ingredients are mostly fats, oils, sugars, and salt. These are rarely, if ever, consumed alone. They are used in the preparation and cooking of foods, to make palatable, diverse, nourishing and enjoyable dishes and meals (Monteiro et al., 2017, 2019).

Processed foods

Processed foods are made by adding fats, oils, sugars, salt, and other culinary ingredients to minimally processed foods to make them more durable and often more palatable by various methods of preservation. They include salted, pickled, or cured meats, fish, and seafood; vegetables, legumes, fruits, and animal foods preserved in oil, brine, or syrup; and simple breads and cheeses. In moderation these foods are part of healthy diets (Box 2) (Monteiro et al., 2017, 2019).

Box 2

Fresh dishes and meals

Unprocessed or minimally processed foods, prepared with modest amounts of processed culinary ingredients and processed foods, make freshly prepared dishes and meals. When made from a variety of foods mostly of plant origin, these types of foods promote well-being and good health, and protect against disease (Monteiro et al., 2015).

The 2014 Brazilian *Guidelines* recommend mostly plant-based diets based on freshly prepared dishes and meals (Brazilian Ministry of Health, 2014). The value of unprocessed and minimally processed foods is also stressed in guidelines issued in Australia (Australian National Health and Medical Research Council, 2013), Sweden (Swedish National Food Agency, 2015), Nordic countries (Mithril et al., 2012), Mediterranean countries (Romagnolo & Selmin, 2017), Uruguay (Uruguayan Ministry of Health, 2016) and France (Santé Publique France, 2019).

Ultra-processed foods

Ultra-processed food products are not modified foods. They are formulations of industrial ingredients and other substances derived from foods, plus cosmetic additives. They contain little or even no intact food. The purpose of ultra-processing is to create products that are convenient (durable, ready to consume or to heat), attractive (hyper-palatable), and profitable (low-cost ingredients). Their effect worldwide is to displace all other food groups. They are usually branded assertively, packaged attractively, and marketed intensively (Monteiro et al., 2017, 2019).

Some substances used to make ultra-processed foods, such as fats, oils, starches, and sugars, come from foods in the raw or unprocessed state (Monteiro et al., 2017, 2019). For example, starches may come from the cracking of corn or wheat. But ultra-processed food products also include substances not normally used in culinary preparations. Some are directly extracted from foods, such as casein, lactose, whey, and gluten. Many come from further processing of food constituents, such as partial hydrogenation of oils (which generates toxic *trans* fats), or interesterified oils, "purified" starches, invert sugar, high fructose corn syrup, and hydrolysed proteins.

Series of processes are used to combine the ingredients and to create the final product (hence "ultra-processed") (Monteiro et al., 2017, 2019). These include several with no domestic equivalents, such as hydrogenation, hydrolysis, and extrusion. Additives in ultra-processed foods include preservatives and antioxidants. Additives only found in ultra-processed foods often imitate or enhance the sensory qualities of foods or disguise unpalatability. These include dyes and other colours, colour stabilizers, flavours, non-sugar sweeteners, and processing aids. Ultra-processed foods are often bulked with air or water. Synthetic micronutrients may be added to "fortify" them.

Ultra-processed foods include carbonated and other soft drinks; packaged sweetened juices and drinks; sugared, fatty or salty packaged snacks; chocolate and candies; industrialized breads, cakes, biscuits, pastries, desserts and ice-cream; sweetened breakfast cereals; sweetened and flavoured yogurts and other milk-based drinks; packaged soups and noodles; margarine; burgers, hot dogs, poultry and fish "nuggets" or "sticks"; pre-prepared "ready meals" such as pizza and pasta dishes; French fries; and infant formula, sweetened follow-on milks and various "baby" products (Monteiro et al., 2017, 2019).

The trouble with ultra-processing

Ultra-processed foods are unhealthy by their very nature. Overall, they are energy-dense, high in salt, free sugars and saturated fats, and low in protein, fibre, vitamins and minerals (Moubarac, 2017). Analyses of nationally representative dietary surveys from Canada (Moubarac, 2017; Moubarac et al., 2017), the U.S. (Poti et al., 2015; Steele et al., 2017), the U.K. (Adams & White, 2015), France (Julia et al., 2017), Brazil (Louzada et al., 2017), Mexico (Marrón-Ponce et al., 2018), and Chile (Crovetto et al., 2014) invariably show that ultra-processed foods have low nutritional quality and that the more they are consumed, the greater the degradation of diets. This is also shown by dietary surveys of Indigenous peoples in British Columbia, Alberta, Manitoba and Ontario (Batal et al., 2018). As a group, ultra-processed food products are also less satiating and more hyperglycaemic than minimally processed foods (Fardet, 2016; Hall et al., 2019).

Such evidence has led the international INFORMAS research network to propose that the share of ultra-processed foods in diets predicts population diet quality (Vandevijvere et al., 2013). This proposal is endorsed by the WHO Pan American Health Organization (Pan American Health Organization, 2015) and the UN Food and Agriculture Organization (2015), and supported in leading journals (Kelly & Jacoby, 2018; Potvin, 2019).

Habitual consumption of substantial amounts of ultra-processed foods is consistently associated with overweight, obesity and related chronic diseases (Askari et al., 2020; Chen et al., 2020; Costa de Miranda et al., 2021; Lane et al., 2021; Meneguelli et al., 2020; Pagliai et al., 2021). For example, in the first randomized controlled study on the effect of ultra-processed foods on energy intake, participants in the US were randomly assigned to eat either ultra-processed or unprocessed meals for two weeks, and then switch to the other diet (and they could eat as much or as little as desired). Both types of meals provided the same amounts of calories per volume of food, and the same content of macronutrients, sugar, sodium, and fiber. When participants ate the ultra-processed meals, they went on to consume about 500 more calories per day and increased weight by just over two pounds, on average. In contrast, when the same participants ate unprocessed or minimally processed meals, they typically consumed fewer calories and decreased weight (Hall et al., 2019).

The ill-effects of ultra-processed foods extend well beyond weight gain. Compelling evidence from cross-sectional, prospective and longitudinal studies across the globe shows that high consumption of ultra-processed foods elevates the risk of a number of diseases and disorders, and increases risk of early death (Askari et al., 2020; Chen et al., 2020; Costa de Miranda et al., 2021; Elizabeth et al., 2020; Lane et al., 2021; Meneguelli et al., 2020; Pagliai et al., 2021). For example, prospective observational studies of adults from Spain and France show that consuming a diet high in ultra-processed foods increased the risk of obesity (Mendonça et al., 2016), hypertension (Mendonça et al., 2016), cancer (Fiolet et al., 2018), cardiovascular disease (Srour et al., 2019), gastrointestinal disorders (Schnabel et al., 2018), depression (Adjibade et al., 2019; Gómez-Donoso et al., 2020) and all-cause mortality (Rico-Campà et al., 2019; Schnabel et al., 2019).

In Canada, eating large amounts of ultra-processed foods was significantly associated with several diet-related chronic diseases and disorders. Adults consuming the highest amounts of ultra-processed foods as a proportion of their daily energy intake had 31 percent higher odds of obesity, 37 percent higher odds of diabetes and 60 percent higher odds of high blood pressure, compared with those consuming the least amounts (Nardocci et al., 2020).

All together these examples show that high consumption of ultra-processed foods damages health and causes disease. Advice to limit "highly processed foods" high in various "nutrients of concern" such as salt, sugar, and fat, is inadequate. Indeed, there is now mounting evidence that additives and substances of non-culinary use, such as types of artificial sweeteners and emulsifiers contained in many ultra-processed foods, may cause disease by disrupting metabolic pathways and the gut microbiome (Fiolet et al., 2018; Roca-Saavedra et al., 2018; Zinöcker & Lindseth, 2018).

The problems with the Canadian diet today, as in most other countries, therefore go beyond high consumption of sugar, saturated fat, and salt. By displacing long-established customs and practices of acquiring, preparing and cooking food, the high availability of ultra-processed food products erodes culinary cultures everywhere, not only in industrialized countries and settings but also throughout lower-income countries and communities, including within Indigenous populations all over the world (Kuhnlein et al., 2009). Ultra-processed food products promote "synthetic identities," devoid of traditional meaning, rootless, and often drawn to overconsumption (Moss, 2014).

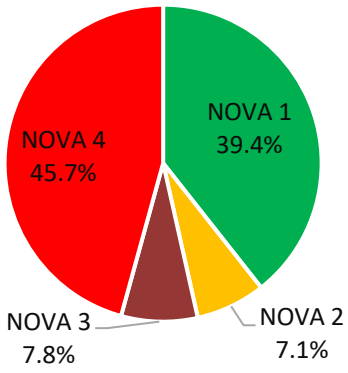
Consumption of ultra-processed foods in Canada

Between 1938 and 2001, Canadians' food purchases show that home cooking, based on unprocessed or minimally processed foods and culinary ingredients, was largely displaced by ready-to-consume ultra-processed foods. In this period, the dietary energy share of ultra-

processed products purchased from stores increased from 24 to 54 percent (Moubarac et al., 2014a). Such trends, which continue, are documented in other countries (Baker & Friel, 2016; Juul & Hemmingsson, 2015; Monteiro et al., 2011, 2013; Moodie et al., 2013; Pan American Health Organization, 2015). Canadians are now the second largest buyers of ultra-processed foods and drinks in the world (after the U.S.), averaging at least 230 kilograms per person per year (Pan American Health Organization, 2015). In 2004, practically half (47.7 percent) of all dietary energy consumed in Canada was estimated to come from ultra-processed foods and drinks (Moubarac et al., 2017).

Recently, data from the most recent nationally representative dietary survey of Canadians—Statistic Canada's 2015 Canadian Community Health Survey (CCHS)–Nutrition—were analyzed to estimate the consumption of ultra-processed foods in Canada (Polsky et al., 2020). Respondents reported everything they ate or drank at home or outside the home within the previous twenty-four hours. Results showed that similar to 2004, ultra-processed food products (NOVA group four) still made up close to half (45.7 percent) of all daily energy intake in 2015 (Figure 2). Consumption of some ultra-processed food products decreased, particularly ultra-processed beverages. On the other hand, the relative share of dietary energy from ultra-processed breads increased.

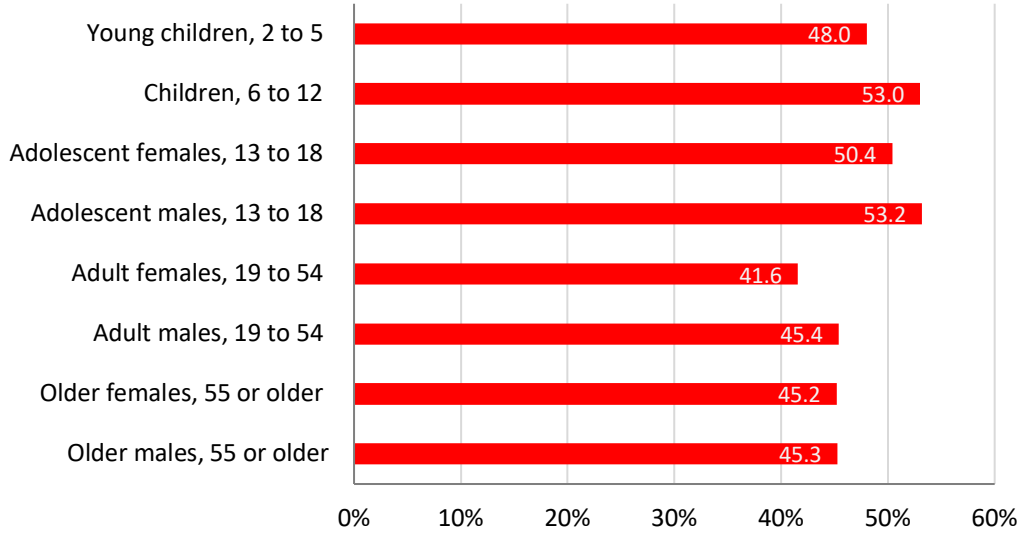
Figure 2: Mean energy contribution (percent of total daily energy) by NOVA food group, Canadian population aged 2 years or older, 2015.



NOTES:
NOVA 1 are unprocessed or minimally processed foods; NOVA 2 are processed culinary ingredients; NOVA 3 are processed foods; and NOVA 4 are ultra-processed foods.
Data source: Statistics Canada, 2015 CCHS – Nutrition. Figure adapted from Polsky, Moubarac, and Garriguet (2020).

In 2015, consumption of ultra-processed foods tended to be lower with increasing age (Figure 3). Children and adolescents consumed the most ultra-processed food and drink products—at least half of their total daily dietary energy, on average, came from these products.

Figure 3: Mean consumption of ultra-processed food and drink products (percent of total daily energy) by age-sex group, Canadian population aged 2 years or older, 2015.



Data source: Statistics Canada, 2015 CCHS – Nutrition. Figure adapted from Polsky, Moubarac, and Garriguet (2020).

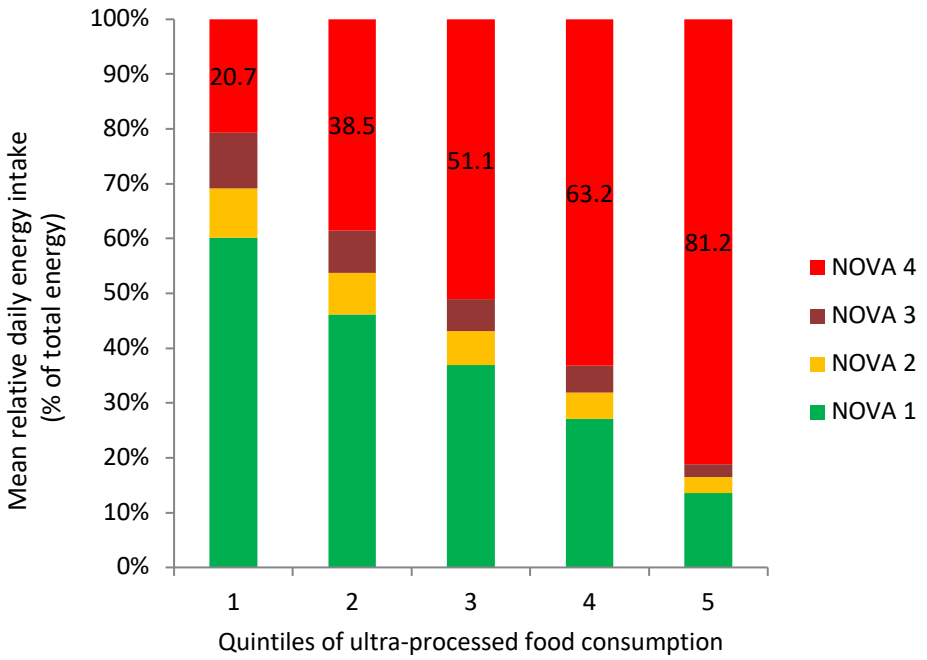
Another analysis prepared for the Heart and Stroke Foundation of Canada showed that in Canada, from 2004 to 2015, the consumption of some unhealthy products such as soft drinks and fruit juices and fruit drinks decreased, but more chocolate milk and sweetened yogurts were consumed (Moubarac, 2017). More nuts, mostly salted or barbecued, were eaten in 2015. Less fresh meat and milk but more reconstituted meats were consumed in 2015.

In 2015, consumption of ultra-processed foods was slightly lower among Canadians with higher levels of education and those living in rural areas (Moubarac, 2017). No association was found with household income (Moubarac, 2017). Recent immigrants to Canada are among the lowest consumers of ultra-processed food products, but in time their dietary habits increasingly resemble those of the general Canadian population (Sanou et al., 2014).

The study also examined relative intakes of ultra-processed food. In Figure 4, the Canadian population is divided into five groups of equal population size (quintiles) ordered according to intake of ultra-processed foods. Thus, the first quintile is of the 20 percent who consumed least (20.7 percent of dietary energy) ultra-processed food products, and the fifth quintile is of the 20 percent who consumed most (81.2 percent of dietary energy). The higher the

consumption of ultra-processed foods (NOVA group four), the lower the consumption of fresh and minimally processed foods and processed culinary ingredients (NOVA groups one and two), and of processed foods (NOVA 3). These results do show, though, that a fifth of the Canadian population still consume relatively healthy diets.

Figure 4: Mean relative energy intake of NOVA food groups (percent of total daily energy intake) by level of ultra-processed food consumption, Canadian population aged 2 years or older, 2015



NOTES:
NOVA 1 are unprocessed or minimally processed foods; NOVA 2 are processed culinary ingredients; NOVA 3 are processed foods; and NOVA 4 are ultra-processed foods.
Data source: Statistics Canada, 2015 CCHS – Nutrition in Moubarac et al. (2017).

Recommendations for all Canadians

Informed by the mounting national and international evidence on the harmful impacts of ultra-processed foods on diet and health, we make recommendations for all Canadians to achieve healthy and sustainable diets. These endorse or build on the 2019 Canadian *Food Guide* and the Brazilian *Guidelines* (Box 3).

Box 3

Universal dietary guidelines

The overall "golden rule" is

Always choose fresh or minimally processed foods and freshly made dishes and meals, and avoid ultra-processed food products.

1 Make fresh or minimally processed foods the basis of your diet. Prefer plant-based foods and locally produced foods whenever possible.
2 Use processed culinary ingredients in modest amounts to make fresh dishes and meals.
3 Enjoy processed foods in modest amounts, preferably as part of fresh dishes and meals.
4 Avoid ultra-processed food products.

Food and its preparation, cooking and enjoyment are vital in personal, family, and social life. Thus:

5 Eat mindfully, in pleasant environments, together with others wherever possible.
6 Develop, maintain, and share skills in food acquisition, preparation, cooking and presentation.
7 Plan time to make food and eating important.
8 Try to shop in places that offer plenty of varied fresh and minimally processed foods.
9 When eating out, eat at places that serve freshly prepared meals. Avoid fast-food outlets.
10 Be wary of all forms of food product advertising and marketing. Protect children from unhealthy food and drink advertising.

Adapted from: Brazilian Ministry of Health (2014), Monteiro et al. (2015)

Supported by the 2019 *Canada's Food Guide,* plus the additional recommendations made in this paper, a bold and comprehensive set of policies and initiatives, led by governments at federal, provincial, and municipal levels, is urgently required. These should be designed to transform Canada's food system and supplies, and personal, family, communal, provincial, and national dietary patterns. Broadening the concept of unhealthy foods to include food processing in relevant public health policies and programs would represent a significant step forward in this endeavor.

The recently launched first-ever Food Policy for Canada, suitably revised and updated, can serve as a platform for coordinated food-related policies and programs in order create a "better food system for all" (Agriculture and Agri-Food Canada, 2020). Its aim to ensure that all Canadians have access to nutritious foods sourced from environmentally sustainable food systems and supplies is commendable.

The lead must now come from government at all levels, working in partnership with the farmers, growers, makers, suppliers and sellers of healthy foods, health professionals, public interest organizations and citizen action groups. New statutory (including fiscal) policies and actions are needed to make healthy food more available and affordable, and to restrict access and exposure to ultra-processed food products.

For example, a vital addition to the current national Healthy Eating Strategy (Health Canada, 2021) (which generated the 2019 *Food Guide*) is a focus on school food environments. Transforming the school food environments could take the shape of introducing requirements to include food literacy and culinary skills in school curricula, to improve school foods, and to enact policies to restrict and avoid ultra-processed foods and drinks.

It is also essential to persist with efforts to implement strong and effective national restrictions on the marketing of unhealthy foods and drinks to children. Regulating food marketing and updating food labelling, both focal areas of action within the current Healthy Eating Strategy, are important but somewhat limited in their current nutrient-centred scope. An important step forward would be to broaden the concept of unhealthy foods to include processing—and thus ultra-processing. Integrating the concept of food processing into national policies, like Switzerland, Canada could impose a tax on ultra-processed drinks and design a logo that would identify and promote restaurants that serve freshly prepared dishes (Promotion du Fait Maison, n.d.).

The fact that ultra-processed food is driving the growing epidemic of diet-related conditions and disorders needs to be emphasized. Healthy and sustainable dietary practices, based predominantly on fresh and minimally processed foods and freshly prepared dishes and meals, need to be identified, validated, supported, and promoted, as do all those who produce, distribute, and sell healthy food. Canada as a nation cannot afford its burden of diet-related diseases and disorders. Healthy diets enhance well-being and good health, as well as protect against disease, now and in the future, and are vital for families and culturally, socially, economically, and environmentally.

References

Adams, J., & White, M. (2015). Characterisation of UK diets according to degree of food processing and associations with socio-demographics and obesity: Cross-sectional analysis of UK national diet and nutrition survey (2008-12). *The International Journal of Behavioral Nutrition and Physical Activity*, 12, 160. https://doi.org/10.1186/s12966-015-0317-y

Adjibade, M., Julia, C., Allès, B., Touvier, M., Lemogne, C., Srour, B., Hercberg, S., Galan, P., Assmann, K. E., & Kesse-Guyot, E. (2019). Prospective association between ultra-processed food consumption and incident depressive symptoms in the French NutriNet-Santé cohort. *BMC Medicine, 17*(1), 78. https://doi.org/10.1186/s12916-019-1312-y

Agriculture and Agri-Food Canada. (2020, November 17). The food policy for Canada. Program-service description. https://www.agr.gc.ca/eng/about-our-department/key-departmental-initiatives/food-policy/the-food-policy-for-canada/?id=1597863791042

Alam, S., Lang, J. J., Drucker, A. M., Gotay, C., Kozloff, N., Mate, K., Patten, S. B., Orpana, H. M., Afshin, A., & Cahill, L. E. (2019). Assessment of the burden of diseases and injuries attributable to risk factors in Canada from 1990 to 2016: An analysis of the global burden of disease study. *CMAJ Open, 7*(1), E140–E148. https://doi.org/10.9778/cmajo.20180137

Andrades, R., Martins, A. S., Fardim, L. M., Ferreira, J. S., &, Santos, R. G. (2016). Origin of marine debris is related to disposable packs of ultra-processed food. *Marine Pollution Bulletin, 109*(1),192-195. http://doi.org/10.1016/j.marpolbul.2016.05.083.

Askari, M., Heshmati, J., Shahinfar, H., Tripathi, N., & Daneshzad, E. (2020). Ultra-processed food and the risk of overweight and obesity: A systematic review and meta-analysis of observational studies. *International Journal of Obesity, 44*(10), 2080–2091. https://doi.org/10.1038/s41366-020-00650-z

Australian National Health and Medical Research Council. (2013). Australian dietary guidelines: Providing the scientific evidence for healthier Australian diets. https://www.nhmrc.gov.au/adg#block-views-block-file-attachments-content-block-1

Baker, P., & Friel, S. (2016). Food systems transformations, ultra-processed food markets and the nutrition transition in Asia. *Globalization and Health, 12*(1), 80. https://doi.org/10.1186/s12992-016-0223-3

Batal, M., Johnson-Down, L., Moubarac, J-C., Ing, A., Fediuk, K., Sadik, T., Tikhonov, C., Chan, L., & Willows, N. (2018). Quantifying associations of the dietary share of ultra-processed foods with overall diet quality in First Nations peoples in the Canadian provinces of British Columbia, Alberta, Manitoba and Ontario. *Public Health Nutrition, 21*(1), 103–113. https://doi.org/10.1017/S1368980017001677

Branca, F., Lartey, A., Oenema, S., Aguayo, V., Stordalen, G. A., Richardson, R., Arvelo, M., & Afshin, A. (2019). Transforming the food system to fight non-communicable diseases. *BMJ*, 364, l296. https://doi.org/10.1136/bmj.l296

Brazilian Ministry of Health. (2014). Dietary Guidelines for the Brazilian Population. http://bvsms.saude.gov.br/bvs/publicacoes/dietary_guidelines_brazilian_population.pdf

Canadian Centre for Diversity and Inclusion (CCDI). (2017). The 2017 Canadian chronic disease indicators. *Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice, 37*(8), 248–251. https://doi.org/10.24095/hpcdp.37.8.03

Canadian Diabetes Association. (2009). Economic Tsunami: The Cost of Diabetes in Canada. http://www.diabetes.ca/publications-newsletters/advocacy-reports/economic-tsunami-the-cost-of-diabetes-in-canada

Canadian Institutes of Health Research (CIHR) (2020, September 14). Developing tools to measure adherence to Canada's new Food Guide. https://cihr-irsc.gc.ca/e/52142.html

Canadian Medical Association (CMA). (2019, January 22). CMA: Strong consultation and evidence-based process apparent in new Food Guide. https://www.cma.ca/cma-strong-consultation-and-evidence-based-process-apparent-new-food-guide

Canadian Standing Senate Committee on Social Affairs, Science and Technology. (2016). Obesity in Canada. A whole-of-society approach for a healthier Canada. Report of the Standing Senate Committee on Social Affairs, Science and Technology. https://sencanada.ca/content/sen/committee/421/SOCI/Reports/2016-02-25_Revised_report_Obesity_in_Canada_e.pdf

Chen, X., Zhang, Z., Yang, H., Qiu, P., Wang, H., Wang, F., Zhao, Q., Fang, J., & Nie, J. (2020). Consumption of ultra-processed foods and health outcomes: A systematic review of epidemiological studies. *Nutrition Journal, 19*(1), 86. https://doi.org/10.1186/s12937-020-00604-1

Costa de Miranda, R., Rauber, F., & Levy, R. B. (2021). Impact of ultra-processed food consumption on metabolic health. *Current Opinion in Lipidology, 32*(1), 24–37. https://doi.org/10.1097/MOL.0000000000000728

Crovetto, M., Uauy, R., Martins, A. P., Moubarac, J-C., & Monteiro, C. A. (2014). Household availability of ready-to-consume food and drink products in Chile: Impact on nutritional quality of the diet. *Revista Médica De Chile, 142*(7), 850–858. https://doi.org/10.4067/S0034-98872014000700005

Diabetes Canada. (2019). Diabetes in Canada. Prevalence and costs. https://www.diabetes.ca/getmedia/a13c0439-fae8-488d-a90b-7a28f1899386/2019-Backgrounder-Canada.pdf.aspx

Dietitians of Canada. (2019, January 22). Dietitians of Canada applauds new food guide, calling it relevant, modern and evidence based. Dietitians of Canada. https://www.dietitians.ca/Media/News-Releases/2018/2019FoodGuideLaunch.aspx

Elizabeth, L., Machado, P., Zinöcker, M., Baker, P., & Lawrence, M. (2020). Ultra-processed foods and health outcomes: A narrative review. *Nutrients, 12*(7), 1955. https://doi.org/10.3390/nu12071955

Fardet, A. (2016). Minimally processed foods are more satiating and less hyperglycemic than ultra-processed foods: A preliminary study with 98 ready-to-eat foods. *Food & Function, 7*(5), 2338–2346. https://doi.org/10.1039/c6fo00107f

Fiolet, T., Srour, B., Sellem, L., Kesse-Guyot, E., Allès, B., Méjean, C., Deschasaux, M., Fassier, P., Latino-Martel, P., Beslay, M., Hercberg, S., Lavalette, C., Monteiro, C. A., Julia, C., & Touvier, M. (2018). Consumption of ultra-processed foods and cancer risk: Results from NutriNet-Santé prospective cohort. *BMJ, 360*, k322. https://doi.org/10.1136/bmj.k322

Freedhoff, Y. (2019, January 22). BREAKING: Canada's new food guide is out - And it's a giant step forward #CanadasFoodGuide. Weight matters: Musings of an obesity medicine doc and certifiable cynical realist. http://www.weightymatters.ca/2019/01/breaking-canadas-new-food-guide-is-out.html

GBD 2017 Risk Factor Collaborators. (2018). Global, regional, and national comparative risk assessment of 84 behavioural, environmental, and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: A systematic analysis for the Global Burden of Disease Study 2017. *The Lancet, 392*(10159), 1923–1994. https://doi.org/10.1016/S0140-6736(18)32225-6

Gómez-Donoso, C., Sánchez-Villegas, A., Martínez-González, M. A., Gea, A., de Deus Mendonça, R., Lahortiga-Ramos, F., & Bes-Rastrollo, M. (2020). Ultra-processed food consumption and the incidence of depression in a Mediterranean cohort: The SUN Project. *European Journal of Nutrition, 59*(3), 1093–1103. https://doi.org/10.1007/s00394-019-01970-1

Gonzalez Fischer, C., & Garnett, T. (2016). Plates, pyramids, and planets: Developments in national healthy and sustainable dietary guidelines: a state of play assessment. http://www.fao.org/documents/card/en/c/d8dfeaf1-f859-4191-954f-e8e1388cd0b7/

Hall, K.D., Ayuketah, A., Brychta, R., Cai, H., Cassimatis, T., Chen, K. Y., Chung, S. T., Costa, E., Courville, A., Darcey, V., Fletcher, L. A., Forde, C. G., Gharib, A. M., Guo, J., Howard, R., Joseph P. V., McGehee, S., Ouwerkerk, R., Raisinger, K., Rozga, I., Stagliano, M., Walter, M., Walter, P. J., Yang, S., & Zhou, M. (2019). Ultra-Processed Diets Cause Excess Calorie Intake and Weight Gain: An Inpatient Randomized Controlled Trial of Ad Libitum Food Intake. *Cell Metabolism*, *30*(1), 67-77.e3. http://doi.org/10.1016/j.cmet.2019.05.020.

Health Canada. (2011). Canada's food guide. https://www.canada.ca/en/health-canada/services/canada-food-guide/about/history-food-guide/eating-well-with-canada-food-guide-2007.html

Health Canada. (2014). The development and use of a surveillance tool: The classification of foods in the Canadian Nutrient File according to Eating Well with Canada's Food Guide. http://publications.gc.ca/site/eng/9.698720/publication.html

Health Canada. (2016, October 21). Revision process for Canada's food guide. https://www.canada.ca/en/health-canada/services/canada-food-guides/revision-process.html

Health Canada. (2019). Canada's food guide. https://food-guide.canada.ca/

Health Canada. (2021). Health Canada's healthy eating strategy. https://www.canada.ca/en/services/health/campaigns/vision-healthy-canada/healthy-eating.html

Heart and Stroke Foundation of Canada. (2019, January 22). News release: New Canada's food guide cuts the crap! https://www.heartandstroke.ca:443/what-we-do/media-centre/news-releases/new-canadas-food-guide-cuts-the-crap

Herrero, M., Havlík, P., Valin, H., Notenbaert, A., Rufino, M. C., Thornton, P. K., Blümmel, M., Weiss, F., Grace, D., & Obersteiner, M. (2013). Biomass use, production, feed efficiencies, and greenhouse gas emissions from global livestock systems. *Proceedings of the National*

Academy of Sciences of the United States of America, 110(52), 20888–20893. https://doi.org/10.1073/pnas.1308149110

Jacobs, D. R., Gross, M. D., & Tapsell, L. C. (2009). Food synergy: An operational concept for understanding nutrition. *The American Journal of Clinical Nutrition, 89*(5), 1543S-1548S. https://doi.org/10.3945/ajcn.2009.26736B

Julia, C., Martinez, L., Allès, B., Touvier, M., Hercberg, S., Méjean, C., & Kesse-Guyot, E. (2017). Contribution of ultra-processed foods in the diet of adults from the French NutriNet-Santé study. *Public Health Nutrition, 21*(1), 27-37. https://doi.org/10.1017/S1368980017001367

Juul, F., & Hemmingsson, E. (2015). Trends in consumption of ultra-processed foods and obesity in Sweden between 1960 and 2010. *Public Health Nutrition, 18*(17), 3096–3107. https://doi.org/10.1017/S1368980015000506

Katzmarzyk, P. T. (2002). The Canadian obesity epidemic: An historical perspective. *Obesity Research, 10*(7), 666–674. https://doi.org/10.1038/oby.2002.90

Kelly, B., & Jacoby, E. (2018). Public Health Nutrition special issue on ultra-processed foods. *Public Health Nutrition, 21*(1), 1–4. https://doi.org/10.1017/S1368980017002853

Kuhnlein, H. V., Erasmus, B., & Spigelski, D. (2009). Indigenous peoples' food systems: The many dimensions of culture, diversity and environment for nutrition and health (Reprinted). Food and Agriculture Organization of the United Nations (FAO). http://www.fao.org/3/i0370e/i0370e00.htm

Lane, M. M., Davis, J. A., Beattie, S., Gómez-Donoso, C., Loughman, A., O'Neil, A., Jacka, F., Berk, M., Page, R., Marx, W., & Rocks, T. (2021). Ultraprocessed food and chronic noncommunicable diseases: A systematic review and meta-analysis of 43 observational studies. *Obesity Reviews, 22*(3), e13146. https://doi.org/10.1111/obr.13146

Louzada, M., Ricardo, C. Z., Steele, E. M., Levy, R. B., Cannon, G., & Monteiro, C. A. (2017). The share of ultra-processed foods determines the overall nutritional quality of diets in Brazil. *Public Health Nutrition, 21*(1), 94-102. https://doi.org/10.1017/S1368980017001434

Ludwig, D. S. (2011). Technology, diet, and the burden of chronic disease. *JAMA, 305*(13), 1352–1353. https://doi.org/10.1001/jama.2011.380

Luiten, C. M., Steenhuis, I. H., Eyles, H., Ni Mhurchu, C., & Waterlander, W. E. (2016). Ultra-processed foods have the worst nutrient profile, yet they are the most available packaged products in a sample of New Zealand supermarkets. *Public Health Nutrition, 19*(3), 530–538. https://doi.org/10.1017/S1368980015002177

Marrón-Ponce, J. A., Sánchez-Pimienta, T. G., Louzada, M., & Batis, C. (2018). Energy contribution of NOVA food groups and sociodemographic determinants of ultra-processed food consumption in the Mexican population. *Public Health Nutrition, 21*(1), 87–93. https://doi.org/10.1017/S1368980017002129

Mendonça, R., Lopes, A. C. S., Pimenta, A. M., Gea, A., Martinez-Gonzalez, M. A., & Bes-Rastrollo, M. (2016). Ultra-processed food consumption and the incidence of hypertension in a Mediterranean cohort: The Seguimiento Universidad de Navarra Project. *American Journal of Hypertension, 30*(4), 358-366. https://doi.org/10.1093/ajh/hpw137

Mendonça, R., Pimenta, A. M., Gea, A., Fuente-Arrillaga, C., Martinez-Gonzalez, M. A., Lopes, A. C. S., & Bes-Rastrollo, M. (2016). Ultraprocessed food consumption and risk of overweight and obesity: The University of Navarra Follow-Up (SUN) cohort study. *The American Journal of Clinical Nutrition, 104*(5), 1433-1440. https://doi.org/10.3945/ajcn.116.135004

Meneguelli, T. S., Hinkelmann, J. V., Hermsdorff, H. H. M., Zulet, M. Á., Martínez, J. A., & Bressan, J. (2020). Food consumption by degree of processing and cardiometabolic risk: A systematic review. *International Journal of Food Sciences and Nutrition, 71*(6), 678–692. https://doi.org/10.1080/09637486.2020.1725961

Mithril, C., Dragsted, L. O., Meyer, C., Blauert, E., Holt, M. K., & Astrup, A. (2012). Guidelines for the New Nordic Diet. *Public Health Nutrition, 15*(10), 1941–1947. https://doi.org/10.1017/S136898001100351X

Monteiro, C. A. (2009). Nutrition and health. The issue is not food, nor nutrients, so much as processing. *Public Health Nutrition, 12*(5), 729–731. https://doi.org/10.1017/S1368980009005291

Monteiro, C. A., Moubarac, J-C., Cannon, G., Ng, S. W., & Popkin, B. M. (2013). Ultra-processed products are becoming dominant in the global food system. *Obesity Reviews, 14*(52), 21–28. https://doi.org/10.1111/obr.12107

Monteiro, C. A., Levy, R. B., Claro, R. M., de Castro, I. R. R., & Cannon, G. (2011). Increasing consumption of ultra-processed foods and likely impact on human health: Evidence from Brazil. *Public Health Nutrition, 14*(1), 5–13. https://doi.org/10.1017/S1368980010003241

Monteiro, C. A., Cannon, G., Moubarac, J-C., Martins, A. P. B., Martins, C. A., Garzillo, J., Canella, D. S., Baraldi, L. G., Barciotte, M., Louzada, M., Levy, R. B., Claro, R. M., & Jaime, P. C. (2015). Dietary guidelines to nourish humanity and the planet in the twenty-first century. A blueprint from Brazil. *Public Health Nutrition, 18*(13), 2311–2322. https://doi.org/10.1017/S1368980015002165

Monteiro, C. A., Cannon, G., Moubarac, J-C., Levy, R. B., Louzada, M., & Jaime, P. C. (2017). The UN Decade of Nutrition, the NOVA food classification and the trouble with ultra-processing. *Public Health Nutrition, 21*(1), 5-17. https://doi.org/10.1017/S1368980017000234

Monteiro, C. A., Cannon, G., Levy, R. B., Moubarac, J-C., Louzada, M., Rauber, F., Khandpur, N., Cediel, G., Neri, D., Martinez-Steele, E., Baraldi, L. G., & Jaime, P. C. (2019). Ultra-processed foods: What they are and how to identify them. *Public Health Nutrition, 22*(5), 936–941. https://doi.org/10.1017/S1368980018003762

Moodie, R., Stuckler, D., Monteiro, C. A., Sheron, N., Neal, B., Thamarangsi, T., Lincoln, P., & Casswell, S. (2013). Profits and pandemics: Prevention of harmful effects of tobacco,

alcohol, and ultra-processed food and drink industries. *The Lancet, 381*(9867), 670–679. https://doi.org/10.1016/S0140-6736(12)62089-3

Moreira, P. V. L., Baraldi, L. G., Moubarac, J-C., Monteiro, C. A., Newton, A., Capewell, S., & O'Flaherty, M. (2015). Comparing different policy scenarios to reduce the consumption of ultra-processed foods in UK: Impact on cardiovascular disease mortality using a modelling approach. *PloS One, 10*(2), e0118353. https://doi.org/10.1371/journal.pone.0118353

Moss, M. (2014). Salt, sugar, fat: How the food giants hooked us. Random House.

Moubarac, J-C. (2017). Ultra-processed foods in Canada: Consumption, impact on diet quality and policy implications. TRANSNUT, University of Montreal. https://www.heartandstroke.ca/-/media/pdf-files/canada/media-centre/hs-report-upp-moubarac-dec-5-2017.ashx

Moubarac, J-C., Batal, M., Martins, A. P. B., Claro, R., Levy, R. B., Cannon, G., & Monteiro, C. A. (2014a). Processed and ultra-processed food products: Consumption trends in Canada from 1938 to 2011. *Canadian Journal of Dietetic Practice and Research, 75*(1), 15–21. https://doi.org/10.3148/75.1.2014.15

Moubarac, J-C., Parra, D. C., Cannon, G., & Monteiro, C. A. (2014b). Food classification systems based on food processing: Significance and implications for policies and actions: a systematic literature review and assessment. *Current Obesity Reports, 3*(2), 256–272. https://doi.org/10.1007/s13679-014-0092-0

Moubarac, J-C., Batal, M., Louzada, M., Steele, E. M., & Monteiro, C. A. (2017). Consumption of ultra-processed foods predicts diet quality in Canada. *Appetite, 108*(1), 512–520. https://doi.org/10.1016/j.appet.2016.11.006

Mozaffarian, D. (2017). Foods, nutrients, and health: When will our policies catch up with nutrition science? *The Lancet Diabetes & Endocrinology, 5*(2), 85–88. https://doi.org/10.1016/S2213-8587(16)30265-0

Mozaffarian, D., Rosenberg, I., & Uauy, R. (2018). History of modern nutrition science-implications for current research, dietary guidelines, and food policy. *BMJ, 361*, k2392. https://doi.org/10.1136/bmj.k2392

Nardocci, M., Polsky, J. Y., & Moubarac, J-C. (2020). Consumption of ultra-processed foods is associated with obesity, diabetes and hypertension in Canadian adults. *Canadian Journal of Public Health, 112*, 421-429. https://doi.org/10.17269/s41997-020-00429-9

Nesheim, M. C., Oria, M., Yih, P. T., US National Research Council, & US Institute of Medicine (Eds.). (2015). A framework for assessing the effects of the food system. National Academies Press. https://www.ncbi.nlm.nih.gov/books/NBK305181/

Pagliai, G., Dinu, M., Madarena, M. P., Bonaccio, M., Iacoviello, L., & Sofi, F. (2021). Consumption of ultra-processed foods and health status: A systematic review and meta-analysis. *The British Journal of Nutrition, 125(*3), 308–318. https://doi.org/10.1017/S0007114520002688

Pan American Health Organization. (2015). Ultra-processed food and drink products in Latin America: Trends, impact on obesity, policy implications. Pan American Health Organization. http://www.paho.org/hq/index.php?option=com_content&view=article&id=11153%3Aultra-processed-food-and-drink-products&catid=4999%3Adocuments&Itemid=0&lang=en

Pan American Health Organization. (2016). Nutrient Profile Model. https://iris.paho.org/bitstream/handle/10665.2/18621/9789275118733_eng.pdf

Polsky, J. Y., & Garriguet, D. (2020). Change in vegetable and fruit consumption in Canada between 2004 and 2015. *Health Reports, 31*(4), 3–12. https://doi.org/10.25318/82-003-x202000400001-eng

Polsky, J. Y., Moubarac, J-C., & Garriguet, D. (2020). Consumption of ultra-processed foods in Canada. *Health Reports, 31*(11), 3–15. https://doi.org/10.25318/82-003-x202001100001-eng

Poti, J. M., Mendez, M. A., Ng, S. W., & Popkin, B. M. (2015). Is the degree of food processing and convenience linked with the nutritional quality of foods purchased by US households? *The American Journal of Clinical Nutrition, 101*(6), 1251-1262. https://doi.org/10.3945/ajcn.114.100925

Potvin, L. (2019). Les aliments ultra-transformés, un concept utile pour la santé publique: Ultra-processed foods, a useful concept for public health. *Canadian Journal of Public Health, 110*(1), 1–3. https://doi.org/10.17269/s41997-018-0172-0

Promotion du Fait Maison. (n.d.). Le label des restos qui cuisinent. Label Fait Maison. https://labelfaitmaison.ch/

Public Health Agency of Canada (PHAC). (2018). Canadian Chronic Disease Indicators, Quick Stats, 2018 Edition. Public Health Agency of Canada. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5650026/

Rico-Campà, A., Martínez-González, M. A., Alvarez-Alvarez, I., de Deus Mendonça, R., de la Fuente-Arrillaga, C., Gómez-Donoso, C., & Bes-Rastrollo, M. (2019). Association between consumption of ultra-processed foods and all cause mortality: SUN prospective cohort study. BMJ, 365, l1949. https://doi.org/10.1136/bmj.l1949

Ripple, W. J., Smith, P., Haberl, H., Montzka, S. A., McAlpine, C., & Boucher, D. H. (2014). Ruminants, climate change and climate policy. *Nature Climate Change, 4*(1), 2–5. https://doi.org/10.1038/nclimate2081

Roberto, C. A., Swinburn, B., Hawkes, C., Huang, T. T-K., Costa, S. A., Ashe, M., Zwicker, L., Cawley, J. H., & Brownell, K. D. (2015). Patchy progress on obesity prevention: Emerging examples, entrenched barriers, and new thinking. *Lancet, 385*(9985), 2400–2409. https://doi.org/10.1016/S0140-6736(14)61744-X

Roca-Saavedra, P., Mendez-Vilabrille, V., Miranda, J. M., Nebot, C., Cardelle-Cobas, A., Franco, C. M., & Cepeda, A. (2018). Food additives, contaminants and other minor

components: Effects on human gut microbiota-a review. *Journal of Physiology and Biochemistry, 74*(1), 69–83. https://doi.org/10.1007/s13105-017-0564-2

Romagnolo, D. F., & Selmin, O. I. (2017). Mediterranean diet and prevention of chronic diseases. *Nutrition Today, 52*(5), 208–222. https://doi.org/10.1097/NT.0000000000000228

Sanou, D., O'Reilly, E., Ngnie-Teta, I., Batal, M., Mondain, N., Andrew, C., Newbold, B. K., & Bourgeault, I. L. (2014). Acculturation and nutritional health of immigrants in Canada: A scoping review. *Journal of Immigrant and Minority Health, 16*(1), 24–34. https://doi.org/10.1007/s10903-013-9823-7

Santé Publique France. (2019, January 22). Santé publique France—Présentation des nouvelles recommandations alimentaires du PNNS. https://www.santepubliquefrance.fr/Infos/Presentation-des-nouvelles-recommandations-alimentaires-du-PNNS

Santos, F. S. D., Dias, M. D. S., Mintem, G. C., Oliveira, I. O. D., & Gigante, D. P. (2020). Food processing and cardiometabolic risk factors: A systematic review. *Revista De Saude Publica, 54*, 70. https://doi.org/10.11606/s1518-8787.2020054001704

Schnabel, L., Buscail, C., Sabate, J-M., Bouchoucha, M., Kesse-Guyot, E., Allès, B., Touvier, M., Monteiro, C. A., Hercberg, S., Benamouzig, R., & Julia, C. (2018). Association between ultra-processed food consumption and functional gastrointestinal disorders: Results from the French NutriNet-Santé cohort. *The American Journal of Gastroenterology, 113*(8), 1217–1228. https://doi.org/10.1038/s41395-018-0137-1

Schnabel, L., Kesse-Guyot, E., Allès, B., Touvier, M., Srour, B., Hercberg, S., Buscail, C., & Julia, C. (2019). Association between ultraprocessed food consumption and risk of mortality among middle-aged adults in France. *JAMA Internal Medicine 179*(4), 490-498. https://doi.org/10.1001/jamainternmed.2018.7289

Scrinis, G. (2013). Nutritionism: The Science and Politics of Dietary Advice. Columbia University Press.

Scrinis, G. (2016). Reformulation, fortification and functionalization: Big Food corporations' nutritional engineering and marketing strategies. *The Journal of Peasant Studies, 43*(1), 17–37. https://doi.org/10.1080/03066150.2015.1101455

Seferidi, P., Scrinis, G., Huybrechts, I., Woods, J., Vineis, P., & Millett, C. (2020). The neglected environmental impacts of ultra-processed foods. *The Lancet Planetary Health, 4*(10), e437–e438. https://doi.org/10.1016/S2542-5196(20)30177-7

Srour, B., Fezeu, L. K., Kesse-Guyot, E., Allès, B., Méjean, C., Andrianasolo, R. M., Chazelas, E., Deschasaux, M., Hercberg, S., Galan, P., Monteiro, C. A., Julia, C., & Touvier, M. (2019). Ultra-processed food intake and risk of cardiovascular disease: Prospective cohort study (NutriNet-Santé). *BMJ, 365*. https://doi.org/10.1136/bmj.l1451

Statistics Canada. (2020). *Overweight and obesity based on measured body mass index, by age group and sex.* https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310037301

Steele, E. M., Popkin, B. M., Swinburn, B., & Monteiro, C. A. (2017). The share of ultra-processed foods and the overall nutritional quality of diets in the US: Evidence from a nationally representative cross-sectional study. *Population Health Metrics, 15*, 6. https://doi.org/10.1186/s12963-017-0119-3

Swedish National Food Agency. (2015). The Swedish Dietary Guidelines: Find your way to eat greener, not too much and be active. https://www.livsmedelsverket.se/globalassets/publikationsdatabas/andra-sprak/kostraden/kostrad-eng.pdf?AspxAutoDetectCookieSupport=1

Swinburn, B. A., Kraak, V. I., Allender, S., Atkins, V. J., Baker, P. I., Bogard, J. R., Brinsden, H., Calvillo, A., Schutter, O. D., Devarajan, R., Ezzati, M., Friel, S., Goenka, S., Hammond, R. A., Hastings, G., Hawkes, C., Herrero, M., Hovmand, P. S., Howden, M., Jaacks L. M., Kapetanaki A. B., Kasman M., Kuhnlein H.V., Kumanyika S.K., Larijani B., Lobstein T., Long M. W., Matsudo V. K. R., Mills S. D. H., Morgan G., Morshed A., Nece P. M., Pan A., Patterson D. W., Sacks G., Shekar M., Simmons G. L., Smit W., Tootee A., Vandevijvere S., Waterlander W. E., Wolfenden L., & Dietz, W. H. (2019). The global syndemic of obesity, undernutrition, and climate change: The Lancet commission report. *The Lancet, 393*(10173), 791-846. https://doi.org/10.1016/S0140-6736(18)32822-8

Tugault-Lafleur, C. N., & Black, J. L. (2019). Differences in the quantity and types of foods and beverages consumed by Canadians between 2004 and 2015. *Nutrients, 11*(3), 526. https://doi.org/10.3390/nu11030526

UN Food and Agriculture Organization. (2015). Guidelines on the Collection of Information on Food Processing through Food Consumption Surveys. Food and Agriculture Organization of the United Nations. http://www.fao.org/documents/card/en/c/a7e19774-1170-4891-b4ae-b7477514ab4e

Uruguayan Ministry of Health. (2016). Dietary guidelines for the Uruguayan population: For a healthy, shared and enjoyable diet. http://www.fao.org/nutrition/education/food-dietary-guidelines/regions/uruguay/en/

Vanderlee, L., Goorang, S., Karbasy, K., Vandevijvere, S., & L'Abbé, M. R. (2019). Policies to create healthier food environments in Canada: Experts' evaluation and prioritized actions using the healthy food environment policy index (Food-EPI). *International Journal of Environmental Research and Public Health, 16*(22). https://doi.org/10.3390/ijerph16224473

Vandevijvere, S., Monteiro, C. A., Krebs-Smith, S. M., Lee, A., Swinburn, B., Kelly, B., Neal, B., Snowdon, W., Sacks, G., & INFORMAS. (2013). Monitoring and benchmarking population diet quality globally: A step-wise approach. *Obesity Reviews, 14*(51), 135–149. https://doi.org/10.1111/obr.12082

Vermeulen, S. J., Campbell, B. M., & Ingram, J. S. I. (2012). Climate Change and Food Systems. *Annual Review of Environment and Resources, 37*(1), 195–222. https://doi.org/10.1146/annurev-environ-020411-130608

Wahlqvist, M. L. (2016). Food structure is critical for optimal health. *Food & Function, 7*(3), 1245–1250. https://doi.org/10.1039/c5fo01285f

Webster, P. (2019). Canada's updated food guide promotes mindful eating. *The Lancet, 393*(10170), e5. https://doi.org/10.1016/S0140-6736(19)30202-8

Wrangham, R. (2010). Catching fire: How cooking made us human. Perseus Books Group.

Zinöcker, M. K., & Lindseth, I. A. (2018). The western diet–microbiome-host interaction and its role in metabolic disease. *Nutrients, 10*(3), 365. https://doi.org/10.3390/nu10030365

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Review Article

The evolution of Haudenosaunee food guidance: Building capacity toward the sustainability of local food environments in the community of Six Nations of the Grand River

Hannah Tait Neufeld[a*] and Adrianne Xavier[b]

[a] University of Waterloo
[b] McMaster University

Abstract

The emerging literature on the Indigenous food movement identifies community involvement, family-centred food education and re-establishing a relationship with the land as essential to restoring sustainable food systems, land and water access. These processes of reclamation have similarly evolved through collaborative community processes and guiding practices described in this chapter that have taken place in the community of Six Nations of the Grand River. The evolution of social movements and relationships to reinforce patterns of support through the transference of knowledge has led to the "guidance" that continues to adjust and change. This unique form of guidance is not in the form of a westernized practice of creating formalized lists meant for general distribution with the intent of controlling food-based practices. In the community of Six Nations, guidance and practice are informed and conveyed by people and supported through established networks and relationships. This type of guidance, therefore, is living and continues to evolve. As such it is not conveyed in such a prescriptive manner using lists and absolute categories. The Haudenosaunee food guide illustrated in Figure 2 is based on collective knowledge and land-based practices that are meant to be shared, adapted and applied by all members of the community. It is therefore not a static form of guidance as the foods and their connections to land and people evolve as reciprocal relationships.

Keywords: Food guidance; traditional foods; Haudenosaunee; community; food knowledge; Indigenous health

*Corresponding author: hannah.neufeld@uwaterloo.ca
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Introduction

Large-scale forces associated with the legacy of colonization continue to compromise Indigenous Peoples' access to the land and resources (Richmond & Ross, 2009), and have contributed toward a decline in procurement of Indigenous or traditional foods[1] and the social, cultural, and economic benefits they provide. The effects of limited or reduced access to these foods among Indigenous populations are leading to their gradual replacement with marketed or pre-manufactured products (Egeland et al., 2011). This transition has had dramatic consequences for dietary quality and cultural identity, along with the health and maintenance of Indigenous food systems. Indigenous foods are widely recognized to enhance the holistic wellbeing of Indigenous Peoples (Schuster et al., 2011). However, only a quarter of First Nation adults consume wild meats from their local environments and fewer (18.6%) include locally harvested plants and berries as part of their diets (First Nations Information Governance Centre, 2014).

This nutrition transition away from nutrient-rich, locally harvested foods has resulted in reduced dietary quality associated with the increasing prevalence of non-communicable conditions (Schuster et al., 2011). A dietary shift toward often highly processed marketed foods has had dramatic consequences for the health of individuals, families, and communities (Egeland et al., 2011). Quality may be compromised, as store-bought foods can contain more saturated fats and simple sugars or refined carbohydrates, while Indigenous foods are more nutrient dense (Gagne et al., 2012). There have been similar impacts on the maintenance and integrity of Indigenous food knowledge systems within communities and across generations (Lambden et al., 2007; Richmond et al., 2020). A more comprehensive understanding of these structural determinants impacting food choice guidance is necessary to address and combat these complex trends impacting Indigenous food systems and practices.

Processes of colonization have led to high levels of food insecurity and the degradation of food environments by depriving Indigenous Peoples of land, culture, language, and relationships (Cidro et al., 2015; Grey & Patel, 2014). While Indigenous Peoples have been disconnected from their land, food, and medicines through these direct and indirect processes of environmental dispossession, political and legal authority over Nations and Territories has been interrupted by the imposition of settler-colonial state structures, resulting in detrimental impacts on physical and social environments (Richmond & Ross, 2009). These lingering structural determinants including policies negatively impacting Indigenous food knowledge and sovereignty practices. This paper will describe the implementation and evolving outcomes of Haudenosaunee[2] community-based programming within southern Ontario, reflective of impacts beyond individualized health and nutrient intake, and with an emphasis on collective wellbeing. We will also propose at the start of this discussion a link between the concept of food sovereignty and

[1] Traditional foods, defined as plants and animals harvested from the local environment are central to health and cultural integrity for Indigenous Peoples worldwide (Gagne et al., 2012; Raschke & Cheema, 2008).
[2] Haudenosaunee means 'people of the longhouse', commonly referred to as 'Iroquois' or 'Six Nations' originally made up of Mohawk, Cayuga, Oneida, Seneca and Onondaga Nations, and eventually Tuscarora Nations.

food guidance among Indigenous Peoples within Canada. One of the outcomes that will be described, within the context of other existing more generic Indigenous-focused food guidance, is the development of a *Haudenosaunee Food Guide.* The steps that led to this locally produced community resource will be presented, in the context of building collective knowledge and community capacity around local food procurement with the initiation of the *Healthy Roots* and *Our Sustenance* initiatives and the revitalization of food sovereignty practices within the Nation and Territory.

Background

Research from various disciplines has identified an interdependent relationship between Indigenous Peoples and their local ecosystems. The health of the land and community are synonymous, nurtured through relationships to the physical environment and providing a healthy basis for ways of living, and overall wellbeing (Adelson, 2000; Burgess et al., 2005; Ermine et al., 2005; Richmond & Ross, 2009). These relationships between people and their local environments have been sustained through oral traditions and histories. Indigenous knowledge (IK) refers to the traditions, values, and belief systems that have enabled many generations to practice healthy relationships with their ecological, built, and social environments (Cajete, 2000). Indigenous foods originate from the ecological environment, either from cultivating, wild harvesting, or hunting (Kuhnlein et al., 2013). The procurement, preparation, and consumption of Indigenous foods also hold important significance for the preservation of IK as they are housed within their own unique Indigenous food system. Indigenous food systems encompass the socio-cultural meanings, patterns of acquisition, processing techniques, use, composition, health, and nutritional consequences for the Indigenous Peoples utilizing these foods (Kuhnlein & Receveur, 1996). The relationship that Indigenous people have with their unique food and ecosystems encourages practices, values, and traditions that perpetuate healthy communities.

Colonial policies have disrupted, denied access to, and in many cases decimated land and water sources of food and medicines. A lack of access to clean drinking water and adequate food remain key health concerns for Indigenous families and communities. The Truth and Reconciliation Commission (TRC) explicitly calls for actions that close these gaps in health equity, including food security (Truth and Reconciliation Commission of Canada, 2015). Food security within diverse Indigenous contexts, however, should not be narrowly defined as having enough to eat or sufficient household funds to purchase processed foods that may be more accessible. To restore sustainable relationships to the land, culture, and communities, a resurgence of Indigenous foods, including community roles and responsibilities to protect lands and food systems, are necessary acts of resurgence and form pathways towards reconciliation, along with social and environmental justice (Cidro et al., 2015).

While a broad body of research has investigated the roots of cultural change and environmental contamination among Inuit and other northern and Circumpolar peoples, there is a significant gap in research exploring the mechanisms that link processes of environmental dispossession with Indigenous food systems among populations within southern regions of Canada (Corntassel, 2012; Organ et al., 2014; Willows, 2005). Environmental dispossession refers to the processes that have reduced Indigenous Peoples' access to land and resources (Richmond & Ross, 2009). These processes can affect health in direct and indirect ways. Lost connections to physical environments and Indigenous foods are examples of the direct effects of environmental dispossession. Even though the origins of these concerns may reflect global trends, such as the overall environmental health of food systems in the context of climate change, the mechanisms or determinants by which access to Indigenous foods has been reduced are unique. For example, the impacts of colonialism and forced assimilation associated with urbanization have eroded the relationships that have existed between Indigenous Peoples, within families, communities and local ecosystems. The health of communities has also been indirectly impacted through assimilative actions taken by the federal government to disconnect communities from their lands and knowledge systems, for example through the residential school system. The loss of language, ties to Elders, and teachings isolated children from their roots and disrupted the transmission of knowledge to subsequent generations (Elias et al., 2012). These influences have not only reduced physical access to foods available in the physical environment (Organ et al., 2014), they have also stressed relationships to maintain crucial social structures for the transmission of IK.

It has been suggested that IK can be represented as a singular construct or cultural practice, ignoring multiple expressions, including: (1) knowledge which is handed down and based on stories and experiences of a people through time; (2) empirical knowledge that is gained through careful observation and practice over time; (3) revealed knowledge which is gained through vision, ritual, and ceremony; and, (4) contemporary knowledge gained through contemporary experience and problem solving (Cajete, 2014). All four expressions are important to understanding how IK may be expressed and experienced and, ultimately, how IKs are relevant to designing and implementing health interventions at individual and policy levels within Indigenous communities (Walters et al., 2018).

Guidelines for behavioural change should incorporate cultural knowledge related to food, activity, and medicines along with relational and regenerative practices that draw on historical structures and roles (Walters et al., 2018). Without acknowledging the underlying deep epistemological and cosmological contexts that drive health and wellbeing among Indigenous Peoples, this approach may unknowingly diminish the salience and power of cultural practices. It can further reinforce stereotypes. Health practitioners and policy makers cannot simply take western structures of knowledge, and 'Add Indigenous and Stir' (Grossman, 2014). There must be an equalization of power and valuing of different forms of knowledge or ways of knowing.

Local context

Urban and reserve-based Indigenous families within southern regions of Canada frequently experience food insecurity, as well as more limited access to Indigenous foods or being out on the land (Richmond et al., 2020). Contact with Elders, and increased cultural capacity around foods are important determinants of food security, nutritional health and wellbeing (Neufeld et al., 2017). Indigenous communities are not only becoming more urban, but over-represented by youth and children, compared to the Canadian population in general. There is a need therefore to develop holistic frameworks that inform policies to address the health, social and cultural needs of these diverse populations. Health determinants must take factors such as colonization, racism, loss of cultural traditions, and patterns of urban migration into account (Snyder & Wilson, 2015). Those who move or relocate frequently experience food insecurity, as resources are spent moving from reserve to urban spaces, or within cities. Groups living within more populated regions of Canada have not been investigated as extensively, although lower incomes, high unemployment and loss of land and food environments have been similarly found to contribute to food insecurity among southern groups (Richmond et al, 2020; Neufeld, 2003; Willows et al., 2011). Women, lone parent families, and Indigenous people have been identified as being more likely to experience food insecurity. Within Ontario, 29% of First Nation households have been classified as food insecure (Chan et al., 2014). An examination of other influences on food choice is significantly under-researched.

In 2012, the community of Six Nations participated in the First Nations Food Nutrition and Environment Study (FNFNES). Families reported multiple barriers to increased use of Indigenous foods, such as knowledge access. Close to 75% of participants expressed the desire to include more Indigenous foods in their families' diets (Chan et al., 2014). The Southwest Ontario Aboriginal Health Access Centre (SOAHAC) Food Choice Study, including urban and reserve-based families in southwestern Ontario, found that 35% of reserve-based and 55% of urban-based respondents described themselves as food insecure in 2010 (Richmond et al., 2020). Survey respondents from both groups similarly expressed a strong interest in consuming more Indigenous foods, with 76% of urban-based and 52% of reserve-based respondents indicating that they would prefer to consume these foods more frequently.

Community-led initiatives

Six Nations of the Grand River Territory is the largest First Nations reserve in Canada, located in southwestern Ontario and home to approximately 13,000 members living on-reserve (Six Nations of the Grand River, 2013). Many community wellness initiatives have been offered over the years. It is only recently that the increased acknowledgement and need for community

collaboration centered on Haudenosaunee culture and foodways has been expressed by community departments and organizations (Chan et al., 2014). Through the dedicated support of the Six Nations Health Services staff and the creation of community initiatives such as *Healthy Roots* and *Our Sustenance*, the community is shifting to apply existing knowledge to cultivate a healthy Haudenosaunee community (Gordon et al., 2018).

Our Sustenance was formed in 2011, with a mandate to provide access to fresh food for local residents in the community of Six Nations in response to high rates of food bank use by local families (Hill, 2015; Neufeld et al., 2017). Community members requested the creation of a program that would see food sold close to home. Over the past thirty years, Six Nations sustained its own grocery store for approximately three years. The amount of money leaving the community for basic necessities was in the millions of dollars because people bought groceries off reserve. The statistics did not even include the number of families who were experiencing food insecurity or who did not have enough money to buy the food they wanted (GREAT, 2000).

The *Our Sustenance* program took its task seriously: to impact food access and to educate. The program housed many components that grew and changed with the community, from a single vegetable and fruit vendor farmers' market to culminate in the 2018 version we observed. Over the past seven years, it has housed projects such as the community garden, the farmers' market, a market garden, herbal meditation garden, herbal apothecary, apiary for beekeeping and honey collection, and many sustainability projects as well as educational programming. The vendors themselves now operate and support each other to offer a low-cost accessible food and artisan market in Six Nations.

Community interest and momentum to follow a more Indigenous diet also began in 2015 with the *Healthy Roots* community initiative (Gordon et al., 2018). This work embraced the concept of food sovereignty, which expands the focus of food security from food cost, access, and availability toward the ways in which power relations and inequality undermine production, distribution, and consumption patterns (Grey & Patel, 2015; Power, 2008). Food sovereignty encompasses acquiring foods in culturally acceptable ways, such as through Indigenous practices (Schuster et al., 2011; Willows et al., 2011). Healthy Roots connected the community in tangible ways by offering the food guide while also teaching skills to acquire, grow, and share the foods. An Indigenous food sovereignty framework explicitly connects the health properties of food with the health of the environment and identifies a history of social injustice as having radically reduced Indigenous food sovereignty in nations such as Canada (Power, 2008). It addresses aspirations for collective wellbeing, along with acknowledging land rights and cultural integrity. Indigenous food sovereignty also considers gender equity, adequate nutrition, addressing structural racism, and a restructuring of socio- political processes (Cidro et al., 2015). These elements are therefore necessary to take into account when approaching any sort of guiding principles related to food guidance within the diverse food environments for Indigenous Peoples across Canada.

Our Sustenance partnered with Health Services and employed the vehicle of *Healthy Roots* as the community connection to create a conversation about local food and foodways in

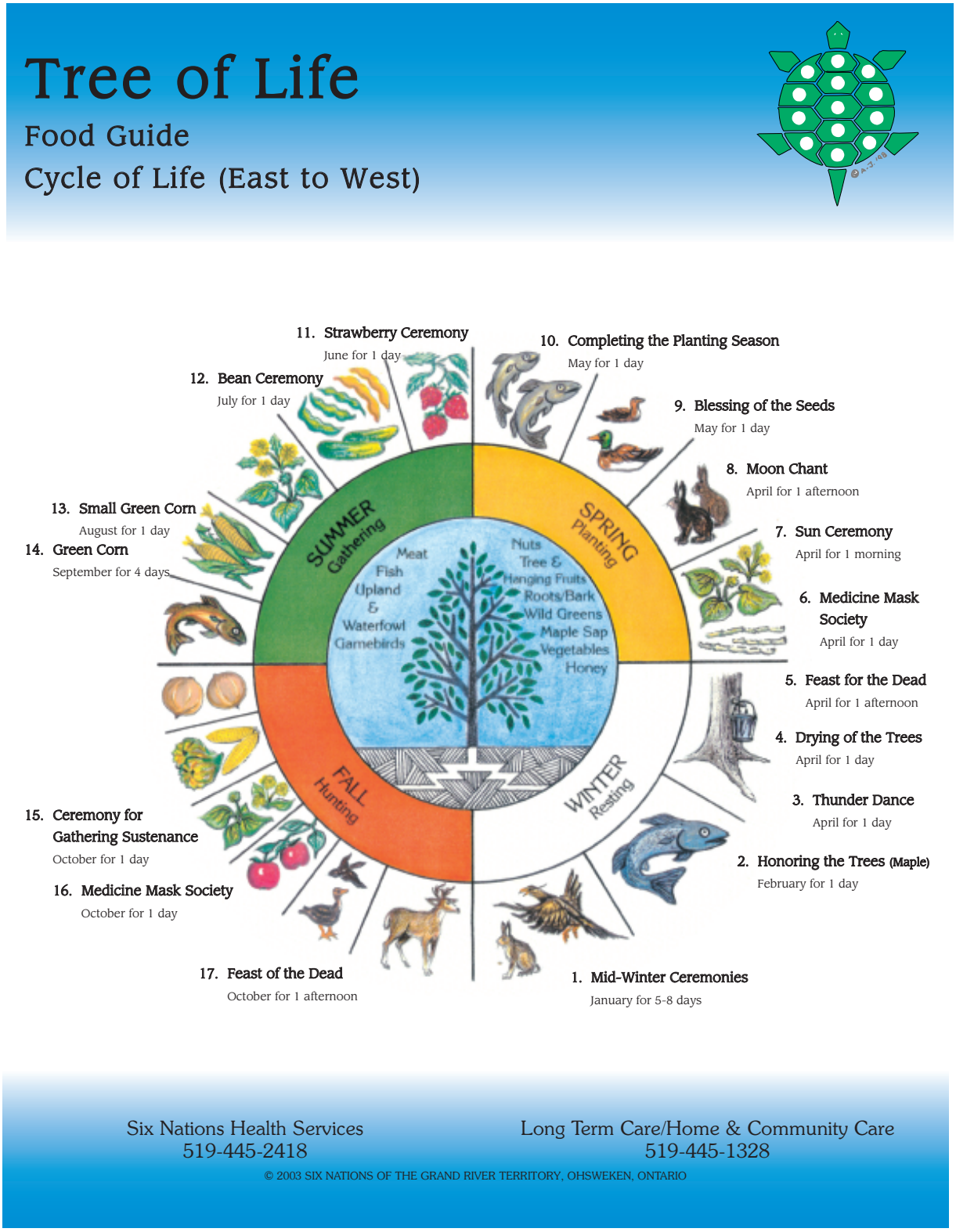
order to build capacity that would eventually drive food guidance at Six Nations. The relationships that developed and the literal groundwork of making the community garden a welcome and safe space within the community were some of the major successes of the Healthy Roots movement that will be described in more detail in the following section.

Indigenous food guidance

To understand the evolution of modern food guidance development at Six Nations, it is necessary to understand the history and evolution of the *Healthy Roots* challenge, which became a movement. In 2014, a collection of partners, including *Two Row Times,* a local community newspaper, and Six Nations Health Services came together and created the first 'local food only' challenge. Healthy Roots was born and brought community members into the social spotlight by promoting whole, local foods first. This initiative aimed to eliminate from the diet five foods that had been introduced by European settlers, namely: refined sugar, flour, dairy, lard, and salt. These "white gifts" were identified by community members as contributing negatively to the health and wellbeing of Indigenous Peoples. Through the support of community partners, participants were ensured they had support from dietitians and other local health care staff and educators. The next step was eliminating highly processed foods, along with a focus on physical activity, in order to address whole body health.

Foods that were recommended during the first *Healthy Roots* challenge in 2015 were a combination of whole foods and seasonal foods that were part of the cultural calendar. Key examples were strawberries, venison, wild edible greens and herbs, fish, and corn. In 1995, Six Nations Health Services had created a food guide (The Tree of Life) to represent these cycles (see Figure 1). The 2015 Healthy Roots food guide was created to promote Indigenous eating practices throughout the life cycle. It was designed by and for the Six Nations community, and provided nutrient guidance as well as food guidance. The original "Tree of Life" Food Guide also illustrated that there is a time for everything: planting, growing, harvesting, hunting, and saving for the winter. These guidelines paved the way to incorporate community actions and practices that were promoted with *Healthy Roots* as an existing guide, while including key aspects of culture. By using previously published and advertised food guides that incorporated Haudenosaunee teachings, *Healthy Roots* was able to bring to life the calendar of both culture and food. The combination of food and culture meant that this was no longer just a food guide; *Healthy Roots* was creating food guidance in an accessible way. The use of the original Tree of Life guide paved the way for the creation of a Healthy Roots food guide over the next two years. *Healthy Roots* as a program therefore became a conduit for food guidance with the creation of its pre-contact food guide combined with the cultural, physical and social contexts as the program continued to evolve.

Figure 1: Tree of Life



Six Nations Long-Term Care/
Home & Community Care Program
P.O. Box 5000 Ohsweken, Ontario Canada N0A 1M0 · Tel: (519) 445-1679 Fax: (519) 445-4032

Healthy Grocery Guide

Vitamin A
- Carrots
- Cantaloupe
- Dandelion greens
- Spinach
- Sweet Potato
- Winter squash
- Broccoli
- Pheasant
- Cranberries
- Tomatoes
- Cheddar cheese
- Milk
- Tomato soup
- Butter
- Margarine

Vitamin C
- Apple juice
- Baked apples
- Broccoli
- Cantaloupe
- Oranges
- Orange juice
- Strawberries
- Tomato soup
- Alfalfa sprouts
- Blackcaps
- Cabbage
- Dandelion
- Potatoes
- Tomatoes
- Tomato juices
- Turnip
- Vegetable juice
- Banana
- Blackberries
- Blueberries
- Cranberries
- Fiddle head
- Raspberries
- Spinach

Iron
- Liver
- Prune Juice
- Almonds
- Sardines
- Pumpkin seeds
- Squash seeds
- All bran cereal
- Corn soup
- Beef
- Beans
- Turkey
- Pork
- Chicken
- Spinach
- Peas
- Raisins
- Sunflower seeds
- Bran flakes
- Egg
- Tomato Juice
- Plums
- Green Beans
- Oatmeal
- Chicken
- Eggs
- Haddock
- Hamburg
- Salmon
- Tuna
- Broccoli
- Dandelion greens
- Corn flakes
- Bran muffins

Calcium
- Milk
- Cheese
- Corn soup
- Corn bread
- Cottage cheese
- Yogurt
- Broccoli
- Rhubarb
- Ice cream
- Crab
- Pickerel
- Dandelion greens
- Sunflower seeds

Fiber
- All bran
- Peas
- Beans
- Sweet Potato
- Whole Wheat bread
- Shredded wheat
- Blackberries
- Broccoli
- Carrots
- Corn kernel
- Pear
- Raspberries
- Spinach
- Turnip
- Bran flakes
- Oatmeal
- Shreddies
- Apple
- Banana
- Blueberries
- Cabbage
- Potato
- Strawberries
- Tomatoes

Folic Acid
- Turnip greens
- Spinach
- Butter head lettuce
- Kidney beans
- Navy beans
- Pinto beans
- Black beans
- Black-eyed beans
- Split peas
- Green peas
- Lima beans
- Meat
- Seafood
- Asparagus
- Broccoli
- Whole grain breads
- Cereals
- Flour
- Macaroni
- Rice
- Cornmeal

Protein
- Animal
- Fish
- Birds
- Peanut Butter
- Milk
- Eggs

_____
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_____
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The very first *Healthy Roots* campaign in 2015 included the original small group of community participants publicly sharing their experiences of making lifestyle changes through social media and news coverage. Community response was overwhelmingly supportive. Strangers would comment on social media posts or in public. The *Healthy Roots* participants were suddenly in the limelight of the community. Those who were watching were seeking inspiration and leadership, though this was not our sole intent. It was a very exciting yet daunting role. At community activities and events there was much discussion around the personal and emotional connections the *Healthy Roots* participants had with food.

In spite of the program's success in terms of community perceptions, there were on-going challenges related to the practicality and sustainability of the dietary practices being promoted. The first event was held during the winter. January is a time when people often want to make healthier choices, but fresh vegetables and locally-produced or fresh foods can be costly and unavailable at that time. Importantly, a discussion of what is local or Indigenous became a conversation; this became the precursor to the next *Healthy Roots* campaign and also the involvement of *Our Sustenance* as a project partner.

In 2015, *Our Sustenance* joined *Healthy Roots,* and the 'Homegrown Goodness' series began. The plan was to engage the community in obtaining local fresh food with *Our Sustenance's* community garden as the home base. That summer, workshops and classes about growing and harvesting food took place among the community at large. It was no longer seen as a food challenge or even a temporary dietary change, but more of an educational campaign around the sustainability of these culturally-based food practices. The community became more engaged in learning and seeking out food guidance.

Healthy Roots then became a program that planned for the seasons. Understanding that people could gather food from the community garden made local, whole foods accessible no matter the economic situation. The only requirement was the community's willingness to take part. The other connection was with the greenhouse at *Our Sustenance*. Vegetables, greens and herbs were all grown there, and could be purchased for a modest price. Thus, progress was made towards a more sustainable, collaborative food system in the community, which evolved into the Haudenosaunee Food Guide.

The concept of food guidance shifted gradually over time from that of a food guide within the community narrative at Six Nations. When the *Our Sustenance* program joined the *Healthy Roots* campaign at the end of its first full season, the hope of the program organizers was to continue the trend in the community towards healthy eating of locally available ancestral foods (Gordon et al., 2018). Community members were able to bring healthy, fresh food home by harvesting it themselves. The staff at *Our Sustenance* helped to ensure that food was available within the community and workshops taught gardening skills and food literacy related to preserving foods for winter. In this way, food guidance meant that the community was actively engaged in understanding and taking control of the food that was both meaningful and available to them.

The development of a food list that varied from the original Tree of Life food guide started in 2014. The first *Healthy Roots* Challenge had a living list that began with foods from meso-America. These additions expanded upon the Tree of Life guide that was simpler, and therefore had fewer options. This *Healthy Roots* Challenge flexible list could grow and change to include all the foods historically found on the continent. Community members who were not part of the original challenge could feel they were participating, because it included items that may have been traded for in the past, such as tomatoes and peppers. The 2015 version of the *Healthy Roots* guide went on to evolve and had a 'strict list' along with a 'secondary' list. The strict list was more in line with the inspirational list of ancestral foods originally created with The Tree of Life guide.

In 2015, the *Healthy Roots* food guide (list) was the most stringent yet compared to the food guides that had previously been created. The list itself was more of a guide; the overall program of *Healthy Roots* was the guidance. The latest version was completed in 2015 by Chandra Maracle, with assistance from her husband Rick Hill through a partnership with Six Nations Health Services. This version of the Haudenosaunee Food Guide pictured in Figure 2 was created to be part of an Indigenous foods only community challenge for a larger group of people with the goal of consuming the foods included in the guide almost exclusively. The guide only includes the foods of pre-contact Haudenosaunee, grouped into categories of foods from the sky, the water, the bush (wild foraged plants), and the land (animals). These lists are both pre-contact and also regional to the expanse of the Haudenosaunee Territory, from Six Nations east towards the Saint Lawrence Seaway.

Figure 2: Haudenosaunee Food Guide

The support that *Our Sustenance* offered alongside the food guidance provided by the Haudenosaunee Food Guide includes practical skills and education on the modern-day realities of local foods within Indigenous food systems. The concept of food guidance is therefore a combination of theory and action. The skills required to acquire and prepare certain foods is not possible without a significant amount of knowledge and experience. For example, foraging for certain foods on the list requires seasonal knowledge, harvesting, and food preparation/preservation skills. Food is both an action and an outcome. To access the listed foods from the Haudenosaunee food guide requires knowledge of their location, or willingness to choose an alternative, 'modern' version. Education and discussion in the community is required to come to consensus even on those original wild foods and others that are cultivated in the community. Gardening and food skills are an integral part of food guidance, especially with regard to the evolution of the food list—which was meant to represent the original foods of the Territory, not merely the 'rules to live by'.

Discussion

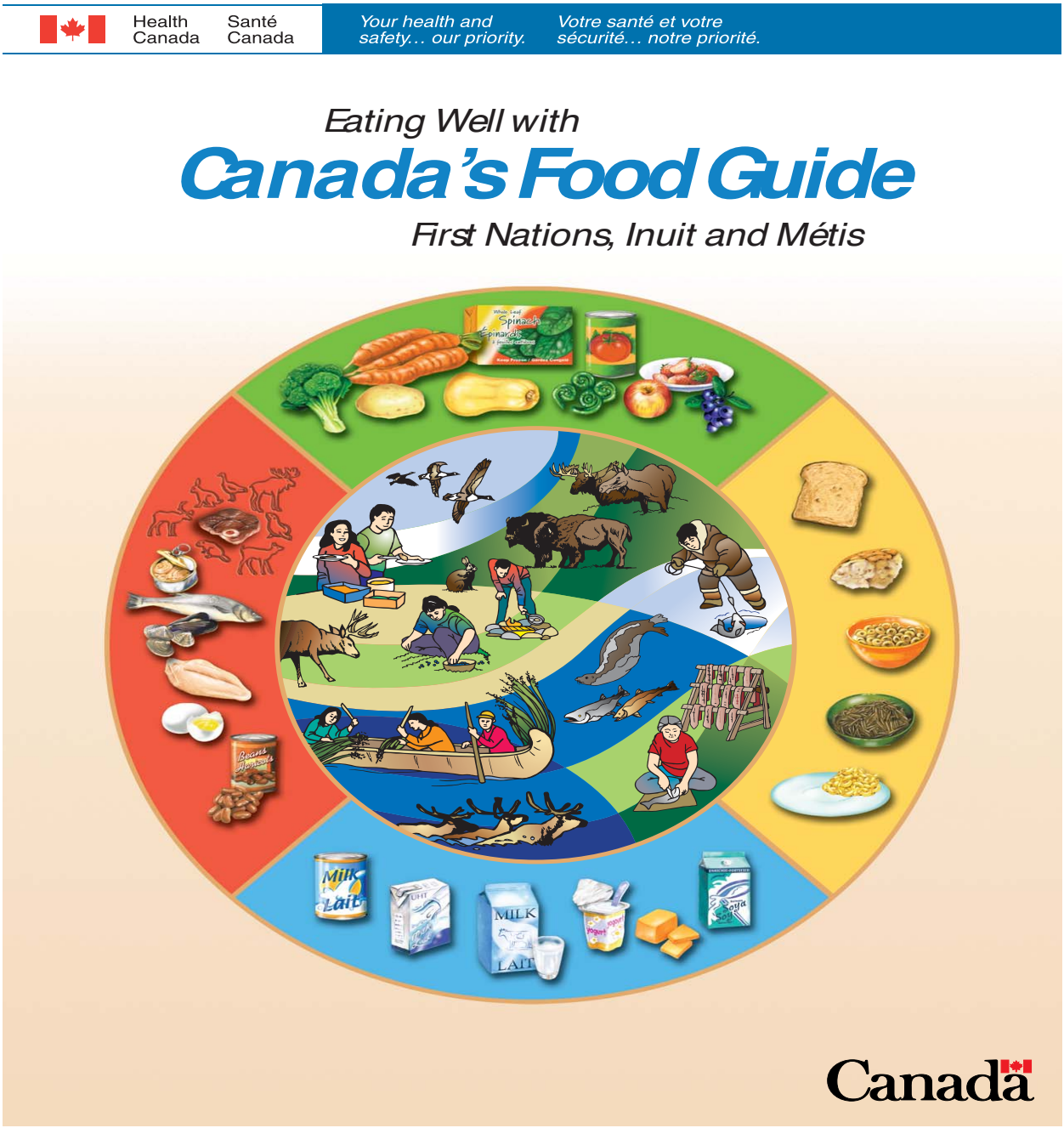
The emerging literature on the Indigenous food movement identifies community involvement, family-centred food education, and re-establishing a relationship with the land as essential to restoring sustainable food systems, land, and water access. These processes of reclamation have similarly evolved through collaborative community processes and guiding practices described in the Haudenosaunee community of Six Nations of the Grand River. The evolution of social movements and relationships to reinforce patterns of support through the transference of knowledge has led to the "guidance" that continues to adjust and change. This unique form of guidance is not in the form of a westernized practice of creating formalized lists meant for general distribution with the intent of controlling food-based practices.

In the community of Six Nations, guidance and practice are informed and conveyed by people and supported through established networks and relationships. This type of guidance, therefore, is living as IK and continues to evolve. As such it is not conveyed in such a prescriptive manner using lists and absolute categories. The Haudenosaunee food guide illustrated in Figure 2 is based on collective knowledge and land-based practices that are meant to be shared, adapted, and applied by all community across generations. It is therefore not a static form of guidance as the foods and their connections to land and people evolve as reciprocal relationships.

Limited research has previously taken place or been reported on the use of colonized forms of food guidance by Indigenous Nations within Canada. The most commonly referenced food guide that is used by health professionals working with Indigenous groups is *Canada's Food Guide for First Nations, Inuit and Métis* (see Figure 3). It is based on the 2007 version of *Eating Well with Canada's Food Guide* (EWCFG), adapted according to Health Canada to reflect traditions and food choices of First Nations, Inuit and Métis Peoples (Health Canada, 2007). The publication is available in Inuktitut, Ojibwe, Plains Cree, and Woods Cree in addition to English and French. These languages were selected to reach the largest number of Indigenous people according to 2006 Census data. Health Canada contends that this tailored food guide has recommendations for healthy eating based on science, while recognizing the importance of traditional and store-bought foods. The pictures of foods included as examples in this version of the food guide are said to reflect the importance of both traditional and store-bought foods. Store-bought foods depicted are supposed to be those that are typically available in rural and remote locations. The overall circular structure continues to include the four food groups: grains, vegetables and fruit, meat and alternatives, along with milk and alternatives. Pictures of servings from these long-established groups mainly provide examples of marketed foods with the seemingly token addition of well-known traditional foods such as: wild rice, bannock berries, wild plants, game and fish. The centre of the figure depicts harvesting and food preparation practices. Many First Nations, Inuit and Métis individuals, families, and communities may not see themselves in these federal food guide depictions and dismiss these food-based recommendations. For example, many Indigenous Peoples are often lactose intolerant. Therefore, options such as plant and bone-based sources of calcium, or vitamin D-rich foods such as fish,

should be included, along with less of an emphasis on dairy products. Those foods that may not be typically available in stores in more remote locations across Canada, such as fresh fruits and vegetables, grains and meats, are also typically cost prohibitive (Burnett et al., 2017). A recent study has suggested that the use of food guides by Indigenous communities within Canada is generally low. Only 25% of Indigenous respondents living in urban centers (off-reserve) were even aware of Canada's Food Guide for First Nations, Inuit or Métis (Slater & Mudryi, 2018).

Figure 3: First Nations Métis and Inuit Food Guide




How to use Canada's Food Guide
The Food Guide shows how many servings to choose from each food group every day and how much food makes a serving.
1. Find your age and sex group in the chart below.
2. Follow down the column to the number of servings you need for each of the four food groups every day.
3. Look at the examples of the amount of food that counts as one serving. For instance, 125 mL (1/2 cup) of carrots is one serving in the Vegetables and Fruit food group.
What is one Food Guide Serving?
Look at the examples below.
Eating Well Every Day
Canada's Food Guide describes healthy eating for Canadians two years of age or older.
Choosing the amount and type of food recommended in Canada's Food Guide will help:
• children and teens grow and thrive
• meet your needs for vitamins, minerals and other nutrients
• lower your risk of obesity, type 2 diabetes, heart disease, certain types of cancer and osteoporosis (weak and brittle bones).
Recommended Number of Food Guide Servings per day
Children 2-3 years old
Children 4-13 years old
Teens and Adults (Females)
Teens and Adults (Males)
Vegetables and Fruit
Fresh, frozen and canned.
4
5-6
7-8
7-10
Eat at least one dark green and one orange vegetable each day. Choose vegetables and fruit prepared with little or no added fat, sugar or salt. Have vegetables and fruit more often than juice.
Dark green and orange vegetables 125 mL (1/2 cup)
Other vegetables 125 mL (1/2 cup)
Leafy vegetables and wild plants cooked 125 mL (1/2 cup) raw 250 mL (1 cup)
Berries 125 mL (1/2 cup)
Fruit 1 fruit or 125 mL (1/2 cup)
100% Juice 125 mL (1/2 cup)
Grain Products
3
4-6
6-7
7-8
Make at least half of your grain products whole grain each day. Choose grain products that are lower in fat, sugar or salt.
Bread 1 slice (35 g)
Bannock 35 g (2" x 2" x 1")
Cold cereal 30 g (see food package)
Hot cereal 175 mL (3/4 cup)
Cooked pasta 125 mL (1/2 cup)
Cooked rice White, brown, wild 125 mL (1/2 cup)
Milk and Alternatives
2
2-4
Teens 3-4 Adults (19-50 years) 2 Adults (51+ years) 3
Teens 3-4 Adults (19-50 years) 2 Adults (51+ years) 3
Drink 500 mL (2 cups) of skim, 1% or 2% milk each day. Select lower fat milk alternatives. Drink fortified soy beverages if you do not drink milk.
Milk Powdered milk, mixed 250 mL (1 cup)
Fortified soy beverage 250 mL (1 cup)
Canned milk (evaporated) 125 mL (1/2 cup)
Yogurt 175 g (3/4 cup)
Cheese 50 g (1 1/2 oz.)
Meat and Alternatives
1
1-2
2
3
Have meat alternatives such as beans, lentils and tofu often. Eat at least two Food Guide Servings of fish each week.* Select lean meat and alternatives prepared with little or no added fat or salt.
Traditional meats and wild game 75 g cooked (2 1/2 oz)/125 mL (1/2 cup)
Fish and shellfish 75 g cooked (2 1/2 oz)/125 mL (1/2 cup)
Lean meat and poultry 75 g cooked (2 1/2 oz)/125 mL (1/2 cup)
Eggs 2 eggs
Beans - cooked 175 mL (3/4 cup)
Peanut butter 30 mL (2 Tbsp)
When cooking or adding fat to food:
• Most of the time, use vegetable oils with unsaturated fats. These include canola, olive and soybean oils.
• Aim for a small amount (2 to 3 tablespoons or about 30-45 mL) each day. This amount includes oil used for cooking, salad dressings, margarine and mayonnaise.
• Traditional fats that are liquid at room temperature, such as seal and whale oil, or ooligan grease, also contain unsaturated fats. They can be used as all or part of the 2-3 tablespoons of unsaturated fats recommended per day.
• Choose soft margarines that are low in saturated and trans fats.
• Limit butter, hard margarine, lard, shortening and bacon fat.
*Health Canada provides advice for limiting exposure to mercury from certain types of fish. Refer to www.healthcanada.gc.ca for the latest information. Consult local, provincial or territorial governments for information about eating locally caught fish.

Respect your body... Your choices matter

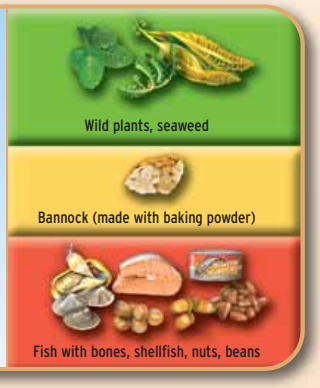
Following Canada's Food Guide and limiting foods and drinks which contain a lot of calories, fat, sugar or salt are important ways to respect your body. Examples of foods and drinks to limit are:

- pop
- fruit flavoured drinks
- sweet drinks made from crystals
- sports and energy drinks
- candy and chocolate
- cakes, pastries, doughnuts and muffins
- granola bars and cookies
- ice cream and frozen desserts
- potato chips
- nachos and other salty snacks
- french fries
- alcohol

People who do not eat or drink milk products must plan carefully to make sure they get enough nutrients.

The traditional foods pictured here are examples of how people got, and continue to get, nutrients found in milk products. Since traditional foods are not eaten as much as in the past, people may not get these nutrients in the amounts needed for health.

People who do not eat or drink milk products need more individual advice from a health care provider.



Women of childbearing age

All women who could become pregnant, and pregnant and breastfeeding women, need a multivitamin with **folic acid** every day. Pregnant women should make sure that their multivitamin also contains **iron**. A health care provider can help you find the multivitamin that is right for you.

When pregnant and breastfeeding, women need to eat a little more. They should include an extra 2 to 3 Food Guide Servings from any of the food groups each day.

For example:

- have dry meat or fish and a small piece of bannock for a snack, or
- have an extra slice of toast at breakfast and an extra piece of cheese at lunch.

Women and men over the age of 50

The need for **vitamin D** increases after the age of 50.

In addition to following Canada's Food Guide, men and women over the age of 50 should take a daily vitamin D supplement of 10 µg (400 IU).

For strong body, mind and spirit, be active every day.

This guide is based on *Eating Well with Canada's Food Guide.*

For more information, interactive tools or additional copies visit Canada's Food Guide at: **www.healthcanada.gc.ca/foodguide**

or contact: Publications • Health Canada • Ottawa, Ontario K1A 0K9 • E-Mail: publications@hc-sc.gc.ca • Tel.: 1-866-225-0709 • TTY: 1-800-267-1245 • Fax: (613) 941-5366

Également disponible en français sous le titre : Bien manger avec le Guide alimentaire canadien – Premières Nations, Inuit et Métis

This publication can be made available on request on diskette, large print, audio-cassette and braille.

Other forms of adapted food guidance based on EWCFG include the Healthy Food Guidelines developed by the First Nations Health Authority (FNHA) in British Columbia (BC) and the Nunavut Food Guide (FNHA, 2014; Nunavut Department of Health, 2012). Both of these examples also include examples from the four food group components. The guidelines developed by the FNHA, however, are intended to support community members in educating each other about better food and beverage choices to offer in schools, meetings, homes, cultural and recreational events, and in restaurants in First Nations communities in BC (FNHA, 2014). They are presented in table format based on the *Guidelines for Food and Beverage Sales* in BC schools. The table is broken into the four main food groups, along with an additional eight that include vegetable, fruit and milk-based beverages, along with nuts and seeds, soups, mixed entrée foods, candies and chocolate, and condiments. Each of these 12 groups is divided into three categories based on nutrition criteria such as the amount of sugar, fat, and sodium contained in these foods with primarily store-bought examples given for each. The guidelines also provide direction in recipe adaptation, program development, serving traditional foods, food service at community events, and improving food security through the increased use of local and regional foods. By contrast, the Nunavut Food Guide (see Figures 4), in the shape of an *ulu*,[3] is far less detailed and includes five main messages aimed at promoting the consumption of both country and healthy store-bought foods (Nunavut Department of Health, 2012). The guide also distinguishes between healthy categories of food and promotes variety through the promotion of traditional values and balance. The four-page document includes pictures of examples of foods in the four food groups, but re-classifies the labels according to their use by the body. Uniquely, an entire page is dedicated to illustrating the variety of plant-based and animal-based sources of country foods that may be harvested locally. These more context-specific food guides are potentially moving towards the land-based more localized food guidance that Indigenous communities are developing independently as acts of self-determination.

[3] An *ulu* is an Inuit woman's cutting tool.

Figure 4: Nunavut Food Guide

More recently, the new Canada's Food Guide that was released in January 2019 acknowledges that traditional foods and the harvesting of traditional foods are linked to identity and culture for Indigenous Peoples and contribute to overall health. Yet, as Wilson & Shukla (2020) contend, no responsibility is taken for supporting Indigenous health. Barriers to accessing healthy foods, socioeconomic and otherwise, are not taken into consideration. Neither are Indigenous Peoples' unique and diverse food environments. Health Canada suggests that as part of the food guide revisions, the agency is working with First Nations, Inuit, and Métis partners to "support the development of healthy eating tools" (Health Canada, 2019). Health Canada's (2019) website states the new resource is "inclusive of Indigenous Peoples," but maintains that the 2007 *Food Guide for First Nations, Inuit and Métis,* "can still be used as a trusted source of information on healthy eating to support Indigenous peoples until new tools are available", implying additional revisions are forthcoming. At the time of writing, two years following the release of the 2019 version of the food guide, Health Canada continues to communicate that they are working with Indigenous Services Canada, First Nations, Inuit and Métis organizations to develop "distinction-based" tools as part of the revision process.

Beyond the development of guiding resources aimed at bridging various perspectives on food guides, progress has been made in the resurgence of Indigenous food systems, knowledge, and environments with the perhaps greater goal of social justice that the Indigenous food

sovereignty movement was founded on. Indigenous food sovereignty is guided by the recognition that these foods are sacred and involves navigating their rights and access to land and upholding these relationships (Cidro et al., 2015). Canada has agreed to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) into law. Article 20 states that Indigenous Peoples have the right to be secure in the enjoyment of their own means of subsistence and development and to engage freely in cultural and other economic activities (United Nations General Assembly, 2007). These sovereign rights include the ability of Indigenous Peoples to practice these rights to access their food systems based on their own unique knowledges and practices. The processes to address some of the historical challenges within the community of Six Nations were practical and yet political. Reclaiming knowledge by offering education in the form of guidance and physical spaces to grow and share food were key components of food sovereignty enacted. By offering safe spaces and places to connect knowledge and food, the community gained skills and learned more about food origins and environments that are inherently Haudenosaunee.

Conclusions

Indigenous foods can be revitalized by passing on knowledge through workshops on Indigenous food and medicine protocols, and through the identification, harvesting, processing and preparation of Indigenous foods (Gendron et al., 2016). While many initiatives described here are centered in the community of Six Nations, momentum is building widely. Indigenous communities in urban environments are asking to be involved to address the economic challenges of living in cities, including the opportunities for teaching and social interactions around food (Author et al., 2017; Elliott et al., 2012). The activities and programming promoted by *Our Sustenance* and Six Nations Health Services could be adapted for other communities within their own unique Indigenous food environments and systems. Incorporating local and Indigenous food systems, knowledge, and perspectives into food guidance can have lasting effects at the local as well as national levels for protecting food environments, restoring Indigenous foodways, and improving food security and sovereignty (Wilson & Shukla, 2020).

This discussion points to a key insight with respect to food sovereignty, which is informed by a vision of democratized engagement in the food system but is also a form of theoretically-informed practice (McMichael, 2009). Far from being a static end-point or an absolute, food sovereignty is also a day-to-day mode of resistance informed by the demands, in this case, of a long history of anticolonial struggle (Grey & Patel, 2015). To see the current shift at Six Nations, as our focus, the view of the current activities of the local food system as it grows and evolves is especially important. The *Healthy Roots* campaign and the Haudenosaunee food guide form a strong basis for inspiring the forward movement that has taken place in the community of Six

Nations. The list was not designed to be the ideal food guide. It was and continues to be a reminder that our community, our culture, language, health, and wellness are all present if we remember who we are as Haudenosaunee. During its creation and evolution, the food list offers direction and a sense of purpose to us as Indigenous Peoples and our relationship with food.

Guiding practices and programming continue to progress and adapt. Six Nations Health Services is now providing community garden staff and education on site. The community is welcome to come and access locally grown produce from the public plots at any time during the growing season, and programming classes and activities take place at the garden. Part of the success of this style of food guidance is working with local partnerships and the willingness of organizations such as Health Services to see and seize an opportunity to help guide the community toward better health, through activities such as *Healthy Roots*. Those opportunities have created movements that have brought people back to the land, back to the idea of sharing knowledge and practice with each other, through time, stories, and food. The social groups that came out of Healthy Roots have solidified into a social network of people who have created spaces and places where they can gather, share stories, successes, build friendships, and spend time guiding each other. While the original focus was categories and classifications of local, traditional, and Indigenous foods, it is now in fact about community and us as Indigenous Peoples.

Indigenous food systems along with the environments they exist within are complex and holistic. They are valued from a physical health perspective and the activities involved in their acquisition and distribution allow for the practice of cultural values, such as sharing and cooperation (Earle, 2011). Bringing the four directions into balance by increasing emotional and spiritual supports around Indigenous foods, such as re-establishing relationships with the land and cultural practices, may assist in progressing towards Indigenous food sovereignty (IFS) and sustainable Indigenous food systems and environments. IFS is guided by the recognition that food is sacred and requires the establishment of relationships among people and between people and the land (Morrison et al., 2011). Therefore, the importance of sharing practices and increasing knowledge capacity around Indigenous foods through increased social support both within families and the larger community needs to be encouraged and put into balance, both on and off-reserve. Access to local environments including the physical (land and water), and mental (knowledge) across Indigenous communities and food environments is therefore essential to re-establish and strengthen these connections. Elevating Indigenous food as a vehicle towards self-determination reinforces both dietary and biocultural diversity (Johns & Sthapit, 2004). Diversity in both forms as guiding principles thereby improve health, wellness, and continue to revitalize hope for the future of food guidance.

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References

Adelson, N. (2000). *"Being alive well": Health and the politics of Cree wellbeing* (Vol. 16). University of Toronto Press.

Burgess, C. P., Johnston, F. H., Bowman, D. M. J. S., & Whitehead, P. J. (2005). Healthy country: Healthy people? Exploring the health benefits of Indigenous natural resource management. *Australian and New Zealand Journal of Public Health*, *29*(2), 117–122. https://doi.org/10.1111/j.1467-842x.2005.tb00060.x

Burnett, K., Skinner, K., Hay, T., LeBlanc, J., & Chambers, L. (2017). Retail food environments, shopping experiences, First Nations and the provincial Norths. *Health Promotion and Chronic Disease Prevention in Canada*, *37*(10), 333–341. https://doi.org/10.24095/hpcdp.37.10.03

Cajete, G. (2000). *Native science: Natural laws of interdependence* (1st ed.). Clear Light Publishers.

Cajete, G. (2014). (rep.). (J. T. Johnson, R. Pualani Louis, & Kliskey, Eds.) *Re-building sustainable Indigenous communities: Applying Native science* (Ser. Weaving Indigenous and Sustainability Sciences: Diversifying Our Methods. (WIS2DOM) Workshop, pp. 36–43). National Science Foundation: Arctic Social Sciences Program.

Chan, L., Receveur, O., Batal, M., David, W., Schwartz, H., Ing, A., Feduik, K., Tikhonov, C. (2014). *First Nations food, nutrition & environmental study FNFNES): Results from Ontario (2011/2012)*. Ottawa.

Cidro, J., Peters, E., & Martens, T. (2015). Beyond food security: Understanding access to cultural food for urban Indigenous people in Winnipeg as Indigenous food sovereignty. *Canadian Journal of Urban Research*, *24*, 24–43.

Corntassel, J. (2012). Re-envisioning resurgence: Indigenous pathways to decolonization and sustainable self-determination. *Decolonization Indigeneity Education and Society*, *1*, 86–101.

Earle, L. (2011). *Traditional Aboriginal diets and health*. NCCAH. https://doi.org/10.1007/978-3-319-18096-0_147

Egeland, G. M., Johnson-Down, L., Cao, Z. R., Sheikh, N., & Weiler, H. (2011). Food insecurity and nutrition transition combine to affect nutrient intakes in Canadian Arctic communities. *The Journal of Nutrition*, *141*(9), 1746–1753. https://doi.org/10.3945/jn.111.139006

Elias, B., Mignone, J., Hall, M., Hong, S. P., Hart, L., & Sareen, J. (2012). Trauma and suicide behaviour histories among a Canadian indigenous population: An empirical exploration of the potential role of Canada's residential school system. *Social Science & Medicine*, *74*(10), 1560–1569. https://doi.org/10.1016/j.socscimed.2012.01.026

Elliott, B., Jayatilaka, D., Brown, C., Varley, L., & Corbett, K. K. (2012). "We are not being heard": Aboriginal perspectives on traditional foods access and food security. *Journal of Environmental and Public Health*, *2012*, 1–9. https://doi.org/10.1155/2012/130945

Ermine, W., Nilson, R., Sauchyn, D., Sauvé, E., & Smith, R.Y. (2005). Isi Askiwan—The state of the land: Summary of the Prince Albert Grand Council elders' forum on climate change. *Journal of Aboriginal Health, 2*, 62–72.

First Nations Health Authority (FNHA). (2014). *First Nations healthy food guidelines.* http://www.fnha.ca/documents/healthy_food_guidelines_for_first_nations_communities.pdf

First Nations Information Governance Centre. (2014). *Ownership, control, access and possession (OCAP™): The path to First Nations information governance*. The First Nations Information Governance Centre.

Gagné, D., Blanchet, R., Lauzière, J., Vaissière, É., Vézina, C., Ayotte, P., Déry, S., & Turgeon O'Brien, H. (2012). Traditional food consumption is associated with higher nutrient intakes in Inuit children attending childcare centres in Nunavik. *International Journal of Circumpolar Health*, *71*, 18401. https://doi.org/10.3402/ijch.v71i0.18401

Gendron, F., Hancherow, A., & Norton, A. (2016). Exploring and revitalizing Indigenous food networks in Saskatchewan, Canada, as a way to improve food security. *Health Promotion International*, *32*(5), 808-817. https://doi.org/10.1093/heapro/daw013

Gordon, K., Xavier, A.L., & Neufeld, H.T. (2018). Healthy Roots: Building capacity through shared stories rooted in Haudenosaunee knowledge to promote Indigenous foodways and wellbeing. *Canadian Food Studies*, *5*(2), 180–195.

GREAT. (2000). *Leakage study.* Ohsweken: Six Nations Elected Council. Six Nations Community Profile.

Grey, S., & Patel, R. (2014). Food sovereignty as decolonization: some contributions from Indigenous movements to food system and development politics. *Agriculture and Human Values*, *32*(3), 431-444. https://doi.org/10.1007/s10460-014-9548-9

Grossman, Z. (2014) (rep.). (J. T. Johnson, R. Pualani Louis, & Kliskey, Eds.) *Decolonizing Landscapes: Unlikely Alliances Grow Resilience at the Grassroots* (Ser. Weaving Indigenous and Sustainability Sciences: Diversifying Our Methods. (WIS2DOM) Workshop, pp. 52–55). National Science Foundation: Arctic Social Sciences Program. https://ipsr.ku.edu/cfirst/wis2dom/WorkshopReport2013.pdf

Health Canada. (2007). *Eating well with Canada's food guide: First Nations, Inuit and Métis*. https://www.health.gov.nl.ca/health/findhealthservices/canada_food_guide_first_nations_inuit_metis.pdf

Health Canada. (2007). *Frequently asked questions on eating well with Canada's food guide: First Nations, Inuit and Métis.* https://www.canada.ca/en/health-canada/services/food-nutrition/canada-food-guide/eating-well-with-canada-food-guide-first-nations-inuit-metis.html

Health Canada. (2019). *Revision process for Canada's food guide.* https://www.canada.ca/en/health-canada/services/canada-food-guide/about/revision-process.html#a5

Hill L. (2015, May 28). *Our Sustenance program tackling food security on Six Nations*. Two Row Times. https://tworowtimes.com/health/our-sustenance-program-tackling-food-security-on-six-nations/

Johns, T., & Sthapit, B. R. (2004). Biocultural diversity in the sustainability of developing-country food systems. *Food and Nutrition Bulletin*, *25*(2), 143–155. https://doi.org/10.1177/156482650402500207

Johnson-Down, L., & Egeland, G. M. (2010). Adequate nutrient intakes are associated with traditional food consumption in Nunavut Inuit children aged 3–5 years. *The Journal of Nutrition*, *140*(7), 1311–1316. https://doi.org/10.3945/jn.109.117887

Kirkpatrick, S. I., & Tarasuk, V. (2008). Food insecurity in Canada: Considerations for monitoring. *Canadian Journal of Public Health*, *99*(4), 324–327. https://doi.org/10.1007/bf03403765

Kuhnlein, H. V., Erasmus, B., Spigelski, D., & Burlingame, B. (Eds.). (2013). *Indigenous Peoples' food systems & wellbeing: Interventions & policies for healthy communities*. Food and Agriculture Organization of the United Nations Centre for Indigenous Peoples' Nutrition and Environment.

Kuhnlein, H. V., & Receveur, O. (1996). Dietary change and traditional food systems of Indigenous Peoples. *Annual Review of Nutrition*, *16*(1), 417–442. https://doi.org/10.1146/annurev.nu.16.070196.002221

Lambden, J., Receveur, O., & Kuhnlein, H. V. (2007). Traditional food attributes must be included in studies of food security in the Canadian Arctic. *International Journal of Circumpolar Health*, *66*(4), 308–319. https://doi.org/10.3402/ijch.v66i4.18272

McMichael, P. (2009). A food regime genealogy. *The Journal of Peasant Studies*, *36*(1), 139-169. https://www.doi.org/10.1080/03066150902820354.

Morrison, D., Desmarais, A. A., & Wittman, H. (2011). Indigenous food sovereignty: A model for social learning. In N. Wiebe (Ed.), *Food sovereignty in Canada: Creating just and sustainable food systems* (pp. 97–113). Fernwood Publishing.

Mundel, E., & Chapman, G. E. (2010). A decolonizing approach to health promotion in Canada: the case of the Urban Aboriginal Community Kitchen Garden Project. *Health Promotion International*, *25*(2), 166–173. https://doi.org/10.1093/heapro/daq016

Neufeld, H.T. (2003). *Prenatal dietary reflections among two generations in a southern First Nations community*. University of Manitoba.

Neufeld, H.T., Richmond, C.A.M., & the Southwest Ontario Aboriginal Health Access Centre (2017). Impacts of place and social spaces on traditional food systems in southwestern Ontario. *International Journal of Indigenous Health*, *12*(1), 93. https://doi.org/10.18357/ijih112201716903

Nunavut Department of Health. (2012). *Nunavut food guide*. Inuusittiaringniq Living Well Together. https://livehealthy.gov.nu.ca/sites/default/files/GNU_5622_FoodGuide_Eng_WR%20low%20res.pdf

Organ, J., Castleden, H., Furgal, C., Sheldon, T., & Hart, C. (2014). Contemporary programs in support of traditional ways: Inuit perspectives on community freezers as a mechanism to alleviate pressures of wild food access in Nain, Nunatsiavut. *Health & Place*, *30*, 251–259. https://doi.org/10.1016/j.healthplace.2014.09.012

Painter, J., Rah, J. H., & Lee, Y. K. (2002). Comparison of international food guide pictorial representations. *Journal of the American Dietetic Association*, *102*(4), 483–489. https://doi.org/10.1016/s0002-8223(02)90113-6

Power, E. M. (2008). Conceptualizing food security for Aboriginal People in Canada. *Canadian Journal of Public Health*, *99*(2), 95–97. https://doi.org/10.1007/bf03405452

Raschke, V., & Cheema, B. (2008). Colonisation, the New World Order, and the eradication of traditional food habits in East Africa: historical perspective on the nutrition transition. *Public Health Nutrition*, *11*(7), 662–674. https://doi.org/10.1017/s1368980007001140

Richmond, C. A. M., & Ross, N. A. (2009). The determinants of First Nation and Inuit health: A critical population health approach. *Health & Place*, *15*(2), 403–411. https://doi.org/10.1016/j.healthplace.2008.07.004

Richmond, C., Steckley, M., Neufeld, H.T. Bezner Kerr, R., Wilson, K., and Dokis, B. (2020). First Nations food environments: Exploring the role of place, income and social connection. *Current Developments in Nutrition*, 4(8), 108.

Settee, P., & Shukla, S. (2020). *Indigenous food systems: Concepts, cases and conversations*. Canadian Scholars.

Schuster, R. C., Wein, E. E., Dickson, C., & Chan, H. M. (2011). Importance of traditional foods for the food security of two First Nations communities in the Yukon, Canada. *International Journal of Circumpolar Health*, *70*(3), 286–300. https://doi.org/10.3402/ijch.v70i3.17833

Six Nations of the Grand River (2013). *Community profile.* Retrieved from: http://www.sixnations.ca/CommunityProfile.htm

Slater, J. J., & Mudryj, A. N. (2018). Are we really "eating well with Canada's food guide"? *BMC Public Health*, *18*(1), 652. https://doi.org/10.1186/s12889-018-5540-4

Snyder, M., & Wilson, K. (2015). "Too much moving…there's always a reason": Understanding urban Aboriginal peoples' experiences of mobility and its impact on holistic health. *Health & Place*, *34*, 181–189. https://doi.org/10.1016/j.healthplace.2015.05.009

Truth and Reconciliation Commission of Canada. (2015). *Honouring the truth, reconciling for the future: Summary of the final report of the truth and reconciliation commission of Canada*. Ottawa.

United Nations General Assembly. (2007). *United Nations Declaration on the Rights of Indigenous Peoples*. https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

Walters, K. L., Johnson-Jennings, M., Stroud, S., Rasmus, S., Charles, B., John, S., Allen, J., Kaholokula, J. K., Look, M. A., de Silva, M. ā., Lowe, J., Baldwin, J. A., Lawrence, G., Brooks, J., Noonan, C. W., Belcourt, A., Quintana, E., Semmens, E. O., & Boulafentis, J. (2018). Growing from our roots: Strategies for developing culturally grounded health promotion interventions in American Indian, Alaska Native, and Native Hawaiian communities. *Prevention Science*, *21*(S1), 54–64. https://doi.org/10.1007/s11121-018-0952-z

Willows, N., Veugelers, P., Raine, K., & Kuhle, S. (2011). Associations between household food insecurity and health outcomes in the Aboriginal population (excluding reserves). *Health reports*, *22*(2), 15–20.

Willows N. D. (2005). Determinants of healthy eating in Aboriginal peoples in Canada. *Canadian Journal of Public Health*, *96,* S32–S36.

Wilson, T., & Shukla, S. (2020). Pathways to the revitalization of Indigenous food systems: Decolonizing diets through Indigenous-focused food guides. *Journal of Agriculture, Food Systems, and Community Development*, 9(4), 201–208. https://doi.org/10.5304/jafscd.2020.094.003

Xavier, A.L. (2017). *Longhouse to the greenhouse: The path to food security at Six Nations.* In C. Etmanski (Ed.), *Food Leadership: Leadership and Adult Learning for Global Food Systems* (pp. 3–16) Sense Publishers.

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Review Article

Reframing food as a commons in Canada: Learning from customary and contemporary Indigenous food initiatives that reflect a normative shift

Jodi Koberinksi[a*], Jose Luis Vivero-Pol[b] and Joseph LeBlanc[c]

[a] University of Waterloo
[b] University of Louvain
[c] Northern Ontario School of Medicine

Abstract

This paper interrogates the role of the dominant narrative of "food-as-commodity" in framing food systems policy in Canada. Human values shape policies, usually privileging those policies that are aligned with dominant values and neglecting others that confront dominant values. In that sense, valuing food as a commodity privileges specific market-based policy goals, regulations, and public subsidies that aim to enlarge market coverage. This prioritizes both corporate profit over societies´ common good and private enclosures of commons resources over universal access to food for all. Conversely, the normative shift this paper proposes—valuing and governing food as a commons—could enable socio-ecologically based policy goals and regulations, and redirect public subsidies to support customary and contemporary practices that produce and distribute food differently. Such a normative shift, scholars have argued, is a prerequisite for developing legal frameworks that lead to more and better 1) self-production; 2) stewardship of natural commons; and 3) civic participation in the governance of a resource that is essential for everybody´s survival. Valuing food as a commons can provide a complementary narrative to alternative civic claims such as food sovereignty, agro-ecology, or food justice.
In this paper, we begin by outlining the theoretical basis for our investigation into the role of food valuation in the critical food guidance shaping public policy. Next, we provide an overview of the concept of food as commons through the multidimensional food values framework and

*Corresponding author: jakoberi@uwaterloo.ca
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offer a tri-centric governance model to frame the analysis. Following a brief policy context for Indigenous food initiatives in Canada, we then provide three case studies involving Anishnaabek food systems to explore valuation of food beyond commodity in customary and contemporary food systems. Finally, we discuss how valuing food as a commons offers critical food guidance for addressing multiple socio-ecological issues connected with food systems policy in the Canadian settler colonial context.

Keywords: Food commons; food governance; food systems; Indigenous food systems; settler colonialism

Introduction

We situate this research within the diverse landscape of food systems scholarship, and seek an interdisciplinary audience for this work. We recognize stark binaries rarely exist in complex societies, however this paper deals with a decidedly simplified heuristic to distinguish concepts constructed outside the assumptions of the dominant order. We seek the indulgence of our readers as we suspend the nuance a rich discussion requires, briefly, to discuss these novel concepts in a manner that de-centres the dominant point of view in which food is a commodity. Several terms we use lack a singular definition. As such, we offer the following clarifications.

Food systems

In Canada, the concept of "Food Systems" rather than "Food Chains" has been promoted by Food Secure Canada and the various grass roots organizations, researchers, and advocates engaged domestically and internationally for two decades (Martorell & Andrée 2019; Hammelman et al., 2020). Canada's Food Policy, adopted in 2019, states that food systems "include the way food is produced, processed, distributed, consumed, and disposed of, and they have direct impacts on the lives of Canadians" and that "Food systems are interconnected and are integral to the wellbeing of communities". (Government of Canada, 2019, p.3). We work with an expanded conceptualization of "food system" to include not just "production" in terms of annual agriculture, but also "production" within Indigenous food systems management within the broad territories and waters that have for hundreds, and in most cases for thousands of years, sustained First Nations and Inuit—active participants in creating food abundance—for whom inherent title and rights are recognized (Levkoe et al., 2019). We accept the analyses and working definitions in the International Panel of Food Systems Experts' major work, "From Uniformity to Diversity" (Frison, 2016).

Industrial food systems

Our working definition is represented in the IPES-Food report "From Uniformity to Diversity" (Table 1) "refers to modes of farming that are analogous to industrial processes in their scale and task segregation, and seek to derive productivity gains from specialization and intensification of production" (Frison, 2016, p. 11). Green Revolution efforts in India, Mexico, and now Africa are extension of food systems industrialization, and the increasing specialization across industrial food systems amplifies reliance on an ever-smaller number of players (Shiva, 2016; Clapp & Isakson, 2018).

Agroecological food systems

Our working definition is represented in the IPES-Food report "From Uniformity to Diversity" (Table 1) in which Gliessman defines agroecology as "the science of applying ecological concepts and principles to the design and management of sustainable food systems" (Gliessman, 2015, p. 345). Further, Agroecology "encompasses various approaches to maximise biodiversity and stimulate interactions between different plants and species, as part of holistic strategies to build long-term fertility, healthy agro-ecosystems and secure livelihoods. It also represents a social movement; this usage will be specified where relevant" (Frison, 2016, p. 11).

Indigenous food systems

We are reticent to offer a universal definition for "Indigenous food systems," as the diverse First Nations, Inuit, and Métis communities whose economic systems predate European contact have cultural and place-based approaches that defy tidy labels. Generally, such systems share in common a challenge to "the limitations of the linear production paradigm that has mechanized the spirit and soul out of the land and food system as a whole" (Morrison, 2020, p 19). The Pan-Canadian Indigenous Food Systems Network describes food systems as the "vast myriad of rivers, watersheds, land-forms, vegetation and climatic zones [that] have worked together for thousands of years to shape and form Indigenous land and food systems. Consisting of a multitude of natural communities, Indigenous food systems include all of the land, air, water, soil and culturally important plant, animal, and fungi species that have sustained Indigenous peoples over thousands of years" (Levkoe et al., 2019, p 102).

Food sovereignty

Our approach to food sovereignty is guided by Via Campesina's Food Sovereignty Declaration at the 1996 World Food Summit -- an alternative vision to the neoliberalization that underscores

industrial food systems (Val et al., 2019). Further, our approach is informed by our work with Indigenous communities and decades of Indigenous scholarship that connects "food sovereignty" with land and lifeways. It is impossible to be 'sovereign' in regards to one's food if one lacks the sufficient land base to support a food system (Martens et al., 2016; King et al., 2019). Wittman et al. (2010) reference the 2007 international gathering in Mali, where "a vision of food sovereignty" was put forwarded and adopted "that sees food as being integral to local cultures, closes the gap between production and consumption, is based on local knowledge and seeks to democratize the food system." (Wittman et al., 2__:7). Canada's food systems movements embraced a food sovereignty approach when undertaking the People's Food Policy Project (PFPP). A comprehensive, crowd-sourced document involving communities from coast to coast to coast, the PFPP articulated food sovereignty-informed social and ecological contexts for policy makers (Levkoe et al., 2019).

Canada's food policy context

Since the onset of the 2020 COVID-19 pandemic, vulnerabilities in the "just-in-time food system" became visible to Canadians in a way it has long been visible to those who study food systems. The disruption to just-in-time food systems caused by the pandemic revealed untenable trade-offs the commodity production sector previously hid from the average consumer. Canadians were shocked by news coverage of farmers dumping milk, and produce rotting in fields as a result of labour and market disruption in early spring 2020. In what we call Canada today, there are roughly 15,000 major grocery chain outlets and over 60,000 charitable organizations that support people with food. That's four food charities providing food for Canadians who cannot afford to eat for every one major grocery chain store selling food (Nikkel et al., 2021). For Indigenous peoples, food insecurity is experienced at a rate that outpaces non-Indigenous peoples with one in five Indigenous peoples off-reserve experiencing food insecurity before the pandemic hit Canada (Levkoe et al., 2019, p. 106).

Coupled with ongoing impacts to global food systems from catastrophic fire, flooding, infestations, drought, and disease intensity and frequency connected to climate breakdown, (UNCTAD, 2013; Frison, 2016; Noiret, 2016) the notion that business as usual can continue has been dealt a significant blow. Canada's lack of a comprehensive food policy has been a focus of civil society organizations for more than two decades, as an effort to deal with Canada's policy in a "joined-up" manner.

Launching a nationwide campaign to "join up" policies to create sustaining food systems, the Peoples' Food Policy Project (2008–2001) was a Pan-Canadian initiative mobilizing over 3,500 people through a grassroots initiative resulting in a national food sovereignty platform (Levkoe & Sheedy, 2019). This civil society effort played a role in Canada adopting a National Food Policy in 2019, which seeks to assure that "All people in Canada are able to access a sufficient amount of safe, nutritious, and culturally diverse food" and that "Canada's food system is

resilient and innovative, sustains our environment and supports our economy" (Government of Canada, 2019 p. 5). The emphasis in the funding for the first five years is on "market-based" solutions over social and ecological dimensions of food systems. A little more than 10 percent of that budget—$15M—was allocated for Northern Communities Fund to combat challenges accessing healthy options in the north. Canada's 2019 Food Policy prioritizes "Strong Indigenous Food Systems" —providing a framework for Indigenous-led advocacy and articulation of what strong Indigenous food systems entail in relation to various First Nations, Inuit, and Métis governance approaches.

With these assumptions and understandings, we turn our attention to the content of our research, beginning with a short overview of the frameworks we applied in our analyses of the Anishnaabek and Nutrition North case studies, followed by a discussion of a normative shift from food commodity to food commons in the settler colonial context.

Frameworks: critical food guidance

Food guidance informs policy, priorities, and regulations that impact public health, ecological health, and the economy. Conventional food guidance in Canada in the latter half of the twentieth century defines key food groups by nutrient category corresponding to Canada's commodity groupings, from which dietary recommendations arise (Institute of Medicine, 2003). This approach encourages personal responsibility for health, like choosing fruit over candy bars, while avoiding collective responsibility—like asking why candy bars are sold at schools, who is selling those candies and what are the consequences of those candies to public health. Hidden within this conventional approach are assumptions about the role of individuals, communities, markets, and states in shaping our food choices.

Critical food guidance, on the other hand, provides a framework for dynamic, responsive approaches to food policy, rather than relying on fixed standards and current practice alone for guidance. Koç et al. (2017) maintain that being "critical" in social science has four components or pillars: 1) examining evidence; 2) unearthing values; 3) questioning power; and 4) encouraging social change. With this in mind, Critical food guidance is "a multifaceted approach to food buying, growing, and harvesting" aiming "to link food sustainably with the environment, the economy, society, culture and governance" noting that as "food interacts with all of these aspects of life, it is crucial to recognize and work to improve them" (Sumner & Desjardin, 2021 p. 4). This approach seeks to consider the collective decisions, policies, and institutions in determining food "choice."

In the conventional approach to food guidance, food remains a commodity. Food systems researchers have established that relying on industrial approaches to food systems is an inherently unsustainable approach (Frison, 2016; UNCTAD, 2013; Clapp & Isakson, 2018). For example, reducing the climate implications of food production systems is a central challenge for Canada. Food systems industrialization is a leading cause of climate change, with the global rise

in consumption of animal products over the past century considered a key driver (Lappe, 2021; Weis, 2013; Rockström et al., 2009). Livestock production alone accounts for some 18 percent of greenhouse gases (GHG) output, thus reducing the amount of meat and livestock products consumed globally would have an immediate and measurable impact on GHG release (UNCTAD, 2013; FAO, 2009; Weis, 2013). Canadians waste 11 million metric tonnes of food annually at a cost of $50 billion. (Government of Canada, 2019).

Since the early decades of the twenty first-century, Canada's approach to food guidance has improved starkly. Sumner and Desjardin (2021) point out the new Canada Food Guide follows recent health and environmental evidence, replacing the meat, grain, and dairy-heavy Food Pyramid with a plate filled mostly with plant-based foods. While a significant improvement in food guidance, this approach negates the cultural and geographically-dependent, meat-based diets of many First Nations peoples (Sumner & Desjardin, 2021) that a critical food guidance approach offers. Critical food guidance considers evidence from social scientists, community food security activists, farmers, nutritionists, consumers, Indigenous communities, and other perspectives. It is in this context that we explore normative shifts for articulating and creating a food system decoupled from commodity valuation and the socio-ecological crises to which the commodity food system is a major contributor (Weis, 2013; Holt-Gimenez, 2017; UNCTAD, 2013; Frison, 2016).

Frameworks: Food as a commons

Commons research—an emergent field that crosses disciplinary boundaries—builds on the late economist Elinor Ostrom's (1999) work, which positions commons as resources held by an identifiable community of interdependent users. These users exclude outsiders, while regulating use by members of the local community through institutional arrangements supported by collective action (Ostrom, 1999). Rivalry (competition for use) and excludability (prohibition of access) are the two features used by economists to define private/public/common goods. Neoclassical economists, including Ostrom, considered those properties as ontological (i.e., inherent to the goods); thus, they defined goods as being private, public, or commons. The consideration of food as inherently a private good by nature helped configure a for-profit market for food items, particularly during the second half of the twentieth century (Pettenati et al., 2019). However, considering goods as private, public or commons is arguably a social construct and not an ontological property of the goods themselves. With this understanding, it follows that societies can mould those goods according to prevalent values, existing technologies, current availability, and number of users.

In practice, commons can go beyond material goods to include territories, life support systems, governing arrangements, and immaterial knowledge upon which local communities rely to meet social, cultural, and economic needs and identities (Vivero Pol, 2017a). Commons can be characterized by their "commoning" practices and not by the properties of the goods (Dardot &

Laval, 2014). Indeed, collective governance and common property regimes have a long history of being efficient systems for managing shared natural resources. Despite centuries of liberalization, enclosure, and misappropriation, over twelve million hectares of commons lands still remain in Europe (European Commons Assembly, 2016).

The current industrial way of producing, transforming, transporting, and consuming food, with its multiple unaccounted externalities (e.g., ill health, reduced biodiversity, climate impact), is the major driver of planetary transformation (Rockström et al., 2016). It already pushes four planetary boundaries beyond their safety thresholds—climate change, loss of biosphere integrity, land-system change, and altered biogeochemical cycles (Steffen et al., 2015). A normative shift in how we value food may function as a precursor to both implement meaningful policies that institutionalize multifunctionality over uniformity, and legitimize multiple understandings of ecosystems other than as "natural capital."

The dominant economic discourse reduces food to a commodity based on rivalry and excludability, which conventional economists insist is best managed by markets, absolute proprietary rights, purchasing power, and privatization. Yet food has been produced and distributed through non-market mechanisms for millennia. Being traded is not the same as being commodified. All commodities are traded but not all traded goods are commodities. A commodity is a special kind of good or service associated with capitalist modes of production (Radin, 1996) where its exchangeability for some other thing is the only socially relevant dimension (Appadurai, 2005). Commodification is therefore the outcome of food systems under capitalism—an economy predicated on the fallacy of endless growth (Holt-Giménez, 2017).

Understanding food as a commons raises fundamental questions about the currently dominant mode of exchange, namely, food as a commodity. Indeed, Karatani (2014) contextualizes private property and market economies as just one of four typologies of modes of exchange, building on the tradition of Polanyi (1957) and others. The first typology Karatani offers is reciprocity of the gift, where groups were either pooling resources (e.g., nomadic peoples) or establishing gift exchange mechanisms (e.g., agrarian/ semi-agrarian peoples). The second is rule and protection, where first feudal lords and then the state exchanged protection and governance for goods produced by commoners. The third typology is commodity exchange, whereby money is traded for a given commodity according to market rules. The final typology Karatani characterizes is post-capitalist value regimes that can utilize technological opportunities to revive reciprocity practices enabled by web-based platforms and self-regulated local collective actions (Karatani, 2014). In that sense, commoning can be seen as a form of reciprocity that brings together people's labour to collectively own and govern a good or resource. This collective action can take various forms, including owning and governing food as a commons, which is a direct challenge to its increasingly commodified form (Martorell & Andrée, 2019). It would create alternative spaces for action and legitimize alternative forms of governance and distribution of food that are not exclusively based on commodification or commerce.

Historically, common lands were pivotal in underpinning food as a commons by developing small farming agriculture since the Middle Ages across what is known today as Europe.

Common lands are still important to produce seafood, and as water catchments, carbon sinks, or priority areas for conservation (Vivero Pol, 2017b). La Mela (2014) notes that Scandinavian countries recognize foraging rights for mushrooms and berries for every citizen, while in Portugal *Baldios* are legally recognized collective arrangements to govern certain forested areas in which foods are harvested. America, Brazil, Honduras, Venezuela, and Nicaragua formally recognize the communal rights of Indigenous communities to traditional territories, which again impacts Indigenous food systems (Robson & Lichtenstein, 2013). In Asia, over 10,000 villages in Vietnam collectively manage over two million hectares of traditional community forests (Marschke at al., 2012). Food as a commons also includes knowledge such as medicinal uses of blueberry leaves, or how to sustainably harvest, clean, and prepare a lake trout. In fact, knowledge held in food commons is often represented in language, culture, art, ceremony, and traditional practices related to food, cooking or cultural traditions.

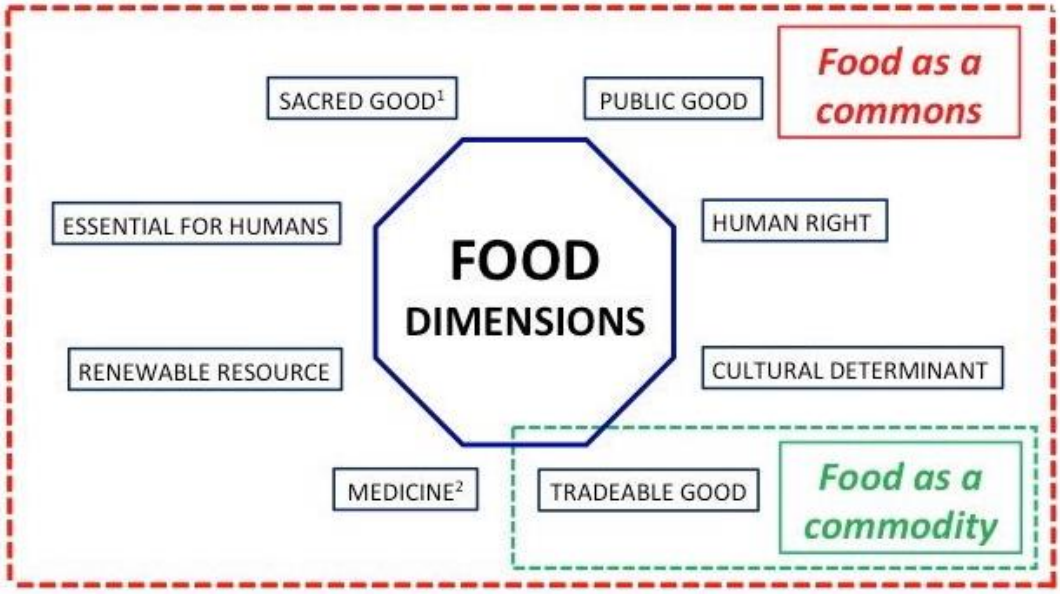
Food dimensions framework: The theoretical basis for food as a commons

The theoretical aspect of the normative shift towards food as a commons is based on the Food Dimensions Framework (Vivero Pol, 2017a). This framework began with six dimensions with which all food is endowed: an essential resource for humans, a human right, a cultural determinant, a natural resource, a public good, and a tradable good. Only the latter can be valued in monetary terms, but dominates over the others in the contemporary industrial food system. Since the framework was initially proposed, food as medicine (Tirado-von der Pahlen, 2019) and food as sacred (the authors) were added. Figure 1 illustrates these eight food dimensions, showing the commodity valuation contextualized within a commons governance structure, alongside non-economic values. When engaging this term, sacred, we add a cautionary note to warn against "new age" interpretations of this cultural concept. For Levkoe et al. (2017), whose research on food systems score cards recommends recognizing food as sacred, "this principle speaks to recognizing that food is a gift of life and should not be squandered. It asserts that food cannot be commodified" (p. 74).

The holistic valuation of all eight dimensions opens up consideration of food as a commons, opposing its current designation as a commodity whereby only the tradeable dimension is valued. It is this expanded dimensionality that can serve as a form of food guidance for those who are inspired to act, advocate for, and build awareness about systemic shifts toward food as commons. Respectful and relationship oriented participatory action research is required to conceptualize "sacred" meaningfully as it relates to the multidimensionality of food itself and the importance of food (plant- or animal-based) to both Indigenous and non-Indigenous food systems. An entry point for Western readers reflecting on food as sacred includes the recognition of that dimension in the Christian eucharist, namely the sacredness of Jesus Christ's blood and body represented by wine and bread, which would not be commodified as such. Another key example comes from the Dené belief in the sacredness of the caribou. Respect for the caribou when killed for food—also

ensuring that the caribou will then "allow" themselves to remain as a food source—includes sharing all parts of the animal with the entire community as a commons (Walsh, 2015).

Figure 1: Multidimensional food values: Eight food dimensions



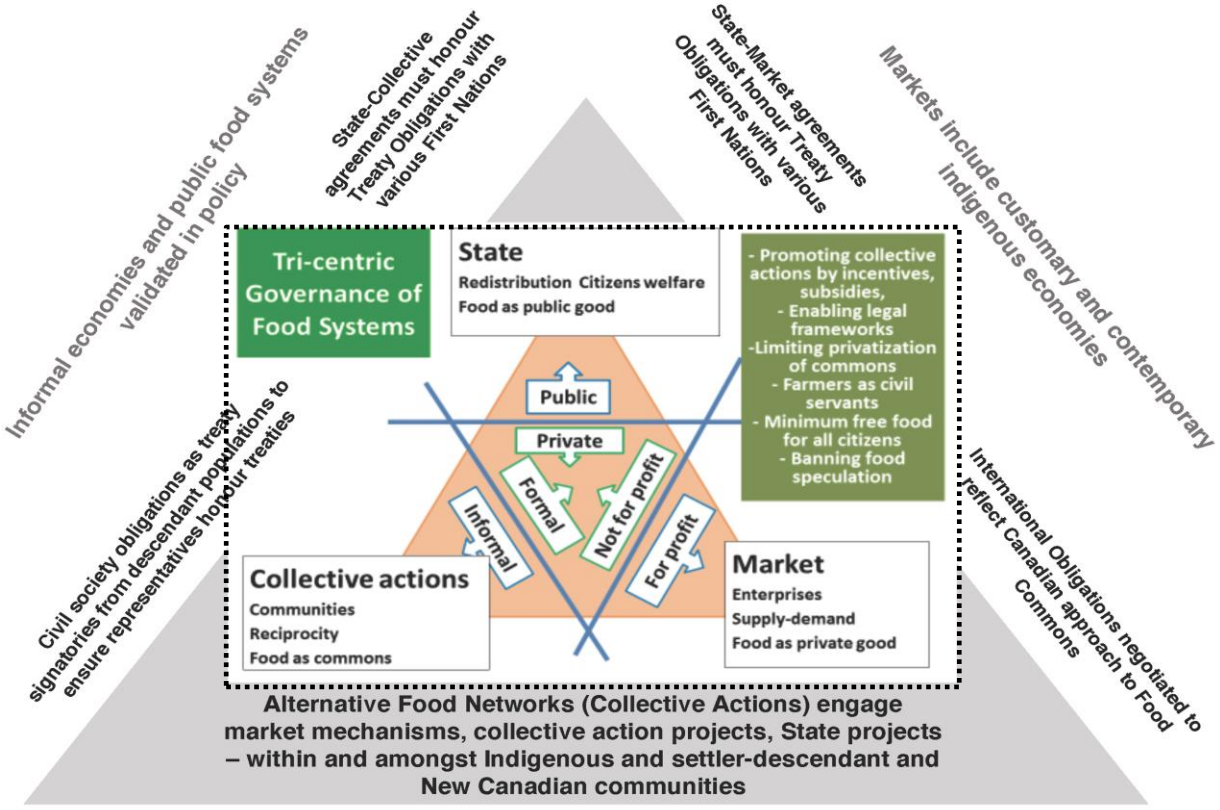
(Source: Vivero Pol, 2017a; Tirado-von der Pahlen, 2019)

The dominant narrative in the industrial food system focusses on monetized food values exclusively, and values that cannot be monetized become secondary or neglected. This explains, for example, why ecosystem services have to be valued in monetary terms, transforming into dollars the value of bee pollination. Yet, the multidimensional valuation of food is not a new narrative. It has been the "normal" narrative since human beings were organized in hunter-gatherer groups (Shepperson, 2017; Pettenati et al., 2019). Moreover, the value-based narrative of food as a commons can fit with current, and growing, alternatives to the dominant industrial food system, such as food democracy, food councils, community-supported agriculture, food justice, or food sovereignty. Radical reorientations of worldviews are necessary to bring about fundamental change in food systems, and Koç et al. (2017) identify "encouraging social change" as the fourth component of critical food guidance. Therefore, this paper proposes to reconceptualize food as a commons and to reorientate governance structures (e.g., policies, legal frameworks, financial incentives, prohibitions) to produce, transform and distribute food differently, so as to ensure healthy food is accessible to all, preserve food-producing resources and maintain human societies within Earth´s limits.

Transition pathways to food as a commons: The tricentric governance model

How can this narrative be practically operationalized? Vivero Pol (2017a) proposes a transition pathway towards food as a commons, adapted here to reflect the Canadian context (Figure 2). In this model, three realms of governance—the state, collective actions, and the market—form a collaboration. State actions are redistributive, policy enabling, and limiting on privatization. Collective actions refer to the various engagements of citizens as common property rights holders with their food system. Markets in this governance model lose the capacity to speculate on food (i.e., by banning speculation)—capacities that are relatively recent in the realm of finance but are creating new monopolies of capital that wield immense power over food systems (Clapp & Isakson, 2018).

Figure 2: Scheme of a tri-centric governance model: a settler colonial context



(Source: Vivero Pol, 2017a; the authors).

The original model exists within the dotted lined box. The authors have offered some considerations for Canada's settler colonial context. In this model, the state assumes a redistributive function and may work with both public employees and private enterprises to provide food as a public good to all citizens, fulfilling its role as guarantor of food as a human

right. The state also has a role in creating enabling legislation, redirecting subsidies to stimulate development in target areas (e.g., agroecology, small-scale farming) as well as regulating/preventing new privatizations of food-producing commons (e.g., land, water, seeds, traditional agricultural knowledge). Additionally, the state can lead the re-commoning of previously privatized/commodified resources, either material (e.g., fish stocks, hunting territories, water sources) or non-material (e.g., genetic resources, traditional medical practices, First Nation images). Preliminary modifications added to the source model to consider Indigenous food systems, existing Treaty obligations and the impact of food governance amongst settler populations on those Treaties, and a Nation to Nation (rather than subjugation of Indigenous peoples to Canadian governance) approach built into settler governments' new mechanisms for food governance. This tri-governance model presents one heuristic technique for possible approaches to implementation, yet we have examples of both customary and contemporary food commons in Canada from which we can also gain insights for a food system that moves beyond commercial values.

Food as a commons in Canada: Customary and contemporary systems

Commons are still poorly understood in Canada where the dominant economic view reflects the fact that private property rights are the basis of the legal system. The primacy of absolute private property today renders notions of common property an antiquated, pre-industrial form of governance. Yet examples of commons in daily Canadian life abound, including libraries, open-source software, municipal squares, and parks, recipes, and schools—resources shared by citizens and collectively managed in some manner for their benefit. Commons are predominantly expressed as collective proprietary regimes, but can also include collective governance mechanisms or peer-to-peer production of any given good. This broadened expression allows food commons to find commonalities with aspects of various Aboriginal peoples' food traditions, governance structures, and agro-ecological practices rooted in well-informed customary traditions, such as the Potlatch system of the Pacific Northwestern Indigenous peoples, and the Moose Hunt gifting system of the Anishnaabek (LeBlanc, 2014).

An investigation into customary and contemporary food commons in Canada is rooted in the context of Canada's relationships with Indigenous Nations in historical times and nowadays. The Canadian context is complicated by murky legal foundations for nationhood and a Treaty-making legacy from the British Empire (McFarlane & Schabus, 2017). Indigenous peoples entered into Treaty-making processes with the British Crown, which explains why there are numbered Treaties covering different physical territories. Canada did not have its own Constitution until 1982, and as a successor state to the British Crown, Canada has a duty to implement the various Treaties as originally negotiated in good faith (Makokis, 2013; McIvor, 2021), and to continue to engage in Treaty making with Indigenous Nations in unceded territories as a prerequisite for the Crown's subjects to access Indigenous lands (Venne, 2017).

Friendship Treaties signed by the British Crown and Indigenous peoples cannot be understood simply as surrender of land for purchase, and actually the Indigenous people still retain certain rights and entitlements over the territories governed by the treaties. These were built on the recognition of inherent rights of the original inhabitants and were meant to provide benefits in exchange for access to Indigenous territories (Makokis, 2013). Two of the case studies in this paper involve First Nations with whom the British Crown entered into treaties and whom maintain Aboriginal title, rights, and treaty rights.

Through colonization, the diets of Aboriginal peoples in Canada have undergone a significant transition from local foods to processed foods (Pelto & Pelto, 1983), facilitated by various factors including physical estrangement from the land, practices, and knowledge (Vecsey, 1987), assimilative pressures to change existing social, economic and food systems (Mihesuah, 2003), and contamination of the natural environments that support local food systems (Rosenberg et al., 1997; Willows, 2005).

The current food systems of northern Aboriginal peoples are characterized by a mixed diet of harvested food from the land and imported food sold in stores, posing unique considerations for understanding food security and health (Galloway, 2017). Food insecurity is rampant, with dietary disease such as diabetes and various inflammatory conditions at epidemic levels on reserves the result of poor access to both "health" options at stores and disruption of traditional harvesting and cultivation economies (DeSchutter, 2013). However, a resurgence in traditional food systems among Indigenous peoples heralds a return to healthier diets and establishes a set of commonalities for understanding food as a commons.

Traditional food systems in Northern Ontario

Food production by farming, hunting and gathering, fishing, and trapping was the basis of traditional food systems for millennia (Kuhnlein et al., 2001; Willows, 2005). A variety of forest and freshwater foods—including fish, deer, caribou, moose, rabbit, bear, beaver, partridge, goose, cattail roots, berries, seeds, rose hips, edible flowers, and teas—are the foundation of a traditional diet, one based on seasonal and regional availability of these and other edible plants and animals (Ontario Nature, 2014). The contemporary importance of traditional food goes beyond nutrition as Aboriginal peoples see it, as food is an important indicator of cultural expression and has great sociological meaning (Kuhnlein et al., 2001; Willows, 2005). Many Indigenous peoples view food and medicines as one and the same. Traditional foods—also called country foods by the Anishnaabek (LeBlanc, 2014)—are key drivers in the reduction and mitigation of diet-related non-communicable diseases experienced in some communities as epidemics, including diabetes, cardiovascular disease, and obesity. This food-as-medicine dimension has recently been proposed to further enrich the food commons framework (Tirado-von der Pahlen, 2019).

Quantitative valuations of the forest and freshwater food contributions in northern Ontario are sparse, although in the Ojibway community of Webequie, local fish contributed approximately half a pound of meat per person per day (Hopper & Power. 1991), and for the Omushkego Cree, local meats contributed a monetary value of $7.8 million, equal to one-third of their annual economy (Berkes et al., 1994). The perception held among Aboriginal people that their traditional forest and fresh water foods hold high health values has been well documented (LeBlanc, 2014; Gittelsohn et al., 1996; McGregor, 2013). Many Indigenous peoples also believe that the restoration of traditional subsistence foods and practices is essential to community vitality (Conti, 2006; Diabo, 2018). For them, the concept of health reflects a state of connectedness with spirit, culture, community, land, family and within the individual self (Ray, 2017). These realities must inform critical food guidance when developing policies that impact Indigenous peoples.

Case studies of Indigenous food commons

This section presents three case studies that help to explain Indigenous food commons. The first two cases present aspects of Indigenous food commons, while the third is a counter-case that highlights the problems associated with valuing food as a commodity, rather than valuing food as a commons.

TEK Elders Group: belonging to, using, and stewarding the commons

The TEK Elders Group case study is informed by a series of interviews and public appearances with three Anishnaabek Elders from the Robinson Huron Treaty territories—Ray Owl, Willie Pine, and Art Petahtegoose—and Sue Chiblow in her volunteer role as the TEK Elders Group coordinator. This case study is informed by interviews, discussions, and speeches recorded during public events, including: public protests held in October 2016 (Ottawa), May 2017 and April 2018 (Toronto); meetings in June 2017 and August 2018 with TEK Elders Group; an open-ended interview with Ray Owl and Sue Chiblow in November 2018 at the Parliament of World Religions; and reporting by Dorothy Schrieber of AnishnabekNews.ca between 2015 and 2018.

Anishnaabek territories are located above and around the Great Lakes, spanning three provinces and six states. The Anishnaabek are the second largest Indigenous cultural and language group in North America. The Traditional Ecological Knowledge (TEK) Elders Group of the North Shore of Lake Huron was formed in 2014 to end aerial herbicide use in the Robinson Huron Treaty territories. At the TEK Elders Group meeting with RHW on August 3, 2021, lawyer and friend of the TEK Elders group Stephen O'Neill reminded attendees of the winter of 2017 Chiefs Resolution initiated by TEK Elders Group founders Ray Owl and Willie Pine calling for a Moratorium on Spraying. In that unpublished document, the majority of Band

Councils acknowledged the TEK Elders' leadership on environmental governance within the 1850 Robinson-Huron Treaty Territory (TEK Elders, 2021).

The Elders are holders of Indigenous scientific knowledge, which focusses on place-based ecological relationships. Anishnaabek clans are connected to specific animals or totems. The totem system weaves two concepts, *enawendiwin* (strands connecting all parts of creation) and *waawiyeyaag* (interwoven systems of circularity) together to articulate the interconnected ways in which circles of Anishnaabek relationality operate. These strands come together to form a law known as *nindinawemaganidog* (all of my relations), commanding Anishnaabek to consider the web of life (Sinclair, 2013). As woodland peoples, Anishnaabek are dependent socially, economically, spiritually, and culturally on the health of the forest, including the health of the wildlife, plants, water, and the soil. The Elders speak of Treaty rights recognized and affirmed in section 35(1) of the Constitution Act, 1982, which acknowledge the Anishnaabek of the territories as the caretakers of the lands and waters: "These were given to us by the Creator so that we may continue to live as Anishnaabek people for generations to come. We have never relinquished these sacred responsibilities" (Pine, 2018).

Conservation of ecological values in western science is "point-focussed," aimed at surveying land to exploit resources, according to Art Petahtegoose, former Chief and a TEK Group Elder from White Fish Lake First Nation (Petahtegoose, 2018). Environmental assessments include statistical data and cultural relevancy on specific "values" or points of cultural significance such as nests of a particular bird, or traditional trap lines. This point-focussed approach objectifies lifeforms, obscuring Anishnaabek presence in their own home. In contrast to this, as Petahtegoose illustrated during a meeting with the forestry company EACOM, "when we put the Anishnaabek name on a water body, we say there is a life there, an ecology that has to remain intact" (Petahtegoose, 2018). Anishnaabek food systems invoke responsibility towards both previous generations' efforts and towards future generations' needs, including non-humans.

In that sense, the stewardship of natural resources is intergenerational. Anishnaabek knowledge includes institutions such as the clan system, which identifies kin groups with non-human family members to maintain ecosystem integrity and encodes understanding of socio-ecological sustainability. "Users" of the food commons include all living beings within the ecosystem, not only the human ones. Thus, one can see how the Anishnaabek do not hold an individual property consideration on food-producing natural resources, all of them endowed with non-economic attributes and spiritual values that evidently escape from economic valuations in monetary terms.

TEK Elders have been pursuing legal arguments that are supported by an active court case regarding the Annuities clause in the Robinson Huron Treaty. Since December 2018, courts have upheld the Anishnaabek Nations' interpretations of the Treaty, which according to Giima Dean Sayers (Batchewana FN), includes the argument that Anishnaabek never ceded jurisdiction over land and water stewardship (Petahtegoose, 2018; Jones, 2018; Sayers, 2021). Food economies are connected to the land for the TEK Elders, and decisions that have impacted forest health and river systems have dramatically reduced the presence of deer, berries, fish, clams, medicines, and

other cultural dietary staples. The process of taking only enough and leaving all that can be left for others and for future generations is a food way that arises from the Seven Grandmother/ Grandfather Teachings, or Seven Sacred Teachings (Chiblow, 2020), which act as guidance for living a good life (Sayers, 2021; Borrows, 2019; Pine, 2018).

Aroland Youth Blueberry Initiative: A commons approach based on cultural worldviews

The Aroland Youth Blueberry Initiative case study is a result of participatory action research undertaken by co-author Joseph LeBlanc in 2014 with community members/ researchers Mark Bell and Sheldon Atlookan to describe the impacts of Ontario's natural resource management regime on the accessibility and availability of forest and freshwater foods by the Aroland First Nation members. Rather than engage community members as 'participants' or 'key informants,' a participatory action research methodology and Indigenous research framework were employed to integrate Indigenous knowledge systems (LeBlanc, 2014; Martens et al., 2016). The Aroland Youth Blueberry Initiative was created in the summer of 2008 by five key actors as a result of a larger community-university relationship in which community members generated their research priorities and questions in collaboration with Lakehead university partners. The research group then undertook actions in four focus areas, one of which was non-timber forest product marketing. Key participants included community members, as well as Aroland First Nation staff and leadership along with staff, graduate students, and faculty members associated with Lakehead University's Food Security Research Network.

As an example of critical food guidance, this case study explores the relationship between food-as-commons leanings of Indigenous food systems and the food-as-commodity approach of the dominant industrial food economy. The community of Aroland First Nation is located in the boreal forest region of northern Ontario. The people are the descendants of signatories to Treaty #9—known today as the Nishnawbe Aski Nation (NAN). Reserve lands encompass 19,599 hectares and extend northwards from Highway 643 to land along the western and northern shores of Esnagami Lake—a territory overlapping two-thirds of the province in Ontario (Aroland First Nation, 2022, para. 4).

The Aroland Youth Blueberry Project is a community-driven initiative, with local knowledge and youth involvement as main pillars. Launched in 2006 with $1500 in self-funding by community members and countless volunteer hours, the venture became profitable and financially viable within a few months. This initiative aims to build leadership and social entrepreneurial skills in the community's youth, seeking actions that are emergent from the Indigenous worldview. Undertaken through collective actions, this initiative relies on members sharing opportunities with each other, respecting the labour and knowledge of pickers through engagement as equals and demonstrating reciprocity to buyers and workers through fair prices.

The initiative seeks to provide real-world experiential learning opportunities. Members learn and teach practical skills that support life in their places, and they seek advice from local knowledge holders. On the day prior to setting up the buying depot, "contracts" are issued to interested community members who will pick the berries. After being bought from pickers, the berries are marketed throughout the region of northern Ontario. As the Anishnaabek participants in the research say, "we honour our responsibility to all creation by not taking more than we need" (LeBlanc, 2014, p. 139). As a result of this cultural teaching, the members grapple with whether it is acceptable to harvest food for sale and if harvesting food beyond personal consumption constitutes taking more than one's needs.

In the past, the community generated livelihood through participation in the traditional economy. Community and family bonds were stronger and reciprocal, and goals such as profit maximisation and individual competition were not found. The Elders emphasized conviviality in their speeches, citing the role of families in primary production and interactions with each other and neighbouring communities to trade food, goods, fuel, and knowledge. These exchanges were steeped in respect, reciprocity, and the expectation of mutual responsibility (LeBlanc, 2014). This behaviour has been amply documented by many researchers, with two classical works explaining in detail this type of moral economy that was prevalent in human history for centuries: the gift economy and reciprocity (Mauss, 1970; Sahlins, 1972).

This project is an example of a mixed-economy approach, blending customary food commons (the blueberries growing on collectively held lands and harvested collectively) and contemporary food commons (the business linked to outside markets in Thunder Bay). In 2012, the project brought an estimated $30,000 to $50,000 into the local economy. The greatest barrier to success for this initiative is transportation. A return trip between Aroland and markets in Thunder Bay is more than eight hours (Stolz et al., 2017). Another issue the youth face is the aerial spraying of glyphosate-based herbicides across the northern Great Lakes' forests and the impact on blueberry production (Pine, 2018).

Informing the cooperative actions with an Indigenous worldview has created unique opportunities on shared lands and reinvigorated food commons approaches within the territories. And while poverty, disenfranchisement, and interpersonal health issues—legacies of Canada's defaulting on treaty obligations and the residential school system—continue to impact Aroland youth, this project sets a template for further opportunities to develop commons regimes in the territories, with similar benefits.

Nutrition North Canada: a counter-case that obscures non-Western valuations

The Nutrition North Canada case study is informed by research resulting from a comprehensive five-year program review to provide critical guidance (Galloway, 2017), including an example of how valuing food strictly as a commodity is impacting the effectiveness of Indigenous food security policies. As part of his work with the Sudbury Social Policy Council, co-author Joseph

LeBlanc engaged in project development aimed to improve the health and self-sufficiency of aboriginal communities. Within this initiative, the government was prepared to give training money to one farmer who would make a business to sell to ten people, but not to ten people whose aim was food self-sufficiency and reciprocity. The market-oriented policy priorities were clear in this example. Similar problems were encountered when LeBlanc attempted to develop a program to involve First Nations engaged in the moose hunt in the Nutrition North Canada program, learning first-hand the impacts of imposing "food-as-commodity" solutions. The Nutrition North Canada case study illustrates the disconnect between the top-down imposition of a commoditized food narrative (an ideological construct) and the resistance to this narrative by those who are supposed to benefit from the governmental support at the bottom.

Launched in April 2011, Nutrition North Canada (NNC) is a governmental program designed to address food insecurity in northern communities that works with, and subsidises, registered retailers and suppliers across the North (Galloway, 2017). NNC airships food items, from industrial food system staples like fruits, vegetables, milk products, eggs, and meat to "country food" staples like Arctic char, caribou, and muskox. Indigenous and Northern Affairs Canada is charged with monitoring compliance to ensure savings are passed on to northern residents. The program budget is $60 million a year with new funds in 2016 to extend the number of communities participating, and adding a healthy eating education component for an additional $4.7 million annually. In 2020, an additional $25M for Nutrition North as a COVID-19 response (Cooper, 2020).

Galloway (2017) enumerated several shortcomings in the program prior to 2016 that allowed retailers to maximize profits at the expense of community wellbeing. The review revealed gaps in food cost reporting and lack of price caps and other means of ensuring program targets were met. These gaps may have been avoided if multidimensional food values were taken into account (see Figure 1). Galloway's research confirmed the critique held within Indigenous communities that NNC made no provision for country food to be sourced locally using traditional methods of harvesting and processing foods. In that sense, NNC approached the food security issues faced by northern Aboriginal peoples through market mechanisms exclusively, using a food-as-commodity worldview. This lack of recognition of the multidimensionality of food misses the opportunity to enhance community self-sufficiency through customary food economies. The program as of 2021 continues its focus on direct subsidy for a handful of retailers to lower prices and make southern-sourced foods more affordable to First Nations and Inuit communities in what is broadly termed "the North". As the program under the Liberal government still fails to cover costs of hunting or fishing gear, bottled water, or locally provided culturally appropriate foods, the program is even more problematic for Inuit peoples (Cooper, 2020) whose colonization has only occurred in the last seventy years (Qaqqaq, 2021).

This market-based model works on the basis of unaccountable competition between a few corporations that are heavily subsidized with public funds. Additionally, subsidy claims are outsourced for processing, leaving the Northern (and local) public little oversight of the claims process. Moreover, retail consolidation in the North affects what is available where, and with the

NNC failing to set price caps on subsidized items, the main beneficiaries of the program seem to be the retailers. Lack of competition is so profound that one entity, the North West Company, received half of all NNC subsidies, amounting to $32.8 million in 2014 to 2015 alone (Galloway, 2017). Galloway's report and the ongoing attestations of those relying on NNC arrive at similar conclusions: engendering sustainable improvements to food security in target communities requires consideration of alternative forms of policy. And yet, those alternative policies cannot be expected to produce a new result while food continues to be framed as a pure commodity to be distributed through market mechanisms.

The Liberal government that defeated Harper in 2015 has to date maintained NNC's market-based solutions approach, which only further entrenches an exploitative market relationship that corporations have in Northern communities (Cooper, 2020). In this way, the current Canada Food Policy approach reinforces the existing food system as if it were the only food system. When taken in context of other policy areas, Canada's material and legislative support for development projects that undermine land-based food self-sufficiency and Indigenous food systems appears to conflict with the Canada Food Policy (Government of Canada, 2019) goal of strengthening Indigenous food systems. During the COVID pandemic in 2020, Trudeau's Liberal government invested an additional $25 Million to address rising food crises amongst Indigenous communities as the pandemic continued. Rather than supporting mutual aid networks on the ground, the bulk of these additional funds are being applied to Nutrition North and other direct-to-business subsidies.

Critical food guidance in the case of Nutrition North draws attention to a gap in fiduciary duty to guarantee that food has the same legal protection and universal access as health or education for Treaty people and for those identifying as Canadian within the Canadian state. First Nations, Métis, and Inuit communities experiencing food insecurity find in Nutrition North a subsidy for further imposition of settler colonial food systems. At the same time, federal programs and Ministries oversee destruction of the very habitat the Indigenous food systems rely upon for providing adequate and appropriate levels of food security. Advocates argue there are missed opportunities to have invested pandemic-related funds to address rising food costs with programs that could support and enhance food sovereignty rather than further dependence on grocers.

Discussion

The theoretical and practical framework of food as a commons offers critical food guidance for addressing multiple socio-ecological issues connected with food systems. Following this guidance framework involves adopting the eight food dimensions (Figure 1) as a policy lens at various levels of decision making—from household choices through to the emerging National Food Policy in Canada (Government of Canada, 2019). In relation to the case studies, we see that Anishnaabek food systems share values identified in the multidimensional food values

framework (Figure 1). Scholars have echoed the participants in these case studies in describing food as sacred (Levkoe et al., 2019; Bartlett et al., 2012; Pine, 2018), while food as a cultural determinant is expressed in the gifting relationship some Indigenous societies have with food (Setee & Shukla, 2020). Within Figure 1, we find Food as cultural determinant, as seen in the role food gift-giving plays in governance and the role various staple foods play in various societies. We find Food as a renewable resource, as sacred, and as medicine—all dimensions of food value expressed by Indigenous peoples across all three case studies. (Setee & Shukla, 2020).

Adopting a tri-governance model (Figure 2) in resource development initiatives that prioritizes industrial food systems over short-term resource exploitation could strengthen Canada's Nation-to-Nation relationships with Indigenous peoples. These shifts could correct the disconnection of treaty rights from food security in policy—a connection that is evident in the pre-Confederation treaties (Venne, 2017; Sayers, 2021; Borrows, 2019). Application of these two frameworks within the "Canadian" context must consider implications for honouring agreements (or lack of such agreements) between the Government of Canada as the body accepting the Crown's duties, and the various First Nations, Inuit, and Métis Nations with whom the Crown has sought to Treaty.

For the Aroland Cooperative and the TEK Elders case studies in particular, applying what Melanie Goodchild calls Anishnaabek Gikendaasowin (knowledge) and governance could expand the utility of the model in both rural and urban food systems contexts by introducing an expanded conceptualization of "what" is being governed and for "whom" (McGregor, 2013; Whyte, 2021). Further inquiry designed and led by Indigenous researchers and knowledge keepers is informing the development of this tri-governance model (Figure 2) in the context of the 1850 Robinson Huron Treaty (Robinson Huron Waawiindaamaagewin 2020). The authors of this work are cautiously optimistic about the potential for Canada's National Food Policy legislation to create points of access for the normative shift the authors identify in this paper, particularly through the Food Policy Advisory, for approaching food as a commons within the context of Indigenous-Canada relations.

Indigenous food systems advocates are not waiting on theoretical consensus before engaging in the spaces of nuance where industrial and Indigenous food systems currently intersect. For example, Thunder Bay Area Food Strategy (TBAFS) began to develop partnerships with regional Indigenous leaders and organizations to better understand the barriers and opportunities to engagement with the TBAFS and their efforts to affect food policy and improve food security in the region. Their efforts led to the establishment of the Indigenous Food Circle, "which aimed to reduce Indigenous food insecurity, increase food self-determination, and establish meaningful relationships with the settler population through food." (Levkoe et al., 2019, p. 102). Such relationship building particularly in Urban contexts predates discussion on models for normative shifts away from food as commodity towards visions of what scholars refer to as "food commons" that are centred in Indigenous governance systems (DeSchutter, 2013; McGregor, 2013).

Application of frameworks—like the Tri-governance framework (Figure 2)—derived without direct input from language speakers and the community members themselves is a recolonizing approach (Levkoe et al, 2019; Tuck & Wang, 2012). Further work on Food as Commons concepts within the Canadian Food Policy context will benefit from centering resurgent Indigenous governance priorities and reflect the worldviews of the specific Indigenous peoples in a given region. Adding an Indigenous governance layer to this framework must be based on community input and reflect the unique Nation-to-Nation relationships of that region. Without such care, application of the tri-governance framework as a tool for shifting to food commons re-colonizes Indigenous food systems (Tuck & Wang, 2012; Reo et al., 2017)

Some would assume Canada's adoption of United Nations Declaration on the Rights of Indigenous Peoples (known as UNDRIP) legislation in 2021 would have a positive impact on food policy. Proponents of UNDRIP advance the legislation as a method to respect Indigenous food sovereignty (APTN, 2021). Arguments against development projects, for example, as infringements on Anishnaabe treaty "common" rights to "hunt and fish" can be made relative to UNDRIP. Critics of Canada's UNDRIP note that there exists plenty of current legislation and legal obligations in place now that Canada fails to implement. Chief Dean Sayers rejects UNDRIP as an inferior deal for Robinson Huron treaty Territory signatories (Sayers, 2021). A lack of will to implement the already existing legislation rather than a lack of instruments is at play, with those expressing concerns about UNDRIP concerned the Canadian interpretation of UNDRIP will undermine specific Treaty agreements in place today (McIvor, 2020; APTN, 2021) and further municipalize Indigenous governance in the process (Schmidt 2022). As the act currently stands, there is no provision for either land back, nor for respecting veto on projects that interfere with Indigenous food systems. To date, Canada has treated the diverse Indigenous traditions around food "with contempt by settler governments and viewed as detrimental to colonial notions of progress and development" (Levkoe et al., 2019, p. 103). As with all areas of policy, there is no "Pan-Indigenous" solution.

With resource exploitation sanctioned by the government through contracts with private enterprises—as the TEK Elders' face in the Robinson Huron Treaty territory with forestry giant AECOM—the capacity to maintain or rebuild traditional food economies is weakened. The complex agro-forestry ecosystems that supported cranberries, blueberries, Deer, fish, and moose populations long replaced with forestry monocultures (Pine, 2018.; Stolz et al., 2017). Revisiting commodification not only of foods but of forests and water resources is crucial to address Indigenous peoples' food security issues (Desmarais & Wittman, 2014). Forest commodification treats vast swaths of ecosystems as timber, and after cutting, commercially valuable species are prioritized turning once biodiverse food forests into sterile plantations. Yet forests and waters provide traditional foods, including migratory species like Caribou and fish, and thus vast territories of intact wilderness are required to ensure a functioning food system. Adjusting Canada's environmental assessment processes at the provincial and the federal level to prioritize this broad view of food production would ensure resource developers would have to consider impacts on Indigenous food systems before development permits could be issued. In this

situation, application of UNDRIP could provide further legal support within Canada's court system to uphold food rights connected to land management.

Collaboration with and leadership from Indigenous peoples is necessary to push past the commodity view and embrace the commons in an appropriate context to the lands, languages and Peoples who inhabit them that "Canadians" occupy. Before such work can meaningfully emerge, Canada's food movements must first "critically interrogate oppressive structures that include capitalism, patriarchy, white supremacy, and colonialism" (Levkoe et al., 2019, p. 103). Health units and other municipal institutions have made significant improvements in food guidance over the past few decades, as evidenced with the adoption of the Food Pyramid discussed earlier in this paper. Yet this approach uncritically applied negates "the cultural and geographically-dependent, meat-based diets of many First Nations peoples" (Sumner & Desjardin, 2019, p. 3).

A commodified view of life is wrapped up in these oppressive structures, and thus to adopt a commons framework is not a separate exercise from dismantling these. It is arguable in a settler-colonial context that preliminary work to shift these norms is required before any meaningful engagement with food as a commons can take place. A normative shift in how we value food, away from pure economic considerations and towards legitimizing non-economic dimensions, develops the capacity to act politically based on these other considerations. Food advocates could champion this shift everywhere—from food policy councils to regional health units. Food as a human right, an essential resource for survival, a public good, and a commons cannot just be judged by its economic returns, investment costs, or economic feasibility, but by the social impact it can have on our common wealth, reducing inequalities, securing essential rights, and safeguarding natural resources for current and future generations

Public policies that incorporate this normative shift can be instruments for transformation if Canada chooses to recognize the multidimensionality of food and its consideration as a commons, public good and human right in the preamble of the new National Food Policy (ad hoc Committee, 2017). Examples across Canada suggest this normative shift is already under way in the form of various municipal food charters in communities like Fredericton and Kamloops to the provincial food charter adopted in Manitoba, all of which view food in multidimensional ways. Such normative shifts become vehicles for the third component or pillar of critical guidance identified by Koç et al. (2017), questioning power.

Food as a commons offers policy levers for mitigating and adapting to climate breakdown. The benefit for public good can be modeled by utilizing public properties, such as schools, libraries, municipal lands, and government buildings to initiate or amplify food commons projects. Public institutions can promote freely-accessible urban gardens, purchase and offer organic food in schools, hospitals, army headquarters and the like, include green rooftops as compulsory architectural measures, ban ultra-processed foods on their premises, or employ farmers as public servants just to name a few. Another concrete policy action triggered by a normative shift: food provided to our children in school lunch programs should be locally-sourced, seasonal, organic, and freshly prepared. In this way, the fourth pillar Koç et al. (2017) identify—encouraging social change—is built. There are political implications for this counter-

hegemonic approach to food systems, but they require a broader valuation of food and a new social construct to view, produce and distribute food differently. Without a solid sense of this altered landscape—a narrative to guide change—policy explorations for reframing food as a commons will be less effective in articulating pathways for transformation.

Nutrition North, today a failed policy, could implement the multidimensional food values model (Figure 1) to help address fundamental flaws embedded in a food-as-commodity approach. Research across the North suggests that developing co-management agencies and nutritional monitoring, promoting knowledge exchange on how northern Aboriginal peoples adapt to consumption of alternative species, and fostering regional sharing networks (which are currently excluded from the NNC Program) together preserve nutritional integrity and cultural survival (Armitage et al., 2011; Berkes & Jolly, 2002; LeBlanc, 2014; Rosol et al., 2016). Yellowhead Institute's 2019 Red Paper states "as food sources dwindle and face extinction due to the long-term impacts of industrial infrastructure, extraction, habitat loss, and human settlement" it is crucial for Canadians to recognize "Traditional foods are not just about sustenance, but medicine and education as well" (King et al., 2019, pp. 32–33). Canadian governments' ongoing focus on "food security" as an exercise of simply supplying ample caloric count to avoid crisis while allowing destruction of the ecosystems that provide stable food systems and lead to food sovereignty.

Conclusion

Successful transition to food as a commons depends in part on ensuring this interconnectedness is captured in the way we collectively define goals and institutions for governing that transition. Applied to sustainable and fair food systems, the way we define food (values, purpose, meanings) shapes the governing mechanisms we can devise to better produce, distribute, and consume that food. The framework proposed here offers critical food guidance to embed the multidimensionality of food and its consideration as a commons in alternative collective decision making structures that clearly would require different institutions, policies, subsidies, and legal frameworks. This normative shift offers not only guiding principles relevant for regional and urban food policy councils within the Canadian state, but also critical food guidance for government policies that shape First Nations food initiatives. Programs aimed to improve Indigenous peoples' food security that adopt a multidimensional food values framework give space for program delivery to recognize non-economic and relational values (Pascual et al., 2017), which are largely obscured in Western policies and subsidies. Moreover, by accepting non-economic dimensions of food as well as economic ones, food commons programmes can promote localized traditional or country food networks, and fulfill the duty to protect wild spaces in which Aboriginal peoples engage in the food forestry, harvesting and hunting economies as protected in various Treaties—the Robinson Huron Treaty in particular.

Further research is required to make the case for the Canadian government to adopt a declaration of the multidimensionality of food, such that food is no longer considered as a mere commodity but a commons, public good and human right that shall be guaranteed to every Canadian citizen. Adopting this framework could relieve state, private sector, and civil society from engaging in the conceptual and economic gymnastics involved with trying to commodify other non-economic food dimensions. Such work requires building momentum to engage what Koç et al. (2017) call the third component or pillar of critical food guidance—questioning power.

Deeper attention must also be paid to shifts in policy frameworks provincially, territorially, and federally—from self-governance negotiations to "moderate livelihood fisheries" to adopting UNDRIP. These policy changes are reshaping treaty relationships and further entrenching an approach to "Nation-to-Nation" that reduces Anishnaabek Nations and other Indigenous communities with inherent title and rights to what Russ Diabo calls fourth level municipal-style governments (Diabo, 2018). Food movements must become involved in and uplift Land Back movements to ensure these assimilative efforts do not undermine hundreds of years of resistance and the regenerative efforts of Indigenous communities seeking to recover their own food ways and lands and waters for the sake of their health and that of their grand children's grand children.

The ongoing COVID-19 pandemic has raised the alarm on hunger, as well as the opportunity for mutual aid. Pursuing partnerships for land to be used in food commons schemes could be a mutual aid "tool for localizing the food system and decolonizing land at the same time." (Bowness, 2015, pp. 24–25). The desire to create commons on public lands has both the potential for both decolonization (Grey & Patel, 2014) as well as the extension of existing conflicts. Employing participatory action research, as the one used here with Anishnaabek communities, as a methodology for food commoning scholarship offers another tool for building local capacity to transform food systems and decolonizing relationships. In that sense, valuing and governing food as a commons is itself critical food guidance. Food commons offers a set of principles that inform practice, reconnecting food to its multiple dimensions that are not valued when food is simply a commodity.

References

ad hoc Working Group on Food Policy Governance. (2017, September). *Building a healthy, just and sustainable food system: Food Secure Canada's recommendations for a food policy for Canada* (Policy Brief). Food Secure Canada, Ottawa. https://foodsecurecanada.org/sites/foodsecurecanada.org/files/attached_files/policy_brief_a_food_policy_for_canada_sept_28_by_fsc.pdf

Appadurai, A. (2005). Commodities and the politics of value. In M. M. Ertman & J. C. Williams (Eds.), *Rethinking commodification: Cases and readings in law and culture*, (pp. 34-45). New York University Press.

APTN. (2021, May 20). *Diabo and Saganash debate UNDRIP bill: A bad law or a small step forward?* [Video] APTN News. https://www.aptnnews.ca/nation-to-nation/diabo-and-saganash-debate-undrip-bill-a-bad-law-or-a-small-step-forward/

Aroland First Nation. (2022). *About us*. https://www.arolandfi rstnation.ca/about-us.html

Armitage, D., Berkes, F., Dale, A., Kocho-Schellenberg, E., & Patton E. (2011). Co-management and the co-production of knowledge: Learning to adapt in Canada's Arctic. *Global Environmental Change, 21*(3), 995-1004. https://doi.org/10.1016/j.gloenvcha.2011.04.006

Bartlett, C., Marshall, M., & Marshall, A. (2012). Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences, 2*(4), 331-340. https://doi.org/10.1007/s13412-012-0086-8

Berkes, F., George, P. J., Preston, R. J., Hughes, A., Turner, J., & Cummins, B. D. (1994). Wildlife harvesting and sustainable regional Native economy in the Hudson and James Bay Lowland, Ontario. *Arctic, 47*(4), 350–360.

Berkes, F., & Jolly, D. (2002). Adapting to climate change: Social-ecological resilience in a Canadian western Arctic community. *Conservation Ecology, 5*(2), 18.

Borrows, J. (2019). *Law's Indigenous ethics*. University of Toronto Press.

Bowness, E. (2015). *Urban Green Commons as Food Sovereignty (and vice versa).* IASC 1st Thematic Conference on the Urban Commons [Conference Paper], Bologna.

Chiblow, S. (2020). An Indigenous Research Methodology That Employs Anishinaabek Elders, Language Speakers and Women's Knowledge for Sustainable Water Governance. *Water (Basel), 12*(3058), 3058. doi:10.3390/w12113058

Clapp, J., & Isakson, S. R. (2018). Risky returns: The implications of financialization in the food system. *Development and Change, 49*(2), 437-460. https://doi.org/10.1111/dech.12376

Conti, K. M. (2006). Diabetes prevention in Indian country: Developing nutrition models to tell the story of food-system change. *Journal of Transcultural Nursing, 17*(3), 234-245. https://doi.org/10.1177%2F1043659606288380

Cooper, M. (2020, November 18). Nutrition North Canada riddled with problems. *The Manitoban*, *13*, 12.

Dardot, P., & Laval, C. (2014). *Commun, essai sur la révolution au XXI° siècle*. Le Découverte.

DeSchutter, O. (2013). *Mandate of the Special Rapporteur on the Right to Food: Preliminary Remarks on the Visit to Canada from 6 to 16 May 2012.* United Nations: Office of the United Nations High Commissioner for Human Rights. https://foodsecurecanada.org/sites/foodsecurecanada.org/files/20120321_SRRTF_Aide-m%C3%A9moire_Canada.pdf

Desmarais, A. A., & Wittman, H. (2014). Farmers, foodies, and First Nations: getting to food sovereignty in Canada. *Journal of Peasant Studies, 41*(6), 1153-1173. https://doi.org/10.1080/03066150.2013.876623

Diabo, R. (2018). *Our right of Indigenous self-determination is being hijacked by Trudeau: Recognition and implementation of rights framework.* First Nations Strategic Policy Counsel, *16*(1-3). https://epe.lac-bac.gc.ca/100/201/300/first_nations_strategic_bulletin/2018/v16n01-03.pdf

European Commons Assembly. (2016). *Food as a common good: The food commons in Europe*. [Conference Presentation], European Commons Assembly, 2016 May 18-20, Villarceaux, France, https://blog.p2pfoundation.net/food-commons-europe/2017/02/01

Food and Agriculture Organization of the United Nations (FAO). (2009). *The State of Food and Agriculture 2009: Livestock in the Balance.* https://www.fao.org/3/i0680e/i0680e.pdf

Frison, E. A. (2016). *From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems*. International Panel of Experts on Sustainable Food systems. http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf

Galloway, T. (2017). Canada's northern food subsidy nutrition north Canada: A comprehensive program evaluation. *International Journal of Circumpolar Health, 76*(1), 1279451. https://doi.org/10.1080/22423982.2017.1279451

Gittelsohn, J., Harris, S.B., Burris, K.L., Kakegamic, L., Landman, L.T., Sharma, A., Wolever, T. M., Logan, A., Barnie, A., & Zinman, B. (1996). Use of ethnographic methods for applied research on diabetes among the Ojibway-Cree in northern Ontario. *Health Education and Behavior*, *23*(3), 365-382. https://doi.org/ 10.1177/109019819602300307.

Gliessman, S. R. (2015). *Agroecology: The ecology of sustainable food systems* (3rd ed.). CRC Press.

Government of Canada. (2019). *Food policy for Canada: Everyone at the table*. https://www.canada.ca/content/dam/aafc-aac/documents/20190614-en.pdf

Grey, S., & Patel, R. (2015). Food sovereignty as decolonization: some contributions from Indigenous movements to food system and development politics. *Agriculture and Human Values, 32*(3), 431-444. https://doi.org/10.1007/s10460-014-9548-9

Hammelman, C., Levkoe, C., Agyeman, J., Kharod, S., Moragues Faus, A., Munoz, E., Olivia, J., & Wilson, A. (2020). Integrated food systems governance: Scaling equitable and transformative food initiatives through scholar-activist engagement. *Journal of Agriculture, Food Systems, and Community Development, 9*(2), 71-86. https://doi.org/10.5304/jafscd.2020.092.003

Holt-Giménez, E. (2017). *A foodie's guide to capitalism: Understanding the political economy of what we eat*. Monthly Review Press.

Hopper, M., & Power, G. (1991). The fisheries of an Ojibwa community in northern Ontario. *Arctic*, *44*(4), 267–274.

Institute of Medicine (U.S). (2003). *Dietary reference intakes: Applications in dietary planning*. National Academies Press. https://pubmed.ncbi.nlm.nih.gov/25057648/

Jones, S. (2018). *Treaty annuity right: The treaty right no one wanted to talk about. Until now.* Frontier Centre for Public Policy Backgrounder. No. 124. https://fcpp.org/wp-content/uploads/FB124_TreatyAnnuityRight_SP2018_F2.pdf

Karatani, K. (2014). *The structure of world history From modes of production to modes of exchange.* Duke University Press.

King, H., Pasternak, S., & Yesno, R. (2019, October) *Land Back: A Yellowhead Institute Red Paper.* Yellowhead Institute. https://redpaper.yellowheadinstitute.org/wp-content/uploads/2019/10/red-paper-report-final.pdf

Koç, M., Bancerz, M. & Speakman, K. (2017). The interdisciplinary field of food studies. In M. Koç, J. Sumner & A. Winson (Eds.), *Critical perspectives in food studies* (pp. 3-18). Oxford University Press.

Kuhnlein, H. V., Receveur, O., & Chan, H. M. (2001). Traditional Food Systems Research with Canadian Indigenous Peoples. *International Journal of Circumpolar Health, 60*(2), 112-122.

La Mela, M. (2014). Property rights in conflict: wild berry picking and the Nordic tradition of allemansrätt. *Scandinavian Economic History Review, 62*(3), 266-289. https://doi.org/10.1080/03585522.2013.876928

Lappe, F. M. (2021). *Diet for a Small Planet (Revised and updated).* Random House Publishing Group.

LeBlanc, J. W. (2014). Natural Resource Management and Indigenous Food Systems in Northern Ontario [Unpublished doctoral dissertation]. Lakehead University.

Levkoe, C. Z., Lefebvre, R., & Blay-Palmer, A. (2017). *Food counts: A pan-Canadian sustainable food systems report card.* Centre for Sustainable Food Systems, Wilfred Laurier University. https://fledgeresearch.files.wordpress.com/2017/05/food-counts-pan-canadian-sustainable-food-systems-report-card2.pdf

Levkoe, C. Z., & Sheedy, A. (2019). A people-centred approach to food policy making: Lessons from Canada's People's Food Policy project. *Journal of Hunger & Environmental Nutrition, 14*(3), 318-338. https://doi.org/10.1080/19320248.2017.1407724

Levkoe, C., Ray, L., & Mclaughlin, J. (2019). The Indigenous food circle: Reconciliation and resurgence through food in northwestern Ontario. *Journal of Agriculture, Food Systems, and Community Development, 9*(B), 1-14. https://doi.org/10.5304/jafscd.2019.09B.008

Makokis, J. (2013). *Indigenous sovereignty, jurisdiction, and international law.* Unpublished manuscript. https://www.bluequills.ca/wp-content/uploads/2013/11/Indigenous-Sovereignty-Jurisdiction-and-International-Law.pdf

Marschke, M., Armitage, D., Le Van, A., Tuyen, T., & Mallee, H. (2012). Do collective property rights make sense? Insights from central Vietnam. *International Journal of the Commons, 6*(1), 1–27. DOI: http://doi.org/10.18352/ijc.334

Martens, T., Cidro, J., Hart, M. A., & MacLachlan, S. (2016). Understanding Indigenous food sovereignty through an Indigenous research paradigm. *Journal of Indigenous Social Development, 5*(1), 18-37.

Martorell, H., & Andrée, P. (2019). The commoning of food governance in Canada. In J. L. Vivero Pol, H. Mattei, & O. DeSchutter (Eds.), *Routledge Handbook of Food as a Commons*. Routledge.

Mauss, M. (1970). *Mauss, marcel. The gift: Forms and functions of exchange in archaic societies.* Cohen & West.

McFarlane, P., & Schabus, N. (Eds.). (2017). *Whose land is it anyways? A manual for decolonization.* Federation of Post-Secondary Educators of BC.

McGregor, D. (2013). Toward a paradigm of indigenous collaboration for geographic research in Canadian environmental and resource management. In J. T. Johnson, & S. C. Larsen (Eds.), *A deeper sense of place: stories and journeys of indigenous-academic collaboration.* Oregon State University Press.

McIvor, B. (2021). *Standoff*. Nightwood Editions. https://ebookcentral.proquest.com/lib/[SITE_ID]/detail.action?docID=6862859

McIvor, B. (2020, December 16). *A cold rain falls*. First Peoples Law. https://www.firstpeopleslaw.com/public-education/blog/a-cold-rain-falls-canadas-proposed-undrip-legislation#:~:text=After%20years%20of%20false%20starts,by%20introducing%20Bill%20C%2D15.

Mihesuah, D. A. (2003). *Indigenous American women*. University of Nebraska Press.

Morrison, D. (2020). Reflections and realities: Expressions of food sovereignty in the fourth world. In P. Settee & S. Shukla (Eds.), *Indigenous food systems: Concepts, cases, and conversations* (pp. 17-38.). Canadian Scholars.

Nikkel, L., Summerhill, V., Gooch, M., Bucknell, D., & LaPlain, D. (2021). *Second harvest and value chain management international release new research: Canada's invisible food network.* Ontario, Canada: Second Harvest and Value Chain Management International.

Noiret, B. (2016). Food security in a changing climate: A plea for ambitious action and inclusive development. *Development, 59*(3-4), 237-242. https://doi.org/10.1057/s41301-017-0092-

Ontario Nature. (2014). *Beyond the fields: The value of forest and freshwater foods in Northern Ontario*. https://ontarionature.org/wp-content/uploads/2017/10/beyond_the_fields.pdf

Ostrom, E. (1999). Coping with tragedies of the commons. *Annual Review of Political Science, 2*(1), 493-535. https://doi.org/10.1146/annurev.polisci.2.1.493

Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., Watson, R. T., Dessane, E. B., Islar, M., Kelemen, E., Maris, V., Quaas, M., Subramanian, S. M., Wittmer, H., Adlan, A., Ahn, S., Al-Hafedh, Y. S., Amankwah, E., Asah, S. T., …Yagi, N. (2017). Valuing nature's contributions to people: the IPBES approach. *Current Opinion in Environmental Sustainability*, *26–27*, 7-16. https://doi.org/10.1016/j.cosust.2016.12.006

Pelto, G., & Pelto, P. (1983). Diet and delocalization: Dietary changes since 1750. *The Journal of Interdisciplinary History, 14*, 507-28. doi:10.2307/203719

Petahtegoose, A. (2018). *Anishnaabek knowledge and governance of Robinson Huron Territory* [Presentation]. TEK Elders Group meeting with EACOM, 2018 September 17, Little Current, ON.

Pettenati, G., Toldo, A., & Ferrando, T. (2019). The food systems as commons. In J. L. Vivero Pol, T. Ferrando, O. DeSchutter & H. Mattei (Eds.), *The Routledge handbook of food as commons* (pp. 42-56). Routledge.

Pine, W. (2018). *Wake Up! TEK Elders call for moratorium on Arial Spraying* [Keynote Address]. Earth Day, 2018 April 18, Nathan Phillips Square, Toronto, ON.

Polanyi, K. (1957). *The great transformation: The political and economic origins of our time*. Beacon Press.

Qaqqaq, M. (2021). *Colonization and genocide* [Speech]. March for Truth and Justice, 2021 July 31. Parliament Hill, Ottawa.

Radin, M. J. (1996). *Contested commodities*. Harvard University Press.

Ray, L. (2017). Exploring well-being in an Anishnaabe community: A qualitative study [Published Master's Thesis, Lakehead University]. DSpace. https://knowledgecommons.lakeheadu.ca/handle/2453/3882

Reo, N. J., Whyte, K. P., McGregor, D., Smith, M. A., & Jenkins, J. (2017). Seven principles for Indigenous partnerships in landscape-scale governance. *AlterNative: An International Journal of Indigenous Peoples, 13*(2), 58-68.

Robinson Huron Waawiindaamaagewin. (2020). *Robinson Huron Waawindemaagewin presents a transcript of the original treaty document (1850) with Anishnaabemowin translation and interpretation.* Robinson Huron Waawiindaamaagewin. Cutler, ON.

Robson, J., & Lichtenstein, G. (2013). Special issue on Latin American commons: An introduction. *Journal of Latin American Geography, 12*, 1-5. http://dx.doi.org/10.1353/lag.2013.0004

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S. I., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., de Wit, C. A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U., …Foley, J. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society, 14*(2), 32.

Rockström, J., Williams, J., Daily, G., Noble, A., Matthews, N., Gordon, L., Wetterstrand, H., DeClerck, F., Shah, M., Steduto, P., de Fraiture, C., Hatibu, N., Unver, O., Bird, J., Sibanda, L., & Smith, J. (2016). Sustainable intensification of agriculture for human prosperity and global sustainability. *Ambio, 46*(1), 4–17. https://doi.org/10.1007/s13280-016-0793-6

Rosenberg, D. M., Berkes, F., Bodaly, R. A., Hecky, R. E., Kelly, C. A., & Rudd, J. W. (1997). Large-scale impacts of hydroelectric development. *Environmental Reviews, 5*(1), 27-54. https://www.doi.org/10.1139/a97-001

Rosol, R., Powell-Hellyer, S., & Chan, H. M. (2016). Impacts of decline harvest of country food on nutrient intake among Inuit in Arctic Canada: Impact of climate change and possible adaptation plan. *International Journal of Circumpolar Health, 75*, 31127. https://dx.doi.org/10.3402%2Fijch.v75.31127

Sahlins, M. (1972). *Stone Age Economics.* Aldine-Atherton.

Sayers, D. (2021). *Anishnaabe governance and the Robinson Huron Treaty* [Speech] 151st anniversary of the signing of the Robinson Huron Treaty Conference, 2021 September 9, Sault Ste. Marie, ON.

Schmidt, J. J. (2022). Dispossession by municipalization: Property, pipelines, and divisions of power in settler colonial Canada. *Environment and Planning C: Politics and Space.* 23996544211065654. https://www.doi.org/10.1177/23996544211065654

Settee, P., & Shukla, S. (2020). *Indigenous food systems: concepts, cases, and conversations*. Canadian Scholars.

Shepperson, M. (2017, October 11). How ancient lentils reveal the origins of social inequality. *The Guardian.* https://www.theguardian.com/science/2017/oct/11/lentils-origins-of-social-inequality

Shiva, V. (2016). *The violence of the Green Revolution*. The University Press of Kentucky.

Sinclair, N. J. (2013). Nindoodemag bagijiganan: a history of Anishinaabeg narrative. University of British Columbia [Published doctoral dissertation, University of British Columbia]. Open collections: UBC theses and dissertations. https://open.library.ubc.ca/media/stream/pdf/24/1.0071931/1

Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). Planetary Boundaries: Guiding human development on a changing planet. *Science, 347*(6223), 736. https://doi.org/10.1126/science.1259855

Stolz, W., Levkoe, C. Z., & Nelson, C. (2017). *Blueberry foraging as a social economy in northern Ontario: A case study of Aroland First Nation, Arthur Shupe Wild Foods, Nipigon Blueberry Blast Festival, and the Algoma Highlands Wild Blueberry Farm and Winery*. Centre for Sustainable Food Systems. http://nourishingontario.ca/wp-content/uploads/2017/10/Foraging-Case-Study-FINAL1.pdf

Sumner, J. & Desjardins, E. (2021). Critical food literacy. In M. Koc, J. Sumner, & A. Winson (eds.), *Critical Perspectives in Food Studies* (third edition). Toronto: Oxford University Press.

TEK Elders Group. (2021). *Resolution acknowledging TEK Elders as the body for Anishnaabe environmental governance Councils in the Robinson Huron Treaty Territory*. 2021, August 3, Robinson Huron Waawiindaamaagewin and TEK Elders Conference. Whitefish River First Nation. [Unpublished document]

Tirado-von der Pahlen, C. (2019). Climate change, the food commons and human health. In J. L. Vivero-Pol, F. Tomaso, O. DeSchutter, & U. Mattei. *Routledge handbook of food as a commons: Expanding approaches* (pp. 356-370). Routledge.

Tuck, E., & Wang, K. W. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, Education & Society, 1*(1), 1-40.

United Nations Conference on Trade and Development (UNCTAD). (2013). *Trade and Environment Review: Wake up before it is too late: Make agriculture truly sustainable now*

for food security in a changing climate. https://unctad.org/system/files/official-document/ditcted2012d3_en.pdf

Val, V., Rosset, P. M., Zamora Lomelí, C., Giraldo, O. F., & Rocheleau, D. (2019). Agroecology and La Via Campesina I. The symbolic and material construction of agroecology through the dispositive of "peasant-to-peasant" processes. *Agroecology and Sustainable Food Systems, 43*(7-8), 872-894. https://doi.org/10.1080/21683565.2019.1600099

Vecsey, C. (1987). Grassy Narrows Reserve: Mercury pollution, social disruption, and natural resources: A question of autonomy. *American Indian Quarterly, 11*(4), 287-314. https://www.doi.org/10.2307/1184289

Venne, S. (2017). Crown title: A legal lie. In R. McFarlane & N. Schabus (Eds.), *Whose land is it anyway? A manual for decolonization.* Federation of Post-Secondary Educators of BC. https://fpse.ca/sites/default/files/news_files/Decolonization%20Handbook.pdf

Vivero Pol, J. L. (2017a). Food as commons or commodity? Exploring the links between normative valuations and agency in food transition. *Sustainability, 9*(3), 442. https://doi.org/10.3390/su9030442

Vivero Pol, J. L. (2017b). *The food commons in Europe. P2P* Foundation Blog. https://blog.p2pfoundation.net/food-commons-europe/2017/02/01

Walsh, D. S. (2015). The nature of food: Indigenous Dene foodways and ontologies in the era of climate change. *Religion and Food, Scripta Instituti Donneriani Aboensis*, *26*, 225-249

Weis, T. (2013). *The ecological hoofprint: the global burden of industrial livestock*. Zed Books.

Whyte, K. (2021, May). *Pathways to inclusive and sustainable recoveries* [Keynote Presentation]. Canadian Society of Ecological Economics 13th Biennial Conference. https://cansee.ca/wp-content/uploads/2021/05/2021-CANSEE-Program.pdf

Wittman, H., Desmarais, A. A., & Wiebe, N., & (2010). *Food sovereignty: reconnecting food, nature & community*. Fernwood Publishing.

Willows, N. D. (2005). Determinants of healthy eating in Aboriginal Peoples in Canada: The current state of knowledge and research gaps. *Canadian Journal of Public Health, 25*(3), S32-41.

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Review Article

Critical reflections on "humane" meat and plant-based meat "alternatives"

Wesley Tourangeau[a*] and Caitlin Michelle Scott[b]

[a] University of Lincoln
[b] George Brown College

Abstract

Canadians are among the top meat consumers in the world. Greenhouse gas emissions, biodiversity loss, animal stress and suffering, worker health and safety, and cardiovascular disease are among the multitude of issues tied to high rates of meat consumption. In response to rising concern and debate over the impacts of meat consumption, two sectors of the food industry have grown considerably in recent years: "humane" meat and plant-based meat "alternatives." The former attempts to ameliorate harms via more ethical farming practices, and the latter utilizes technological innovations to replace animal-based meat. In this article, we outline a dilemma wherein pathways to more sustainable and ethical food systems may require both an acceptance of these solutions and a push beyond them towards more complex, systemic changes. We conclude with a brief discussion of critical food guidance, and the potential roles of law, regulation, and policy in driving incremental but important changes.

Keywords: Animal welfare; critical food guidance; food systems; sustainability; ultra-processed

*Corresponding author: wtourangeau@lincoln.ac.uk
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Introduction

Over the past fifty years, levels of global meat consumption have increased tremendously (particularly poultry, pig, and cattle), and Canada ranks among the top fifteen countries with an average of 93.68 kilograms of meat consumed per person per year, or the equivalent to approximately 257 grams (nine ounces) per day (FAO, 2019). This trend is a significant cause for concern, as meat-based diets demand more energy, land, and water resources than diets based on plants (Pimentel & Pimentel, 2003; Tilman & Clark, 2014). However, there is considerable debate about the exact impacts and the variation between production methods (Garnett et al., 2017; Katz-Rosene, 2020). Scholars also note that human health risks are a key concern; for example, high levels of meat consumption have been associated with several different types of cancer and increased incidence of cardiovascular disease (Willett et al., 2019). Added to environmental and human health risks is a range of other issues tied to global meat production, including harms to animals and dangerous working conditions in slaughterhouses due to high production speeds (Fitzgerald, 2015; Weis, 2007, 2013a). As it is now well established that industrial meat production has significant social and environmental consequences for our planet (see Lappé, 2010; Weis, 2013b), a variety of responses have emerged. Here we focus on two trends: "humane" meat and plant-based meat "alternatives."

In July 2018, fast-food restaurant chain A&W Canada began selling the 100% plant-based "Beyond Meat" burger. Greeted with more popularity than expected, the new veggie burger sold out in a matter of weeks (Skerrit, 2018). Beyond Meat is a plant-based meat alternative company with a mission to help address the health, environmental, and animal welfare issues associated with livestock production and consumption; their products are sold in grocery stores, restaurants, and other venues (Beyond Meat, 2022). The rising popularity of plant-based meat substitutes, which are often (but not always) ultra-processed[1], has grown in tandem with an increased focus on sustainability and animal welfare conditions in the meat industry. For example, McDonald's Canada has made commitments regarding the sourcing of "certified sustainable" beef, adopting standards to improve soil health and minimize animal stress (The Canadian Press, 2018). These two trends warrant further critical reflection regarding their potential benefits and drawbacks.

"Humane" meat is meant to offer consumers an ethical meat option (via privately managed animal treatment standards that exceed industry minimums), and plant-based meat "alternatives" are meant to circumvent the problems associated with meat production by introducing a replacement to industrial livestock agriculture and the consumption of animals.

[1] Ultra-processed foods are industrial formulations of ingredients, made to be ready-to-eat, highly palatable, marketable, and profitable. These products often displace other food groups in the diet (Moubarac, 2017). Examples include: sweet or savoury packaged snacks; chocolate, confectionery; mass-produced breads/buns; margarines and spreads; ready to heat products including pre-prepared pies, pasta, and pizza dishes; poultry/fish "nuggets"/"sticks", sausages, burgers, hot dogs, and powdered/packaged "instant" soups, noodles, and desserts.

While radically different in their solutions for addressing mounting concerns over the sustainability and ethicality of meat consumption, both "humane" meat and plant-based meat "alternatives" are enveloped and entangled in similar complexities and contradictions related to the functioning of the broader food system. That is, neither sector is capable of offering solutions that fundamentally and effectively address the systemic causes of unsustainable, unhealthy, and unethical food production and consumption practices. Our exploration reviews ongoing debates over these two trends, focusing on the overall complexity of finding sustainable and ethical solutions to the overproduction and overconsumption of meat. The notion of *critical food guidance* reveals a pathway for beginning—and renewing—critical, reflective dialogues over food.

Critical food guidance, as introduced by Sumner and Desjardins (2022, this issue), is about opening the idea of food guidance beyond the narrow framings of the status quo and using inclusive and operationalizable principles and actions capable of generating transformations to a more sustainable food system. Meat consumption represents a critical point of debate within this overall project of critical food guidance. High rates of meat consumption, made possible by industrial-scale production, are a global concern, and "humane" meat and plant-based meat "alternatives" provide important sites for exposing the complexity and intractability of this problem. In this article, we present a broad review of literature on the global impacts of meat consumption and the rise of these two sectors of the food industry. Our aim is to add further nuance to current understandings of meat and its complex connections to sustainability, health, and ethics. We end our analysis by detailing three examples wherein law, regulation, and policy related to meat and plant-based meat "alternatives" can play an important role in shifting actions, ideas, and dialogues for both consumers and producers alike and can open up conversation for more critical food guidance.

Critical reflections on "humane" meat

The advent of "humane" meat certification programs

The rise in global meat consumption is made possible by the industrialization of animal farming, including the introduction of factory farming using "Concentrated Animal Feeding Operations" (CAFOs), which maximize production while compromising animal welfare (Cassuto, 2014; Weis, 2007) and the physical and psychological distress of workers in modern slaughterhouses (Fitzgerald, 2010; Genoways, 2014). In 2020, the COVID-19 pandemic projected a global spotlight onto the working conditions and risks associated with slaughterhouses and meat packing plants (Middleton et al., 2020). Overall, however, animal welfare concerns are largely "out-of-sight, out-of-mind" for the average consumer. The production and consumption of animal products have been normalized within modern industrial societies (Fitzgerald, 2015;

Fitzgerald & Taylor, 2014). This normalization process renders animal welfare concerns inconsequential, hidden, and ignored. Growing recognition of—and debate over—the rights and welfare of animals has led to important reactions, not only from consumers and food/environmental activists, but the meat industry as well.

In response to growing concerns regarding the conditions of CAFOs and slaughterhouses, and the harms experienced by animals destined to become food, a more sustainable and humane form of animal agriculture has become a priority for the industry (and for some consumers). Temple Grandin, perhaps the most famous proponent of improving animal welfare conditions in livestock agriculture, has pioneered many methods for low stress handling, restraint, stunning, and transport of farm animals (Grandin, 2008; Grandin & Johnson, 2009). Attention has also been paid to the potential impacts that animal stress can have on the quality of meat (Ferguson & Warner, 2008; Lebret & Čandek-Potokar, 2021). The management and care of farm animals has become a scientific field of its own, focused on the development of animal welfare standards based on scientific research from fields such as animal and veterinary science, as well as animal behaviour, stress physiology, and veterinary epidemiology (Fraser et al., 2013). This science-based approach to animal welfare plays an important role in law, regulation, and policy.

In Canada, the nationally developed *Codes of Practice for the Care and Handling of Farm Animals* provides guidance on animal care requirements and recommended practices for livestock agriculture across the country. These are "science- and consensus-based" *Codes of Practice* developed by the National Farm Animal Care Council (NFACC), which include requirements based on federal and provincial regulations as well as recommended practices designed to improve animal welfare conditions (NFACC, 2022). Unique Codes are developed for different species using a seven-step process that involves industry representatives (via a Code Committee), scientists (via a Scientific Committee), and feedback from the public (NFACC, 2022). Overall, it is the voluntary aspects of these Codes, and their development with and by industry stakeholders, that Bradley and MacRae (2011) point to as a key challenge regarding the legitimacy (and uptake) of these welfare standards. Relatedly, while noting some positive elements to the NFACC's codes and processes, Sankoff (2019) raises criticism over the level of industry self-regulation and level of control over the narrative regarding farm animal welfare. For consumers not satisfied with the NFACC's codes, or Canada's broader regulatory standards, "humane" meat has emerged as an answer.

Put simply, "humane" meat can be understood as privately developed and managed quality assurance guarantees for animal treatment that exceed minimum industry standards. Currently, several third-party certification programs are operating in Canada for labelling meat that has been produced with some form of improved animal welfare considerations. These include Certified Humane Raised and Handled issued by Humane Farm Animal Care (2022), Certified Animal Welfare Approved issued by A Greener World (2022), and Animal Welfare Certified issued by Global Animal Partnership (2022)—all of which are U.S. based organizations. Additionally, the SPCA Certified program issued by the British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA) ran from 2002 to 2020 but has since shifted

to supporting these three international programs (BC SPCA, 2022). Furthermore, Organic Standards also include specific animal welfare considerations, for instance regarding shelter, animal stress, and stocking rates (Canadian Organic Growers, 2021). What remains unclear, however, is the extent to which these "humane" certifications surpass industry standards like the NFACC's *Codes of Practice*. Furthermore, it is also unclear whether further harm may result from the circulation of discourses regarding meat that is deemed "humane", and therefore freed from any moral self-regulation.

What does "humane" mean, and who gets to decide?

In December 2020, U.S. based non-profit Farm Forward released a report criticizing "humane" meat certifiers, labelling these schemes as a form of consumer deception and "humanewashing" due to the limited extent to which these programs implement improved animal welfare conditions (Decoriolis, 2020). Exemplifying this, a false advertising complaint was filed in 2016 by the not-for-profit legal defense fund Animal Justice. It argued that Safeway's use of the Certified Humane label, issued by Humane Farm Animal Care, used language and imagery regarding their chicken meat products which was deceptive and misleading (Animal Justice, 2016). Chickens were described as being provided "ample space" in "cage-free environments", but, in terms of actual standards, this meant "that producers may not exceed thirty kg/m^2, or approximately fifteen birds per square metre" (Animal Justice, 2016). Not only is it already standard practice to not cage broiler chickens (as opposed to egg laying hens), but Canadian standards call for a maximum of thirty-one kg/m^2, nearly equivalent to the improved standards for the certified "humane" meat (Animal Justice, 2016; NFACC, 2016). In addition to the consumer-side issue regarding the unclear meaning of "humane" labels, there have also been reactions from the wider meat industry regarding which animal welfare considerations count as "humane."

The Alberta beef industry provides an instructive example of producer-side debates over which farming practices are considered "humane." Alberta produces more beef than any other province, accounting for over two-fifths of the country's cattle in 2016, including 3.34 million beef cattle (Statistics Canada, 2017). Not only are the business interests of this sector supported by organizations like the Alberta Beef Producers who represent the province's 18,000 beef cattle producers (Alberta Beef Producers, 2022), but Alberta beef also boasts significant and dedicated public support (Blue, 2008). This context contributed to industry and consumer backlash against Vancouver-based restaurant chain Earls, who announced in April 2016 that they would source beef from the U.S. instead of Alberta because suppliers were unable to offer enough certified humane products to meet their demand (Rieger, 2016a). Several Canadian politicians joined the wave of criticism, including Brian Jean (then Opposition Leader of the Wildrose Party), Brad Wall (then Premier of Saskatchewan), and Jason Kenney (then Member of Parliament, Conservative Party of Canada), who took to Twitter to argue that Canadian beef is (already)

produced humanely (Postmedia News, 2016; The Canadian Press, 2016a,b). Amidst backlash and consumer boycotts, Earls issued an apology and reversed their decision to not source beef from Alberta (Rieger, 2016b; The Canadian Press, 2016a,b). So, while organizations like Animal Justice have demanded more from "humane" meat certifiers, meat industry actors defend the farm animal welfare standards already being used in Canadian agriculture. Beyond debates over what constitutes "humane," there are important connections being drawn between the "humane" meat industry and campaigns to lower or limit how much meat is consumed.

In 2016, Maple Leaf Foods—Canada's largest food processor (Maple Leaf Foods, 2022)—launched a brand called Greenfield Natural Meat Co. to provide ethically raised, sustainable meat options (Pedersen, 2017). In addition to promoting their products (mainly pork) as "humanely raised" (Greenfield Natural Meat Co., 2022), in 2017, Greenfield advocated for Meatless Mondays (Vasil, 2019), the global campaign to forgo eating meat for one day per week. Additionally, Maple Leaf Foods has become a major actor in the plant-based meat "alternatives" space (Vasil, 2019), which is explored further in the subsequent section. Such business ventures may be viewed, in part, as means to obtain moral legitimacy on topics of social and environmental concern (Fuchs, 2007). These are critical examples of meat industry actors seeking to capitalize on both the trend toward eating meat viewed as morally and ethically acceptable as well as the trend away from eating meat, or at least consuming it less often.

Some scholars have pointed to the danger of "humane" meat discourses (e.g., "happy meat") that aim to make people more comfortable with eating meat, and thereby work to perpetuate the exploitation and oppression of non-human animals (Cole, 2011; Francione & Garner, 2010). Mason and Singer (1980) take issue with meat certified as "humane" without a clear definition of what constitutes "humane" practices—for instance, should "humanely" raised chickens be granted access to the outdoors? Meat eaters seeking ethical options may face challenges attaining their consumption goals, as "humane" meats may not meet their expectations, and potentially misleading labels add further confusion (Rothgerber, 2015). Furthermore, options for "humane" meat add further complexity to food discourses that are unevenly experienced. For example, "humane" meat discourses have gendered implications wherein mothers are tasked with confronting the paradox of educating children on ethical choices while shielding them from the realities of animal slaughter (Cairns & Johnston, 2018). Overall, it remains unclear whether the advent of "humane" meat will make significant changes to the overall experiences and consumption patterns of meat eaters, as the distinction of "humane" meat on grocery shelves offers little opposition to conventional agriculture, instead offering a "premium" meat product to consumers, and a "unique selling proposition" for meat companies.

It is also unclear if "humane" meat consumers are typically part of the movement towards eating less meat. This is a key point, since some of the more humane methods of animal agriculture will require compromises in production yields, bringing attention to the feasibility of humane and sustainable livestock production in the global food system (Erb et al., 2009). Meatless Monday campaigns are complicit in complicating these ethical and environmental

discourses. As Morris (2018) outlines, Meatless Mondays (or, in the U.K., Meat Free Monday) help to depoliticize associated environmental and animal rights and welfarist movements; Meatless Mondays are depicted in the media as an easy and reasonable change that can benefit the environment and reduce animal lives lost. In his study on the neoliberal tendencies of Meatless Mondays, Ross Singer (2017) suggests these campaigns are more likely to get people to try meatless meals occasionally than to adopt substantive, long-term dietary changes towards completely plant-based diets or reduced meat consumption. This overall perpetuation of the status quo is reflected in environmental organizations more broadly, who tend to favour less-radical initiatives when promoting changes to consumer behaviour such as diet (Freeman, 2010). The advent of "humane" meat has triggered a discursive battleground over the morality of animal agriculture, and ambiguity and uncertainty over what "humane" means is further complicated by the parallel rise in meat "alternatives."

Critical reflections on plant-based meat "alternatives"

Plant-based meat alternatives: "Impossible" and "Beyond"

While the actors discussed above concentrate on creating a "better" meat industry, others are focused on replacing the consumption of traditional meat products with plant-based "alternatives." The plant-based foods industry has grown rapidly in recent years, with the launch of the Plant-Based Foods Association in March 2016 and several investors and food industry insiders pointing to growth potential in this sector (Collins, 2018; FAIRR, 2016; Food in Canada, 2018; Plant Based Foods Association, 2018). According to Euromonitor (as cited in Ng, 2020), as of 2020, the global meat substitute sector is worth $20.7 billion and is expected to grow to $23.2 billion by 2024. In Canada, between 2013 and 2017, global meat substitute launches nearly doubled, and the segment grew ninety percent in the five-year period preceding 2018 (Food in Canada, 2018). Grocery sales surged throughout 2020, with people forced to cook at home amid lockdowns. Plant-based meat performed particularly well, outpacing the growth of animal-based meat and having clear benefits in terms of supply chain stability (Gaan, 2020). The rise of the plant-based sector is associated with many of the same concerns as the "humane" and "sustainable" meat industries, but it has also been propelled forward by distinct concerns regarding the health value of a plant-based diet.

Ultra-processed meat alternatives are a major part of this growing sector. Some of the biggest names have been around for decades, including Tofurky, which originally launched in 1980 with the Turtle Island Food Company selling tempeh (Tofurky, 2018). In 1995, the company introduced its namesake item, Tofurky (Tofurky, 2018). Similarly, Yves Veggie Cuisine has been around for over twenty years (Yves Veggie Cuisine, 2018). In the past decade, there has been explosive growth in this sector, with the appearance of a wide variety of

companies making plant-based meat alternatives. These foods are considered meat alternatives mostly due to the high protein content provided by their soy, pea, or gluten base, as well as their attempt to mimic the appearance and taste of meat. Growth in the traditional meat alternatives category has also been paralleled by rapid growth in companies looking to replace other animal products, including plant-based egg and seafood replacements (Atlantic Natural Foods, 2018; Eat Just, 2021; Ocean Hugger Foods, 2018; The EVERY Company, n.d.).

Companies at the forefront of the alternatives market have recently become the target of acquisition by Big Food[2] companies and investors looking to diversify their portfolios (FAIRR, 2018). In 2017, Nestlé acquired Sweet Earth, a meat alternative maker, and the following year, Unilever acquired Dutch-based company the Vegetarian Butcher (Watson, 2017; Wood, 2018). Meanwhile, another Big Food giant, Danone, acquired milk alternatives behemoth WhiteWave (Danone, 2018). Maple Leaf Foods has worked to revamp its product portfolio, making a pledge to become the "most sustainable protein company in the world" (Maple Leaf Foods, 2018a); to achieve this goal, the company has acquired a number of "sustainable meat" companies as well as some meat-alternatives companies, including Lightlife and Field Roast (Maple Leaf Foods, 2017a; 2017b). These acquisitions are being celebrated as a way to scale up the consumption of plant-based products, while at the same time several vegan organizations have pointed to the acquisition of new plant-based brands as hypocrisy from a company that also sells animal products (Ettinger, 2017).

Simultaneously, the same fast-food companies that are pushing for "humane" and "sustainable" animal-based products are providing options to non-meat eaters and to those curious to experiment with plant-based diets. As mentioned, A&W Canada has received some of the widest attention in this respect with the launch of their Beyond Meat Burger in the summer of 2018, which quickly sold out across the country (A&W Food Services of Canada, 2018). Beyond Meat has gone on to see rollouts in other restaurants and has become a staple in the vegetarian options from meal kit delivery company Hello Fresh (Beyond Meat, 2019). The Beyond Meat Burger's popularity further demonstrates a growing desire for meat alternatives. Selling features for the Beyond Meat Burger include claims that it "looks, cooks, and tastes like a fresh beef burger" while still having twenty grams of protein, with no genetically modified organisms (GMOs), soy, or gluten (Beyond Meat, 2018). The company's website features a side-by-side comparison of the burger's nutritional information with a traditional beef patty, showing how the plant-based burger outperforms the competition across a range of nutritional markers (Beyond Meat, 2018).

The biggest competitor to Beyond Meat is the Impossible Burger, a plant-based burger that promises to deliver a meat-like texture and flavour (Impossible Foods, 2018a). The Impossible Burger uses genetic engineering to deliver this flavour, which comes from heme (iron); DNA from the root of soy plants is inserted into genetically engineered yeast which is

[2] Big Food organizations refer to transnational food and beverage manufacturing corporations that control more and more of the production and distribution of ultra-processed food products globally (Monteiro & Cannon, 2012).

then fermented to produce higher concentrations of heme than would be possible otherwise (Impossible Foods, 2018a). These innovations, and others like them, can be expected to gain momentum as the plant-based meat alternative sector continues to grow; however, questions remain about their ability to transform eating habits and truly tackle the status quo of meat consumption.

Ultra-processed and corporate controlled foods—a panacea or a smoke screen?

Given the outstanding questions associated with "humane" and "sustainable" meat, it would seem to be a given that the meat alternatives sector is positioned to make more robust changes to our eating habits. However, the growing use of ultra-processed meat alternatives brings its own host of challenges. Ultra-processed foods have become the focus of a growing body of literature. Numerous authors have demonstrated that diets high in these foods continue to spread globally, while being associated with negative outcomes for dietary quality across a number of metrics (Fardet, 2016; Juul & Hemmingsson, 2015; Louzada et al., 2015; Luiten et al., 2016; Monteiro et al., 2013; Monteiro et al., 2018). In high-income countries, ultra-processed foods now represent roughly fifty to sixty percent of total food consumed (Juul & Hemmingsson, 2015; Monteiro et al., 2013; Monteiro et al., 2018). These food products have been associated with diets that are lower in micronutrients and higher in sugar and sodium, while being less satiating and potentially leading to increased caloric consumption (Fardet, 2016; Louzada et al., 2015; Steele et al., 2016).

While not all plant-based alternatives are created equal, the use of plant-based meat alternatives popular in the fast-food sector in particular may perpetuate the consumption of foods that are higher in fat and salt and are associated with poorer overall dietary outcomes (Bowman et al., 2004; Janssen et al., 2018; Jiao et al., 2015; Schlosser, 2012). The introduction of these products allows fast food companies to "solve" the meat problem while still bringing customers through their doors. Not only are many other foods they are selling associated with less nutrient-dense diets, but the consumption of these products also often uses wasteful take-away packaging (Aarnio & Hämäläinen, 2008). While a single focus on the health implications of these particular products is not the issue here, the simple replacement of meat products with meat alternatives should be considered critically as it does not question status quo societal level eating patterns. Simply replacing meat with plant-based meat alternatives does not engage or educate citizens through critical food guidance on the protein-rich, potentially environmentally friendlier, less-processed lentils, nuts, whole grains, peas, and beans advocated for by nutritionists (Young, 2019). At the same time, it does not question narratives regarding our personal responsibility to eat better, nor does it question the discourses used by corporate actors that stand to gain from the continued consumption of these products.

An important and ongoing challenge in dietary change conversations revolves around individual change versus systemic change. The benefits from mass reductions in meat

consumption have been the subject of much research, with a variety of studies showing reduced GHG emissions, reduced water use, and even health benefits that would result from decreased consumption of meat, suggesting it is one of the most important ways to bring our food system within environmental limits (Springmann et al., 2016; Springmann et al., 2018a; Tilman & Clark, 2014). Discussions of the individualization of behaviour change have become a key part of debates on numerous environmental behaviours (Maniates, 2001; Osbaldiston & Schott, 2012). Food is made even more complicated by the fact that people need to eat, and food is deeply personal. How do we create changes to individual habits at a systemic level? There is currently a growing literature in behavioural economics that attempts to answer this question (Kahneman, 2013; Thaler, 2016). However, to date, this literature has been fairly inconsistent in the food space, rife with methodological challenges, and focused on obesity and health rather than sustainability (Bickel & Vuchinich, 2000; Hamblin, 2018; Just & Payne, 2009; Resnick, 2018). Similarly, in the environmental space, there has been a vast literature that shows promise but does not offer easy answers or steadfast rules, given the complexity of human decision-making (Lehner et al., 2016; Osbaldiston & Schott, 2012; Schubert, 2017).

There has also been debate around moralizing and individualizing consumption choices in a way that is classist, elitist, racist, ableist, and sexist. Considerable work has shown how health and ethical discourses have created eating ideals that may result in further marginalization and judgement (Biltekoff, 2013; Johnston et al., 2011). In a commentary, Trembath (2019, para 9) articulates this point: "I can't help but notice that when fake meat was the purview of food utopians and visionary chefs, thought leaders were enthusiastically in favor of it. But as soon as fake meat hit the plastic trays at Burger King, they were fretting about how over-processed it was." Parker (2020) argues that public health nutrition discourses on risk, health, and environment individualize through market neoliberalism and choice, and reinforce dominant narratives of femininity and what it means to be a good citizen. Systemic shifts in meat consumption patterns and the narratives, policies, and ideals we reinforce to reduce meat consumption are intertwined with broader societal debates on class, race, and individualization. Critical food guidance has an important role to play in highlighting these nuances to ensure our pursuit of health and sustainability goals does not mean trade-offs in terms of equity and justice.

Recent literature on the consumption of meat substitutes has shown that the "substitution effect may not be as large as hoped for in the transition to more sustainable food behaviour" (Siegrist & Hartmann, 2018, p. 5). Simultaneously, this study found that increasing consumer knowledge of the ecological implications of certain food choices could lead to more sustainable choices (Siegrist & Hartmann, 2018). However, others have cautioned that consumers consistently underestimate the environmental impacts of the meat industry, focusing instead on more visible issues such as packaging (Macdiarmid et al., 2016; Tobler et al., 2011). These studies highlight the complexity of achieving behaviour change and challenge the assumption that simply offering alternatives will create a shift.

Structural changes that nudge consumers to eat less meat may be one piece of the puzzle for reducing meat consumption. However, the norms and behaviours that have led to current

intake levels of meat are not fundamentally challenged by the consumption of meat "alternatives." This is especially significant when considering corporate actors that have become heavily involved in this industry. Ultimately, there are various pathways to meat sustainability, but, as Katz-Rosene and Martin (2020) demonstrate, whether it is "replacement, modernization, or restoration," there are those that stand to win and those that stand to lose. With actors advocating the benefits of each pathway, there are also contradictions between the three (Katz-Rosene & Martin, 2020). Inconsistencies apparent in a variety of pathways to meat sustainability point to the complexity of this issue, and the narratives that may be accompanied to advocate for each pathway. Corporate actors that are selling ultra-processed meat alternatives stand to gain financially from pathways that lead to less meat consumption overall, and they are thus active in promoting their alternatives as a way to reduce the environmental burden and to deal with issues of animal welfare. Interestingly, as noted earlier, Maple Leaf Foods are attempting to engage in a variety of meat sustainability pathways by diversifying their portfolio to include meat products made sustainable by their production methods, meat alternatives, and traditional meats; they claim they are working with farmers to demand changes, for example by transitioning sows from gestation crates to "advanced open housing" (Maple Leaf Foods, 2018b). Such attempts to have it all create another space wherein critical food guidance is needed—the "treadmill of production" (see Schnaiberg, 1980) facilitates the integration of sustainability, health, and economic goals, often with the latter being prioritized.

The connected nature of the meat industry and alternatives brings to light questions of how to raise awareness of the complex challenges of meat while simultaneously giving rise to new ethical questions over who controls this industry, and where consumer dollars end up. Companies in the meat industry face numerous questions around their moral legitimacy, given their two-sided role. On one side, they contribute to the environmental, health, and animal welfare problems associated with production; on the other side, they offer public debates on these issues (see Fuchs, 2007, p. 144). The meat alternatives industry is not immune to this response. The technology used for the Impossible Burger is a salient example, as it has not been without its controversies. Aside from concerns about the genetic modification of foods (e.g., Lappé, 2010), the company was targeted by PETA (People for the Ethical Treatment of Animals) after it was revealed that lab testing on rats was conducted, prompting a response from the company defending the need for this testing to gain Federal Drug Administration (FDA) approval for their product (Impossible Foods, 2018b). Impossible Foods argued that the backlash was undermining the cause, but many were not convinced about the seeming incompatibility with the company's mission to "make meat using plants, so that we never have to use animals again" (Impossible Foods, 2018a; Hoar, 2018). In 2019, there was further controversy when Moms Across America, an advocacy group, claimed that Impossible Burgers contained eleven times higher levels of the controversial herbicide glyphosate (which they deemed dangerously high levels) when compared with Beyond Meat burgers (Moms Across America, 2019). Impossible Foods has rebuked these claims, and it appears that the controversy has largely blown over with little media coverage on this issue after 2019 (Impossible Foods, 2019). These

examples illuminate the complexity of seemingly "easy wins" in efforts to shift away from meat consumption. Questions remain over how much of an alternative to the challenges of modern diets these products provide. While certainly replacing meat, these products still create questions that require further dialogue and demonstrate a need for critical food guidance.

Critical food guidance and meat

Industrial capitalist agriculture for meat production comes at a cost. Costs include disease threats (e.g., swine and avian flu), impacts of fertilizer and other chemical runoff, psychological violence associated with factory farms and industrial slaughterhouses, and the suffering of intensively confined animals raised for consumption (Weis, 2010). Significant, global changes are needed regarding the production and consumption of meat products—particularly those tied to intensive and industrial animal agriculture. This will, among a host of other initiatives, necessitate a shift in how meat is valued and understood. As Weis (2013b) describes it, "while the meatification of diets has long been held as a goal and measure of development and a marker of class ascension, it should instead be understood as a vector of global inequality, environmental degradation, and climate injustice" (pp. 81-2). Innovative and nuanced methods for reimagining society's relationship with meat are needed to maintain and accelerate critiques of a *status quo* that views meat as a dietary keystone.

Food guidance recommending more plant-based—and less animal-based—foods, and acknowledging the health and environmental benefits of plant-based diets, are important steps towards more critical and informed processes for making sustainable food choices. However, the complex problems associated with the meat industry are insufficiently addressed by Canada's food guide and industry innovations regarding "humane" meat and plant-based meat "alternatives." Meat eating is a dilemma (Pollan, 2006), a paradox (Loughnan & Davies, 2019), and a problem that needs further problematizing (Katz-Rosene & Martin, 2020). There are numerous socially and historically embedded norms, discourses, behaviours, and ideas that connect meat consumption and production to environmental sustainability, human and animal health, and social justice—few topics can boast such complexity.

Contemporary meat production, processing, and consumption practices are viewed as "stable, normal, and inevitable", and there is a need for action that "destabilizes a normative view of current methods and makes it possible to envision alternatives" (Fitzgerald, 2015, p. 141). According to Fitzgerald (2015), "there is a need to educate ourselves about the ways animals used as food are produced and processed, how this has changed, the consequences thereof, and, importantly, why the current methods of production, processing, and consumption are used today" (p. 141). Reflecting on this need to "educate ourselves," it seems that the entrance of "humane" meat and plant-based meat "alternatives" may represent a welcome start to a much longer and more elaborate campaign towards a more humane and environmentally sustainable food system. However, this campaign will require further frameworks to create the

critical food guidance necessary to build knowledge and skills and to create a food system that falls in line with the principles laid out by authors such as Levkoe et al. (2017), focusing on the integration of social, ecological, and economic sustainability.

Various policies, laws, and regulations offer important opportunities for addressing the increasingly complex problems of the meat industry, in part by enhancing governance tools that limit the powers of corporate players while contributing to the destabilization of norms around meat consumption. These emerging tools and deliberations can play a role in starting conversations that are necessary to inform and bolster efforts towards critical food guidance. How meat is imagined, produced, and consumed varies across time and space; we are constantly adapting and debating our relationship with animals, including those we treat as food. Rules and incentives—deployed through programs, policies, regulations, and laws (government-led or otherwise)—offer a unique means to firmly establish new ideas, norms, and values. Three examples include: (1) proposals for taxation on red meat, sugar, and other foods targeted as problematic; (2) labelling requirements for using words such as "natural," "sustainable," and "humane" on product packaging; and (3) symbolic legislation that recognizes the sentience of animals. Each of these is briefly elaborated in turn.

Proposals for taxation

The idea of implementing a taxation scheme for unsustainable meat products is not new, and is covered extensively by Goodland (1997), who proposes a tax scheme based on an animals' efficiency in converting grains into meat (swine, cattle, goats, and sheep being the least efficient and highest taxed). Denmark, Germany, and Sweden have all considered proposals for taxation on meat, particularly red meats such as beef; these proposals all focused on taxes at the point of sale to the consumer and were created in reaction to growing awareness of climate impacts associated with the meat industry (FAIRR, 2017). Farm Animal Investment Risk & Return (FAIRR) argues that a meat tax is all but inevitable, but showcases various mechanisms for accounting for the environmental and social costs of meat—including New Zealand's inclusion of livestock in emissions trading, Germany's sales tax debates for meat and dairy, and the Netherlands' study into fair meat prices (FAIRR, 2020). Taxes to change consumption behaviour have received increasing attention in the last few years, and in 2019 a Green MP in the UK, Caroline Lucas, continued calls for a meat tax (Harvey & van der Zee, 2019). Sugar taxes have been a popular response to overconsumption of sugar, with the World Health Organization advocating for their use, and early adopters showing promising results (Baker, Jones, & Thow, 2018; Thomson Reuters, 2016). A modelling study focused on the health implications of meat consumption concluded that such a tax would decrease consumption and demonstrated a context-specific optimal level in high- and middle-income countries (Springmann et al., 2018b).

There remains considerable debate over the economic impacts of such taxes, whether they will actually change consumer behaviour, and what should be done with the revenue

generated. In Germany, proposals for a tax on meat and dairy originally advocated for the revenue to go to animal welfare initiatives, but Angela Merkel's Christian Democratic party argued that it would be better spent helping farmers restructure (FAIRR, 2020, p. 13). Others have argued that a meat tax is too simplistic to deal with the complexities of meat consumption and production, while potentially hurting the poorest consumers (Baggini, 2019). While taxes on meat and sugar present their own complications, there is still support for them as a "second-best" instrument, with examples of first-best options (optimal carbon pricing, nitrogen regulation, and ecosystem valuation) continuing to see little uptake (Funke et al., 2021). Regardless of the mechanism, the pricing of meat is an important tactic to consider in the current trajectory of global increases in total meat consumption, the ubiquity of ultra-processed foods, and the array of cultures in which meat holds a central role. Economic instruments such as taxation may be part of the broader picture of adopting critical food guidance and could offer new opportunities to raise awareness, or simply to adjust where dollars end up in the food system.

Labelling requirements

Product labelling in Canada includes a wide range of rules regarding product origins, expirations, allergens, organic foods, health claims, advertising, and a range of other aspects (CFIA, 2018a;, 2018b). There is also a range of labelling requirements for meat products, such as nutrition labelling, grade designations (e.g., AAA), and even stipulations for voluntary claims and statements, for instance "Extra Lean" (CFIA, 2018c). Product labelling laws may offer effective recourse for false advertising concerns raised by Animal Justice about "certified humane" chicken, as discussed above. If industry is given too much latitude with regard to claims in labels and advertising, consumers wishing to educate themselves about the impacts of certain foods may be met with additional hurdles. Debates over labelling discussed below further problematize the issue of "humane," "sustainable," and plant-based alternatives, demonstrating a need for food guidance that critically engages with the complexities of these marketed solutions.

For example, a study on niche markets in California found that the "certified humane" label caused confusion, was not always identifiable to customers, and made up a much smaller market category in comparison to other niche meat categories, specifically "grass-fed," "certified organic," and "naturally raised" (Gwin & Hardesty, 2008). In the plant-based alternatives space, debate has emerged in the last few years over the use of terms such as "meat," "burger," "butter," and "milk". In the United States, several states have passed laws limiting the use of these terms to products coming from livestock, arguing that they create confusion when appearing on plant-based products (Bromwich & Yar, 2019; Danley, 2020). These state-level bills have resulted in a patchwork of different laws across the U.S. (Bromwich & Yar, 2019; Danley, 2020). The introduction of labeling bills has not gone unchallenged, and, in many cases, judges are finding that there is little consumer confusion and that qualifiers, such as plant-based, vegan, soy, or cashew, ensure that consumers understand what it is they are buying (Watson, 2021). In the EU,

attempts to create similar bans on the use of the term burger failed (Berger, 2020). In Canada, the Canadian Food Inspection Agency launched a consultation in late 2020 on "proposed updates to guidelines for industry on simulated meat, simulated poultry, and certain plant-based protein foods" (CFIA, 2020a). The goal of the consultation and updates was to clarify what counts as simulated meat and poultry products and outline the rules for labelling, advertising, composition, and fortification (CFIA, 2020a). No regulatory requirements were changed as a result of the consultations, though the proposed guidelines were updated to help differentiate plant-based meat alternatives from plant-based foods not intended as meat substitutes (CFIA, 2020b).

Labelling is not without its limitations. It does have the potential to further corporate efforts to individualize responsibility, as discussed previously. Other issues arise regarding who controls the industry and the motivations behind different marketing and labelling strategies. As demonstrated, there is some resistance to corporate actors with an interest in meat that are also providing and marketing alternatives. There is also debate over who invests in these companies on broader social, environmental, and health grounds. The investment of Nestlé in Sweet Earth is one example of this, where the company was criticized for working with the corporate giant known globally for numerous scandals related to human health and environmental damage. The CEO went on the defence, stating, "I think there's something wrong with a system that thinks it's great for technology companies to invest in companies that want to change the food system, but somehow it's not right for big food companies to invest in them" (Watson, 2017b, box 1). Further critique, reflection, and education are needed to build a deeper understanding of the complications (and subjectivity) involved in the labelling and advertising of newly created categories of meat and meat alternatives.

Legislation on animal sentience

Generally speaking, Canada's laws involving animals see all animals as property and focus on human interests (Fearon, 2017). The result is a set of laws that permit the raising of livestock animals in confined, intensive, industrial conditions. Considering such legal frameworks, scholars like Gary Francione (1996) have called for "the *incremental eradication of the property status of animals*" (p. 4, emphasis original). In 2015, among other legislative amendments such as banning the use of animals to test finished cosmetic products, the New Zealand Parliament passed an amendment recognizing that animals are sentient (Buchanan, 2015). Quebec, in amending its Civil Code, also introduced amendments to recognize animal sentience in 2015, though an attempt to do the same in 2016 at the national level—through a private member's bill introduced by then MP Nathaniel Erskine-Smith—was defeated in Parliament (World Animal Protection, 2020). While legislative measures such as this may be viewed as largely symbolic in nature, they represent an important, incremental step towards affording animals adequate (if not equal) treatment under the law.

In many ways, legislation contributes to re-shaping social norms and expanding understandings of ethics, morality, and social values—crucial for any notion of critical food guidance. This is particularly relevant to arguments regarding the potential risks of powerful actors co-opting terms like "humane", while failing to challenge the overall *status quo* of meat consumption (Arcari, 2017). There is a need to continuously (re)evaluate the extent to which animal welfare laws and standards reflect public values and opinions with the goal of continuously improving human-animal relations over time.

Conclusion

Critical food guidance is a vision for (re)learning how to eat—it is about both capitalizing on the most cutting-edge technological innovations and returning to methods, ideas, and traditions that have been lost for the sake of profit and convenience. "Humane" meat is an emerging market that attempts to confront the animal welfare concerns of industrial livestock production; accompanying this is the potential for co-opting welfare and sustainability discourses while circumventing demands for substantive change. Ethical, sustainable, and health promoting meat-free alternatives add considerable complexity to this debate, as they are arguably part of the solutions promoted within the principles of critical food guidance. At the same time, ultra-processed meat alternatives may add momentum to global trends toward ready-to-eat meals, thereby eroding the knowledge, culture, and social values embedded in meal preparation. In presenting critical reflections on both "humane" meat and plant-based meat "alternatives," we do not attempt to build a road map toward more sustainable meat consumption, and instead seek to install a warning sign by showcasing the complexities that envelop these two solutions towards ethics and sustainability in this industry. Overall, the development of principles and policies regarding the promotion of more sustainable consumption practices—including the consumption of meat and meat alternatives—demands a dynamic approach, capable of critical self-reflection and constant course correction in light of less-than-ideal solutions.

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References

A&W Food Services of Canada. (2018, August 17). A*&W's Beyond Meat burger temporarily out of stock!* Newswire. https://www.newswire.ca/news-releases/aws-beyond-meat-burger-temporarily-out-of-stock-691101921.html

Aarnio, T., & Hämäläinen, A. (2008). Challenges in packaging waste management in the fast food industry. *Resources, Conservation and Recycling*, *52*(4), 612-621.

Animal Justice. (2016). *Safeway's 'Certified Humane' chicken meat violates false advertising legislation. Legal complaint to federal regulators* (Media Release). Animal Justice: Leading the fight for animal protection. https://www.animaljustice.ca/media-releases/federal-complaint-filed-over-safeway-certified-humane-chicken-meat

A Greener World. (2022). *Certified animal welfare approved by AGW*. https://agreenerworld.org/certifications/animal-welfare-approved/

Alberta Beef Producers. (2022). About us. https://www.albertabeef.org/producers/about-us

Arcari, P. (2017). Perverse visibilities? Foregrounding non-human animals in 'ethical' and 'sustainable' meat consumption. *The Brock Review*, *13*(1), 24-53.

Atlantic Natural Foods. (2018, October 31). *Atlantic Natural Foods introduces TUNO™*. Newswire. https://www.prnewswire.com/news-releases/atlantic-natural-foods-introduces-tuno-300741695.html

Baggini, J. (2019, May 29). A tax on red meat? That won't save the planet – or do much to improve our health. *The Guardian*. http://www.theguardian.com/commentisfree/2019/may/29/tax-red-meat-save-the-planet-improve-health-sin-levy

Baker, P., Jones, A., & Thow, A. M. (2018). Accelerating the worldwide adoption of sugar-sweetened beverage taxes: Strengthening commitment and capacity: Comment on "The untapped power of soda taxes: Incentivizing consumers, generating revenue, and altering corporate behavior". *International Journal of Health Policy and Management*, *7*(5), 474.

BC SPCA (The British Columbia Society for the Prevention of Cruelty to Animals). (2022). *SPCA Certified*. https://spca.bc.ca/programs-services/farm-animal-programs/higher-welfare-food/spca-certified/

Berger, M. (2020, October 23). E.U. rejects proposal to ban labeling plant-based foods as veggie 'burgers.' *Washington Post*. https://www.washingtonpost.com/world/2020/10/23/eu-rejects-proposal-ban-labeling-plant-based-foods-veggie-burgers/

Beyond Meat. (2018). *Our Mission*. http://beyondmeat.com/about

Beyond Meat. (2019). HelloFresh Canada teams up with Beyond Meat. https://www.beyondmeat.com/en-CA/whats-new/hellofresh-canada-teams-up-with-beyond-meat

Beyond Meat. (2022). *Frequently asked questions*. https://www.beyondmeat.com/en-CA/faqs

Bickel, W. K., & Vuchinich, R. E. (Eds.) (2000). *Reframing health behavior change with behavioral economics* (1st Ed.). Psychology Press.

Biltekoff, C. (2013). *Eating right in America: The cultural politics of food and health*. Duke University Press.

Bowman, S. A., Gortmaker, S. L., Ebbeling, C. B., Pereira, M. A., & Ludwig, D. S. (2004). Effects of fast-food consumption on energy intake and diet quality among children in a national household survey. *Pediatrics*, *113*(1), 112-118.

Bradley, A., & MacRae, R. (2011). Legitimacy & Canadian farm animal welfare standards development: The case of the National Farm Animal Care Council. *Journal of Agricultural and Environmental Ethics*, *24*(1), 19-47.

Bromwich, J. E., & Yar, S. (2019, July 25). The Fake Meat War. *The New York Times*. https://www.nytimes.com/2019/07/25/style/plant-based-meat-law.html

Buchanan, K. (2015, May 19). New Zealand: Animal welfare legislation recognizes animals as sentient, bans cosmetic testing. *The Law Library of Congress*. https://www.loc.gov/law/foreign-news/article/new-zealand-animal-welfare-legislation-recognizes-animals-as-sentient-bans-cosmetic-testing/

Cairns, K., & Johnston, J. (2018). On (not) knowing where your food comes from: Meat, mothering and ethical eating. *Agriculture and Human Values*, *35*(3), 569-580.

Canadian Organic Growers. (2021). *Animal welfare*. https://www.cog.ca/animal-welfare/

Cassuto, D. N. (2014). Meat animals, humane standards and other legal fictions. *Law, Culture and the Humanities*, *10*(2), 225-236.

CFIA (Canadian Food Inspection Agency). (2018a). *Food labeling and advertising*. http://www.inspection.gc.ca/food/labelling/eng/1299879892810/1299879939872

CFIA (Canadian Food Inspection Agency). (2018b). *Food labeling for industry*. http://www.inspection.gc.ca/food/labelling/food-labelling-for-industry/eng/1383607266489/1383607344939

CFIA (Canadian Food Inspection Agency). (2018c). *Labelling requirements for meat and poultry products*. http://www.inspection.gc.ca/food/labelling/food-labelling-for-industry/meat-and-poultry-products/eng/1393979114983/1393979162475

CFIA (Canadian Food Inspection Agency). (2020, November 3). *Government of Canada launches consultation on guidelines for simulated meat and poultry products* (News release). https://www.canada.ca/en/food-inspection-agency/news/2020/11/government-of-canada-launches-consultation-on-guidelines-for-simulated-meat-and-poultry-products.html

CFIA (Canadian Food Inspection Agency). (2020, December 4). *Proposed changes to guidelines for simulated meat and simulated poultry products: Closed consultation*. https://inspection.canada.ca/about-cfia/transparency/consultations-and-engagement/proposed-changes/eng/1603132414260/1603132414885

Cole, M. (2011). From "animal machines" to "happy meat"? Foucault's ideas of disciplinary and pastoral power applied to 'animal-centred' welfare discourse. *Animals*, *1*(1), 83-101.

Collins, S. (2018). *America's largest grocer predicts vegan food will be top trend in 2019*. Mercy for Animals. https://mercyforanimals.org/americas-largest-grocer-predicts-vegan-food

Danley, S. (2020, July 20). IFT20: Plant-based labeling debate continues. *Food Business News*. https://www.foodbusinessnews.net/articles/16451-ift20-plant-based-labeling-debate-continues

Danone. (2018). *Annual Report 2017*. https://www.danone.com/content/dam/danone-corp/danone-com/about-us-impact/publications/en/2018/Danone-RA2017-EN-PDF-e-accessible_03.pdf

Decoriolis, A. (2020, December 30). Farm Forward report exposes the dirt on humanewashing. *Farm Forward*. https://www.farmforward.com/#!/blog/farm-forward-report-exposes-the-dirt-on-humanewashing/farm-forward

Eat Just. (2021). Best. Eggs. Ever. https://www.ju.st/eat/just-egg

Ettinger, J. (2017, December 2). Field Roast Pledges to Stay Vegan After Being Acquired by Meat Producer. *LIVEKINDLY*. https://www.livekindly.co/field-roast-pledges-vegan-after-acquired-meat-producer/

Erb, K. H., Haberl, H., Krausmann, F., Lauk, C., Plutzar, C., Steinberger, J. I., Müller, C., Bondeau, A., Waha, K., & Pollack, G. (2009). *Eating the planet: Feeding and fuelling the world sustainably, fairly and humanely: A scoping study*. Institute of Social Ecology.

FAIRR (Farm Animal Investment Risk & Return). (2016). The future of food: The investment case for a protein shake up. https://www.fairr.org/article/briefing-the-investment-case-for-a-protein-shake-up/

FAIRR (Farm Animal Investment Risk & Return). (2017). *The livestock levy: Are regulators considering meat taxes?* FAIRR Policy White Paper. https://www.fairr.org/article/livestock-levy-regulators-considering-meat-taxes/

FAIRR (Farm Animal Investment Risk & Return). (2018). *Plant-based profits: Investment risks & opportunities in sustainable food systems*. FAIRR Briefing. https://www.fairr.org/article/plant-based-profits-investment-risks-opportunities-sustainable-food-systems/

FAIRR (Farm Animal Investment Risk & Return). (2020). The livestock levy: Progress report. https://www.fairr.org/article/the-livestock-levy-progress-report/

FAO (Food and Agriculture Organization of the United Nations). (2019). *FAOSTAT – Food Balances (2010-)*. https://www.fao.org/faostat/en/#data/FBS

Fardet, A. (2016). Minimally processed foods are more satiating and less hyperglycemic than ultra-processed foods: A preliminary study with 98 ready-to-eat foods. *Food & Function,* 7 (5), 2338–46. https://doi.org/10.1039/C6FO00107F

Fearon, J. (2017, April 3). Animals in Canada have no legal rights: Reasonable doubt. *NOW Magazine*. https://nowtoronto.com/news/animals-in-canada-have-no-legal-rights-reasonable-doubt/

Ferguson, D. M., & Warner, R. D. (2008). Have we underestimated the impact of pre-slaughter stress on meat quality in ruminants?. *Meat science*, *80*(1), 12-19.

Fitzgerald, A. J. (2010). A social history of the slaughterhouse: From inception to contemporary implications. *Human Ecology Review, 17*(1), 58-69.

Fitzgerald, A. J., & Taylor, N. (2014). The cultural hegemony of meat and the animal industrial complex. In N. Taylor & R. Twine (Eds.), *The rise of critical animal studies: From the margins to the centre* (pp. 165-182). Routledge.

Fitzgerald, A. J. (2015). *Animals as food: (Re)connecting production, processing, consumption, and impacts*. Michigan State University Press.

Food in Canada. (2018, April 11). The meat-alternative sector offers manufacturers opportunities. *Food In Canada: Canada's Food and Beverage Processing Magazine* (blog). http://www.foodincanada.com/food-in-canada/meat-alternative-sector-offers-manufacturers-opportunities-139431/

Francione, G. L. (1996). *Rain without thunder: The ideology of the animal rights movement*. Temple University Press.

Francione, G. L., & Garner, R. (2010). *The animal rights debate: Abolition or regulation?*. Columbia University Press.

Fraser, D., Duncan, I. J., Edwards, S. A., Grandin, T., Gregory, N. G., Guyonnet, V., ... & Whay, H. R. (2013). General principles for the welfare of animals in production systems: the underlying science and its application. *The Veterinary Journal*, *198*(1), 19-27.

Freeman, C.P. (2010). Meat's place on the campaign menu: How US environmental discourse negotiates vegetarianism. *Environmental Communication*, *4*(3), 255-276.

Fuchs, D. (2007). *Business power in global governance*. Lynne Rienner.

Funke, F., Mattauch, L., van den Bijgaart, I., Godfray, C., Hepburn, C., Klenert, D., Springmann, M., & Treich, N. (2021). *Is meat too cheap? Towards optimal meat taxation* (White Paper No. 2021-08). Institute for New Economic Thinking at the Oxford Martin School. https://www.inet.ox.ac.uk/files/Funke_et_al_2021_Towards_optimal_meat_taxation_WP.pdf

Gaan, K. (2020, July 22). U.S. plant-based meat sales growth accelerates despite Covid-19. *The Good Food Institute*. https://gfi.org/blog/plant-based-sales-covid-19/

Garnett, T., Godde, C., Muller, A., Röös, E., Smith, P., de Boer, I., zu Ermgassen, E., Herrero, M., van Middelaar, C., Schader, C., & van Zanten, H. (2017). *Ruminating on cattle, grazing systems, methane, nitrous oxide, the soil carbon sequestration question – and what it all means for greenhouse gas emissions* (p. 127). Food and Climate Research Network, Oxford University.

Genoways, T. (2014). *The chain: Farm, factory, and the fate of our food*. Harper Collins.

Global Animal Partnership. (2022). *G.A.P. Certification*. https://globalanimalpartnership.org/certification/

Goodland, R. (1997). Environmental sustainability in agriculture: Diet matters. *Ecological Economics, 23*(3), 189-200.

Grandin, T. (2008). Hard work and sustained effort required to improve livestock handling and change industry practices. In M. Stamp Dawkins & R. Bonney (Eds.), *The future of animal farming: Renewing the ancient contract* (pp. 95-108). Blackwell Publishing.

Grandin, T., & Johnson, C. (2009). *Animals in translation: Using the mysteries of autism to decode animal behavior*. SUNY Press.

Greenfield Natural Meat Co. (2022). Our story. https://greenfieldmeat.com/our-story/

Gwin, L., & Hardesty, S. D. (2008). Northern California niche meat market demand study. *University of California, Cooperative Extension*.

Hamblin, J. (2018, September 24). A credibility crisis in food science. *The Atlantic*. https://www.theatlantic.com/health/archive/2018/09/what-is-food-science/571105/

Harvey, F. & van der Zee, B. (2019, January 4). Caroline Lucas urges parliament to 'seriously consider' tax on meat. *The Guardian*. https://www.theguardian.com/environment/2019/jan/04/caroline-lucas-green-mp-meat-tax-oxford-farmers-conference-prioritise-sustainability

Hoar, J. (2018, July 27). The Impossible Burger debate was a test for vegans, and we failed. *LIVEKINDLY* (blog). https://www.livekindly.co/the-impossible-burger-debate-was-a-test-for-vegans-and-we-failed/

Humane Farm Animal Care. (2022). *Our mission*. Certified Humane. https://certifiedhumane.org/

Impossible Foods. (2018a). Home – Impossible Foods. https://impossiblefoods.com/

Impossible Foods. (2018b, July 30). Setting the record straight: How PETA extremists are undermining their own mission. https://impossiblefoods.com/ca/blog/setting-the-record-straight-how-peta-extremists-are-undermining-their-own

Impossible Foods (2019). *The unofficial correction of Moms Across America*. https://assets.ctfassets.net/hhv516v5f7sj/77NQsg1qDb6d9Hi4PBQA6y/93b2af7c3f12ce2e4050e03a6e0345e7/Unofficial_Correction_Moms_Across_America_05202019.pdf

Janssen, H. G., Davies, I. G., Richardson, L. D., & Stevenson, L. (2018). Determinants of takeaway and fast food consumption: a narrative review. *Nutrition Research Reviews*, *31*(1), 16-34.

Jiao, J., Moudon, A. V., Kim, S. Y., Hurvitz, P. M., & Drewnowski, A. (2015). Health implications of adults' eating at and living near fast food or quick service restaurants. *Nutrition & Diabetes*, *5*(7), e171-e171.

Johnston, J., Szabo, M., & Rodney, A., (2011). Good food, good people: Understanding the cultural repertoire of ethical eating. *Journal of Consumer Culture*, *11*, 293-318.

Just, D. R., & Payne, C. R. (2009). Obesity: can behavioral economics help?. Annals of Behavioral Medicine, 38(1), 47-55.

Juul, F., & Hemmingsson, E. (2015). Trends in consumption of ultra-processed foods and obesity in Sweden between 1960 and 2010. *Public Health Nutrition*, *18*(17), 3096-3107.

Kahneman, D. (2013). *Thinking, fast and slow* (1st Ed.). Farrar, Straus and Giroux.

Katz-Rosene, R. M. (2020). How do livestock impact the climate? In R. M. Katz-Rosene & S. J. Martin (Eds.), *Green meat? Sustaining eaters, animals and the planet* (pp.43-63). McGill-Queen's University Press.

Katz-Rosene, R, & Martin, S. J. (2020). Meat. *International Political Economy of Everyday Life* (blog). http://i-peel.org/homepage/meat/

Lappé, F. M. (2010). *Diet for a small planet: The book that started a revolution in the way Americans eat*. Random House Publishing Group.

Lebret, B., & Čandek-Potokar, M. (2021). Pork quality attributes from farm to fork. Part I. Carcass and fresh meat. *Animal*, 100402.

Lehner, M., Mont, O., & Heiskanen, E. (2016). Nudging–A promising tool for sustainable consumption behaviour?. *Journal of Cleaner Production*, *134*, 166-177.

Levkoe, C., Lefebvre, R., & Blay-Palmer, A. (2017). *Food counts: A pan-Canadian sustainable food systems report card*. https://fledgeresearch.ca/?p=364

Loughnan, S., & Davies, T. (2019). The meat paradox. In K. Dhont & G. Hodson (Eds.), *Why We Love and Exploit Animals* (pp. 171-187). Routledge.

Louzada, M. L. D. C., Martins, A. P. B., Canella, D. S., Baraldi, L. G., Levy, R. B., Claro, R. M., Moubarac, J. C., Cannon, G., & Monteiro, C. A. (2015). Impact of ultra-processed foods on micronutrient content in the Brazilian diet. *Revista de saude publica*, *49*, 45.

Luiten, C. M., Steenhuis, I. H., Eyles, H., Mhurchu, C. N., & Waterlander, W. E. (2016). Ultra-processed foods have the worst nutrient profile, yet they are the most available packaged products in a sample of New Zealand supermarkets. *Public Health Nutrition*, *19*(3), 530-538.

Macdiarmid, J. I., Douglas, F., & Campbell, J. (2016). Eating like there's no tomorrow: Public awareness of the environmental impact of food and reluctance to eat less meat as part of a sustainable diet. *Appetite*, *96*, 487-493.

Maniates, M. F. (2001). Individualization: Plant a tree, buy a bike, save the world?. *Global Environmental Politics*, *1*(3), 31-52.

Maple Leaf Foods. (2017a). *Maple Leaf Foods completes acquisition of Lightlife Foods*. http://www.mapleleaffoods.com/news/maple-leaf-foods-completes-acquisition-of-lightlife-foods/

Maple Leaf Foods. (2017b). *Maple Leaf Foods signs definitive agreement to acquire Field Roast Grain Meat Co*. http://www.mapleleaffoods.com/news/maple-leaf-foods-signs-definitive-agreement-to-acquire-field-roast-grain-meat-co/

Maple Leaf Foods. (2018a). *To be the most sustainable protein company on earth*. Around the Table (blog). https://www.mapleleaffoods.com/stories/to-be-the-most-sustainable-protein-company-on-earth/

Maple Leaf Foods. (2018b). *Leadership in animal care*. Around the Table (blog). https://www.mapleleaffoods.com/stories/leadership-in-animal-care/

Maple Leaf Foods. (2022). *Who we are*. https://www.mapleleaffoods.com/who-we-are/

Mason, J., & Singer, P. (1980). *Animal factories: The mass production of animals for food and how it affects the lives of consumers, farmers, and the animals themselves*. Crown Publishers.

Middleton, J., Reintjes, R., & Lopes, H. (2020). Meat plants—a new front line in the covid-19 pandemic. *BMJ*, *370*, m2716. https://doi.org/10.1136/bmj.m2716

Moms Across America. (2019). GMO Impossible Burger positive for carcinogenic glyphosate. https://www.momsacrossamerica.com/gmo_impossible_burger_positive_for_carcinogenic_glyphosate

Monteiro, C. A., & Cannon, G. (2012). The impact of transnational 'Big Food' companies on the South: A view from Brazil. *PLOS Medicine,* 9(7), e1001252. https://doi.org/10.1371/journal.pmed.1001252.

Monteiro, C. A., Moubarac, J. C., Cannon, G., Ng, S. W., & Popkin, B. (2013). Ultra-processed products are becoming dominant in the global food system. *Obesity Reviews*, *14*, 21-28.

Monteiro, C. A., Moubarac, J. C., Levy, R. B., Canella, D. S., da Costa Louzada, M. L., & Cannon, G. (2018). Household availability of ultra-processed foods and obesity in nineteen European countries. *Public Health Nutrition*, *21*(1), 18-26.

Morris, C. (2018). 'Taking the politics out of broccoli': Debating (de)meatification in UK national and regional newspaper coverage of the Meat Free Mondays campaign. *Sociologia Ruralis, 58*(2), 433-452.

Moubarac, J. (2017). *Ultra-processed foods in Canada: Consumption, impact on diet quality and policy implications*. TRANSNUT, University of Montreal. https://mma.prnewswire.com/media/615057/Heart_and_Stroke_Foundation_Time_to_curb_our_appetite_for_ultra_.pdf

NFACC (National Farm Animal Care Council). (2016). *Codes of Practice for the care and handling of eggs, breeders, chickens, and turkeys*. https://www.nfacc.ca/pdfs/codes/poultry_code_EN.pdf

NFACC (National Farm Animal Care Council). (2022). *Codes of Practice for the care and handling of farm animals*. http://www.nfacc.ca/codes-of-practice

Ng, A. (2020, December 25). *The plant-based meat industry has grown into a $20 billion business—But challenges remain*. CNBC. https://www.cnbc.com/2020/12/25/the-plant-based-meat-industry-is-on-the-rise-but-challenges-remain.html

Ocean Hugger Foods. (2018). *Ahimi®: The world's first plant-based alternative to raw tuna*. https://oceanhuggerfoods.com/ahimi/

Osbaldiston, R., & Schott, J. P. (2012). Environmental sustainability and behavioral science: Meta-analysis of proenvironmental behavior experiments. *Environment and Behavior, 44*(2), 257–99. https://doi.org/10.1177/0013916511402673.

Parker, B. (2020). Consuming health, negotiating risk, "eating right". *Critical Dietetics*, *5*(1), 45–57. https://doi.org/10.32920/cd.v5i1.1336

Pedersen, C. (2017, November 26). *Greenfield Natural Meat Co.: Raising better meat for better living*. https://modernagriculture.ca/features/greenfield-natural-meat-co/

Pimentel, D., & Pimentel, M. (2003). Sustainability of meat-based and plant-based diets and the environment. *The American Journal of Clinical Nutrition*, *78*(3), 660S-663S.

Plant Based Foods Association. (2018). *About*. https://plantbasedfoods.org/about/

Pollan, M. (2006). *The omnivore's dilemma: A natural history of four meals*. Penguin Books Limited.

Postmedia News. (2016, April 29). Earls decision a 'slap in the face' for Alberta ranchers, but some experts say Canadian beef industry dropped the ball. *Financial Post*. https://financialpost.com/commodities/agriculture/earls-decision-a-slap-in-the-face-for-alberta-ranchers-but-some-experts-say-canadian-beef-industry-dropped-the-ball

Resnick, B. (2018, October 24). A top Cornell food researcher has had 15 studies retracted. That's a lot. *Vox*. https://www.vox.com/science-and-health/2018/9/19/17879102/brian-wansink-cornell-food-brand-lab-retractions-jama

Rieger, S. (2016, April 28). Earls Restaurant infuriates Albertans by switching to U.S. beef. *The Huffington Post*. https://www.huffingtonpost.ca/2016/04/28/earls-restaurant_n_9798344.html

Rieger, S. (2016, June 3). Earls Restaurant puts Alberta Beef back on the menu at some locations. *The Huffington Post.* http://www.huffingtonpost.ca/2016/06/03/earls-restaurants-alberta-beef_n_10285240.html

Rothgerber, H. (2015). Can you have your meat and eat it too? Conscientious omnivores, vegetarians, and adherence to diet. *Appetite*, *84*, 196-203.

Sankoff, P. (2019). Canada's experiment with industry self-regulation in agriculture: Radical innovation or means of insulation. *The Canadian Journal of Comparative and Contemporary Law, 5*, 299.

Schlosser, E. (2012). *Fast food nation: The dark side of the all-American meal*. Houghton Mifflin Harcourt.

Schnaiberg, A. (1980). *The environment: From surplus to scarcity*. Oxford University Press.

Schubert, C. (2017). Green nudges: Do they work? Are they ethical? *Ecological Economics, 132*, 329–42. https://doi.org/10.1016/j.ecolecon.2016.11.009.

Siegrist, M., & Hartmann, C. (2018). Impact of sustainability perception on consumption of organic meat and meat substitutes. *Appetite*, *132*, 196-202. https://doi.org/10.1016/j.appet.2018.09.016.

Singer, R. (2017). Neoliberal backgrounding, the Meatless Monday campaign, and the rhetorical intersections of food, nature, and cultural identity. *Communication, Culture & Critique*, *10*(2), 344-364.

Skerritt, J. (2018, September 17). A&W sold out of its new plant-based burger all across Canada in a matter of weeks. *Financial Post*. https://business.financialpost.com/news/retail-marketing/canadian-burger-chain-sells-out-of-plant-based-patties

Springmann, M., Godfray, H. C. J., Rayner, M., & Scarborough, P. (2016). Analysis and valuation of the health and climate change cobenefits of dietary change. *Proceedings of the National Academy of Sciences*, *113*(15), 4146-4151.

Springmann, M., Clark, M., Mason-D'Croz, D., Wiebe, K., Bodirsky, B. L., Lassaletta, L., De Vries, W., Vermeulen, S. J., Herrero, M., Carlson, K. M., & Jonell, M. (2018a). Options for keeping the food system within environmental limits. *Nature*, *562*(7728), 519-525.

Springmann, M., Mason-D'Croz, D., Robinson, S., Wiebe, K., Godfray, H. C. J., Rayner, M., & Scarborough, P. (2018b). Health-motivated taxes on red and processed meat: A modelling study on optimal tax levels and associated health impacts. *PLOS ONE*, *13*(11), e0204139. https://doi.org/10.1371/journal.pone.0204139

Statistics Canada. (2017). *Alberta has the most beef cattle in Canada and the second largest total farm area*. https://www150.statcan.gc.ca/n1/pub/95-640-x/2016001/article/14808-eng.htm

Steele, E. M., Baraldi, L. G., da Costa Louzada, M. L., Moubarac, J. C., Mozaffarian, D., & Monteiro, C. A. (2016). Ultra-processed foods and added sugars in the US diet: Evidence from a nationally representative cross-sectional study. *BMJ Open*, *6*(3), e009892.

Sumner, J., & Desjardins, E. (2022). Critical perspectives on food guidance. *Canadian Food Studies*, this issue.

Thaler, R. H. (2016). *Misbehaving: The making of behavioral economics* (1st Ed.). W. W. Norton & Company.

The Canadian Press. (2016a, April 28). Earls faces backlash after dropping Alberta beef. *Maclean's*. https://www.macleans.ca/economy/business/earls-faces-backlash-after-dropping-alberta-beef-for-hormone-free-u-s-cattle/

The Canadian Press. (2016b, August 10). Ranchers applaud Earls president's apology for snubbing Canadian beef. *The Globe and Mail*. https://www.theglobeandmail.com/report-on-business/ranchers-applaud-earls-presidents-apology-for-snubbing-canadian-beef/article31342711/

The Canadian Press. (2018, July 12). McDonald's Canada to start buying 'sustainable' beef. *The Globe and Mail.* https://www.theglobeandmail.com/business/article-mcdonalds-canada-to-start-buying-sustainable-beef/

The EVERY Company. (n.d.). We are every. https://theeverycompany.com/are

Thomson Reuters. (2016, October 28). Soda tax "more powerful than anything I've ever seen". *CBC News.* https://www.cbc.ca/news/health/soda-tax-berkeley-1.3826163

Tilman, D., & Clark, M. (2014). Global diets link environmental sustainability and human health. *Nature*, *515*(7528), 518-522.

Tobler, C., Visschers, V. H. M., & Siegrist, M. (2011). Eating green. Consumers' willingness to adopt ecological food consumption behaviors. *Appetite*, *57*(3), 674–82. https://doi.org/10.1016/j.appet.2011.08.010.

Tofurky. (2018). *Our roots*. https://tofurky.com/our-story/our-roots/

Trembath, A. (2019, August 12) The fake backlash to fake meat. *OneZero*. https://onezero.medium.com/the-fake-backlash-to-fake-meat-f53098bfb71b

Vasil, A. (2019, July 8). Plant burgers bring home the bacon for Maple Leaf Foods. *Toronto Star*. https://www.thestar.com/business/2019/07/08/plant-burgers-bring-home-the-bacon-for-maple-leaf-foods.html

Watson, E. (2017, September 7). *Nestlé makes 'immediate entry into the plant-based foods segment' via Sweet Earth acquisition*. Foodnavigator-usa. https://www.foodnavigator-usa.com/Article/2017/09/07/Nestle-enters-plant-based-foods-segment-via-Sweet-Earth-acquisition

Watson, E. (2021, February 3). *'Highly disingenuous…' Plant-based labeling battle heats up as more states challenge use of meat, dairy terms*. Foodnavigator-usa. https://www.foodnavigator-usa.com/Article/2021/02/03/Highly-disingenuous-Plant-based-labeling-battle-heats-up-as-more-states-challenge-use-of-meat-dairy-terms

Weis, T. (2007). *The global food economy: The battle for the future of farming*. Zed Books Ltd.

Weis, T. (2010). The accelerating biophysical contradictions of industrial capitalist agriculture. *Journal of Agrarian Change, 10*(3), 315-341.

Weis, T. (2013a). *The ecological hoofprint: The global burden of industrial livestock*. Zed Books Ltd.

Weis, T. (2013b). The meat of the global food crisis. *The Journal of Peasant Studies, 40*(1), 65-85.

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman, D., DeClerck, F., Wood, A., Jonell, M., Clark, M., Gordon, L. J., Fanzo, J., Hawkes, C., Zurayk, R., Rivera, J. A., De Vries, W., Majele Sibanda, L., … Murray, C. J. L. (2019). Food in the Anthropocene: The EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, *393*(10170), 447–492. https://doi.org/10.1016/S0140-6736(18)31788-4

Wood, Z. (2018, December 18). Unilever buys meat-free food company The Vegetarian Butcher. *The Guardian*. https://www.theguardian.com/business/2018/dec/19/unilever-joins-meat-free-revolution-after-buying-the-vegetarian-butcher

World Animal Protection. (2020). Canada. https://api.worldanimalprotection.org/country/canada#Sentience

Young, L. (2019, January 22). Canada's new food guide emphasizes eating plants, drinking water and cooking at home. *Global News.* https://globalnews.ca/news/4873598/new-canada-food-guide-2019/

Yves Veggie Cuisine. (2018). *About Yves Veggie Cuisine*. http://yvesveggie.com/en/about-yves/about-yves-veggie-cuisine/

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Review Article

The de-meatification imperative: To what end?

Tony Weis* and Rebecca Ellis

Western University

Abstract

Meatification describes a momentous dietary transformation: the average person on earth today consumes nearly twice as much animal flesh every year as did the average person just two generations ago, amidst a period of rapid human population growth and with marked disparities between rich and poor countries. Further, meatification is projected to continue in the coming three decades, with growth concentrated in fast-industrializing countries, at the same time as the world adds another 1.5 to 2 billion people. There is overwhelming evidence to suggest that meatification bears heavily on a range of problems including climate change, biodiversity loss, food consumption disparities, mounting risks of antibiotic resistance, increasing rates of non-communicable disease, and growing realms of animal suffering. The basic implication is inescapable: the de-meatification of diets is an urgent environmental and social priority, and must be part of any project of providing critical food guidance. There are many signs that this recognition is growing in environmental and public health advocacy (including pressure to reform dietary guidelines), calls for a 'meat tax', and in rising levels of vegetarianism and veganism in some of the countries that have long been at the forefront of meatification. After briefly summarizing the course of meatification and the de-meatification imperative, this chapter focuses on its three primary possibilities: conscientious omnivory (which has various hues, as in calls for 'green' or 'ethical' meat); vegetarianism; and veganism. This paper suggests that thinking critically about different end-points is necessary to recognize the challenges of alliance-building and constructively communicating the de-meatification imperative.

Keywords: Meatification; industrial livestock production; vegetarianism; veganism; conscientious omnivory

*Corresponding author: tony.weis@uwo.ca
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Introduction

This paper makes a case that *de-meatification* should be a fundamental component of all critical food guidance and explores the three main paths this could follow. The case for de-meatification necessarily starts with the trajectory it seeks to reverse: *meatification*, a term that encapsulates the surging per capita consumption of animal products on a global scale. The paper opens by briefly reviewing the major global patterns of meatification, before discussing why this is so destructive, focusing on the industrial grain-oilseed-livestock complex, the system of agriculture that underpins rising per capita consumption. This provides a foundation for understanding some key reasons behind the widespread assent to meatification (i.e., how it is accepted as a normative societal aspiration, either explicitly or implicitly), why cracks in this hegemonic development are starting to appear, and why attempts to brace meatification against its critics are unconvincing. The three paths for de-meatification are then explored—conscientious omnivory, vegetarianism, and veganism—in a way that seeks to convey the core logic of each camp and shed light on heated debates between them. While there may be some ground for strategic alliances, we start from the premise that critical thinking about these different positions is needed to effectively communicate the de-meatification imperative and ultimately rebuild more sustainable, equitable, and humane agro-food systems.

The meatification of diets

Appreciating the de-meatification imperative starts with the magnitude of meatification, a radical dietary transformation that is encapsulated in the fact that the average person on earth today consumes nearly twice as much animal flesh every year as did the average person just two generations ago amidst a period of rapid human population growth. From 1961 to 2020, the human population grew by one-and-a-half times, from 3 to 7.8 billion, and the average person on earth increased their annual consumption of meat from twenty-three to forty-four kg of meat per year, with marked disparities between high- and low-income countries (FAOSTAT 2022). The meatification of diets is projected to continue growing in the coming decades, as the world adds another 1.5 to 2 billion people by 2050, with much of this growth on a world scale concentrated in fast-industrializing middle-income countries. Meatification routinely appears as though it is an inexorable trajectory and is a key assumption behind calls to double agricultural production (Weis 2015).

This sense of inexorability reflects how meatification has been a powerful aspiration of development, as does the fact that it has tended to march in step with rising affluence. The widespread veneration of meat, eggs, and milk, especially meat, has diverse cultural lineages rooted in the fact that animal products tended to be consumed infrequently in agrarian societies, and often provided key sources of protein in contexts where they were relatively scarce in diets (Harris 1974; Rifkin 1992; Watson 2014). Cultural values were further fortified by modern

science, as nutritional profiling and metabolic analyses revealed that animal proteins tend to be more complete and more efficiently metabolized than plant proteins.

The expansion of livestock production has always been a major force in environmental change. Pasture is by far the world's largest anthropogenic land-use, which entails a central role in the historic reduction of self-organizing ecosystems, and ruminant livestock constitute the largest share of the total biomass of mammals on earth, followed by humans (Bar-On et al. 2018). Pasture is also a major contemporary force in tropical deforestation, principally in Amazonia, and in desertification, especially in arid- and semi-arid regions (IPCC 2019; Steinfeld et al. 2006). This contribution to both past and present environmental change makes grazing livestock an important factor in both biodiversity loss and climate change, as the conversion of forests, natural grasslands, and wetlands entails CO_2 emissions and means less habitat for other species and less carbon sequestration capacity across a given landscape (through both reduced vegetation and biologically impoverished soils). Furthermore, the great populations of ruminant livestock comprise the biggest source of global methane emissions (primarily from belching associated with their digestive process) and the land they occupy inhibits prospects for ecological restoration (Crist et al. 2017; IPCC 2019; Machovina et al. 2015; Ripple et al. 2014; Steinfeld et al. 2006).

Much more so than pasture, however, the meatification of diets pivots on the industrial grain-oilseed-livestock complex, which comprises vast 'oceans' of monocultures and concentrated 'islands' of densely-packed animals. This system occupies about thirty percent of the world's arable land and a much higher share in many temperate countries like Canada. In the industrial grain-oilseed-livestock complex, fast-rising animal populations are, in a way, spatially disaggregated from the land, and effectively command a large share of the total cultivated area through flows of feed crops. The rising scale of industrial livestock production—and its utter reliance on a simplified diet of grains and oilseeds for feed—has served to profitably absorb the surpluses from industrial monocultures, enabling their continuing growth, due to the fact that higher value commodities get generated in the course of burning large shares of the useable nutrition (Weis 2013; Winders and Nibert 2004). All dimensions of the industrial grain-oilseed-livestock complex are marked by dramatic consolidations of power, in terms of both inputs (e.g., farm machinery, fertilizers, agro-chemicals, seeds, pharmaceuticals) and outputs (e.g., grain and oilseed processing, livestock packing and slaughter, retailing) (IPES-Food 2017).

Pigs and poultry have been the driving force behind meatification (i.e., production increases over and above the rate of population growth) and accounted for seventy-three percent of global annual meat production by volume in 2020, with poultry (overwhelmingly chickens) surpassing pigs in volume terms on a world scale in 2017 (FAOSTAT 2022). The rapid growth in scale and smaller bodies of birds (i.e., more individual lives are needed for the same volume of flesh) make poultry by far the biggest force propelling rising livestock populations, and the planetary biomass of poultry is roughly three times greater than that of all wild birds *combined* (Bar-On et al. 2018). It is also necessary to recognize that a large share of this great 'mass' is being turned over very rapidly, as chickens can be brought from hatch to slaughter-weight in six

weeks in industrial systems. Although pasture remains the primary way that cattle, sheep, and goats are reared on a world scale, beef and dairy operations are widely growing in density and becoming more reliant on concentrated feed rather than grasses, with beef cattle increasingly 'finished' (i.e., weight gain is accelerated) on feedlots and dairy cows increasingly milked in large, mechanized 'parlours' (Gillespie 2018).

Like many industrialized countries, Canada has an extremely livestock-intensive agro-food system, with annual per capita meat consumption around 100 kg—more than double the world average, six times the average person in Sub-Saharan Africa, and twelve times the average person in South Asia. Between 1960 and 2020, the human population in Canada roughly doubled (from around 18 to 38 million) while the total volume of meat production increased by a factor of 3.5 (from 1.5 to 5.2 MT), with pigs (forty-four percent of the total volume in 2020) and poultry (28 percent) at the forefront of volume increases and poultry the primary factor in the five-fold increase in the total annual population of animals killed for food (FAOSTAT 2022). Over 800 million animals are killed for food every year, which translates to twenty-one for every Canadian citizen, with additional animal lives bound up in egg and milk production.

The burden of industrial livestock production

The ecological hoofprint is a conceptual framework for understanding the multidimensional burden of industrial livestock production. A key foundation for this is to examine how productive environments are organized, including both the 'islands' of concentrated animals and the spatially expansive feed crop monocultures they depend upon, while also recognizing the great wastage of useable nutrition at their nexus (Weis 2016; 2013). In both industrial monocultures and livestock operations, the incessant pursuit of economies of scale (reducing the relative cost of labour) is entwined with attempts to biologically simplify and standardize productive environments. In essence, a basic requirement for mechanization is to produce a lot of the same plant or animal at the same rate, resulting in large fields (and sometimes whole landscapes) dominated by a single crop, and huge enclosures containing a single animal species. Animals must be separated from land, as they cannot be functionally integrated into monoculture production. This simplification and standardization of crops and animals exacerbates some age-old biological and physical challenges in agriculture and establishes some novel ones. Since the pursuit of scale is an obstinate competitive discipline, ways must be found to continually respond to—or override—the biophysical problems posed, even as the long-term conditions of production get eroded and various short-term risks get heightened. In short, biophysical problems and overrides exist in a dialectical relationship, and assessing these dynamics helps illuminate the resource budgets and pollution loads of the system as a whole (Weis 2016; 2013).

High-yielding monocultures increase soil erosion, vulnerability to insects and weeds, and the demand for water relative to traditional farming practices and modern agroecological methods, which get overridden through repeated applications of fertilizers (principally nitrogen,

phosphorous, and potassium), pesticides, and irrigation (Gunstone et al. 2021; IPES 2016; McIntyre 2009; Sage 2012). Fossil energy courses through the veins of industrial monocultures in ways that are both obvious, such as powering tractors and combines, and veiled, such as in: manufacturing synthetic nitrogen fertilizer (which relies mainly on natural gas and coal to generate the intense heat needed); mining and processing phosphorous and potassium fertilizers; manufacturing pesticides; producing high-yielding seeds on controlled plots; moving fertilizers, pesticides, and seeds, often over long distances; and the pumping of some irrigation water against gravity (IPES 2016; McIntyre 2009; Ramirez and Worrell 2006; Sage 2012).

As with industrial monocultures, the pursuit of economies of scale in industrial livestock operations is geared above all at increasing labour productivity (i.e., output per worker) and yield (i.e., the flesh, eggs, and milk generated by each animal). Added to this is the competitive pressure to reduce feed inputs in relation to animal outputs, because although cheap surplus grains and oilseeds are central to labour and yield gains, they also represent a considerable cost to producers. These interwoven pressures to reduce labour, accelerate the weight gain and reproductive cycles of animals, and optimize feed together pose another series of intractable biological and physical problems (Weis 2016; 2013). Central to this are the adverse effects on animal health, as unnatural densities of animals and vast concentrations of feces and urine increase the risks of contagious pathogens, while the extreme crowding and immobility impede exercise, play, and normal social bonds and interactions, causing stress and increasing risks of self-harm or attacks on neighbours (with animal welfare generally only factoring into the design of operations to the extent that it affects productivity). Another parallel to industrial monocultures is that the biological and physical problems that inhere in industrial livestock operations must be perpetually overridden in a range of ways. These overrides include artificial insemination, routinized physical mutilations (e.g., beak-tipping, tail docking, castration, teeth clipping), chronic antibiotic use, large fans to vent noxious fumes and airborne particulates, and hoses and pumps to extract animal excreta and send it from enclosures to holding pits (Imhoff 2011; Lymbery 2014; Pew Commission 2008).

Industrial livestock operations are also resource- and pollution-intensive spaces. Key energy demands stem from the need to transport feed and various inputs over greater distances (including newborn animals from specialized breeding sites) and to power monitors, automated feeding and ventilation systems, and temperature controls. Further, industrial livestock operations greatly amplify the demand for water relative to livestock on small mixed farms, as animals can no longer seek their own sources of moisture or gain it from roughage, and large volumes of water and chemical disinfectants are needed to regularly flush out excreta and decontaminate enclosures (Mekonnen and Hoekstra 2012; Imhoff 2011; Lymbery 2014; Pew Commission 2008). The rising scale and shrinking number of livestock operations also means that animals must be moved across greater distances on their final journey, especially when placed together with the parallel growth in scale and shrinking number of slaughter and packing plants. Within these plants, fast-moving killing and packing lines, systematized disinfection

techniques (chilling or scalding carcasses), and massive refrigeration units further amplify the consumption of energy, water, and chemical disinfectants.

The biophysical problems and overrides associated with industrial monocultures and livestock operations contribute to a range of environmental and public health problems (IPES 2016; Sage 2012; Weis 2013). The fossil energy intensity of these systems is implicated in CO_2 emissions, and atmospheric impacts grow further with the nitrous oxide and methane emissions that result from the immense applications of nitrogen fertilizer, concentrations of animal excreta, and the digestive processes of beef and dairy cattle. At the same time as these landscapes generate considerable greenhouse gas emissions, the lack of biodiversity (including in soils) diminishes their long-term carbon sequestration capacity of a given area. Pesticides pose diffuse long-term risks as persistent toxins accumulate in both aquatic and terrestrial trophic webs (Gunstone et al. 2020; Hladik et al. 2018). Although causation is complex and multidimensional, there is strong evidence to suggest that pesticides are a significant factor in the global crisis of declining pollinator populations, which has led to the development of another override for certain crops: the commodification of pollination services (i.e., bee colonies trucked across landscapes) (Ellis et al. 2020). The excess nutrient loads from inorganic fertilizers, livestock slurries, and excreta-filled pits are major drivers of freshwater and coastal marine eutrophication. Industrial livestock production magnifies the risks from infectious bacterial diseases like e coli, salmonella, and listeria, and the widespread sub-therapeutic use of antibiotics in industrial livestock production threatens to undermine their effectiveness over time as antibiotic-resistant bacteria develop resistance (Economou and Gousia 2015; Morehead and Scarbrough 2018; Ventola 2015). Another untold public health risk associated with industrial livestock production is that it accelerates the evolution of viruses like avian and swine influenza, increasing the threat that a more dangerous variant will eventually emerge and prove capable of spilling over and spreading among human populations (Davis 2020; Wallace 2016).

The inherent nutritional losses at the nexus of industrial monocultures and livestock operations makes the environmental burden bigger still. Cycling grains and oilseeds through animals to produce food is an extremely inefficient way of generating useable nutrition for human consumption, as much of the nutritional value of crops is burned in the metabolic processes of animals without becoming flesh, eggs, or milk (Weis 2013). This wastage, in human terms, necessarily expands the amount of land and water that must be devoted to agriculture, along with associated resource budgets and pollution loads, including greenhouse gas emissions (Eshel and Martin 2006; Foley et al. 2011; Godfray et al. 2018; IPCC 2019; Pimentel and Pimentel 2003; Poore and Nemecek 2018; Springmann et al. 2018).

Many perspectives on sustainability end here, prioritizing biophysical problems, technical challenges, and human interests, and evade the momentous ethical questions associated with what amounts to a revolution in interspecies relations. The scale and nature of industrial livestock means that a growing share of the world's mammalian and bird populations are utterly deprived of mobility, autonomy, mental stimulation, and familial bonds, and must endure short, anguished lives in which they no longer touch the soil, breathe fresh air, or experience natural

seasonal and diurnal rhythms (Imhoff 2011; Lynbery 2014). At the same time, the physical distance between these highly secretive spaces of production and increasingly urban populations contributes to growing cognitive distance, which is one reason why many people fail to appreciate the interspecies relations that are bound up in their consumption. In countries like Canada, fewer and fewer people have any encounter with living farm animals or any sense of the conditions of life they face.

The splintering hegemony of meatification

The meatification of diets has been so widely accepted as an aspect of progress that it amounts to a hegemonic perspective (Weis 2013). The hegemony of meatification includes a combination of: the veneration of meat on cultural or nutritional grounds; the failure to account for the multidimensional environmental costs and risks (and faith that the biophysical overrides of industrial grain-oilseed-livestock complex will continue to function in perpetuity); and either an explicit denial that farm animals are worthy of moral concern or an unconsciousness about the conditions of life they face. But there are some growing fissures.

The justification that animal products provide a superior source of protein has been undercut by mounting scientific evidence that meatification is tending to worsen rather than improve human health, and leading people to consume far more protein than they actually need. The heavy consumption of animal products is widely identified as a central factor in rising levels of obesity and a series of non-communicable diseases like cardiovascular disease, Type-2 diabetes, hypertension, fatty liver disease, and some cancers (Al-Shaar et al. 2020; Anand et al. 2015; Lim et al. 2012; Springmann et al. 2020; Willett et al. 2019), which are most pervasive in industrialized and fast-industrializing countries as indicated by their common description as ‘diseases of affluence’. Conversely, the recognition that there are many rich and easily metabolized plant-based sources of protein is replacing the notion that they are inherently ‘inferior’ (coupled with evidence showing the best ways to combine them), and well-balanced plant-based diets are increasingly acknowledged to have considerable health advantages, with the potential to help reverse some chronic diseases (Al-Shaar et al. 2020; Dinu et al. 2016; Popkin 2009; Sabate 2003; Willett et al. 2019). The weight of this health evidence has led to recent changes to dietary guidelines in a number of countries, including Canada in 2018, to signal the nutritional value of plant-based proteins and the benefits of substituting some animal products—although national dietary guidelines around the world generally still have far to go to better align with the scientific understanding of how diets bear on environmental and health outcomes (Springmann et al. 2020).

The health evidence for de-meatification is a potentially strong pressure point with respect to public policy in light of spiraling health care costs to individuals, governments, and insurance companies. One inflection of this can be seen in recent calls for a ‘meat tax’, which have tended to couple public health arguments together with environmental (especially climate)

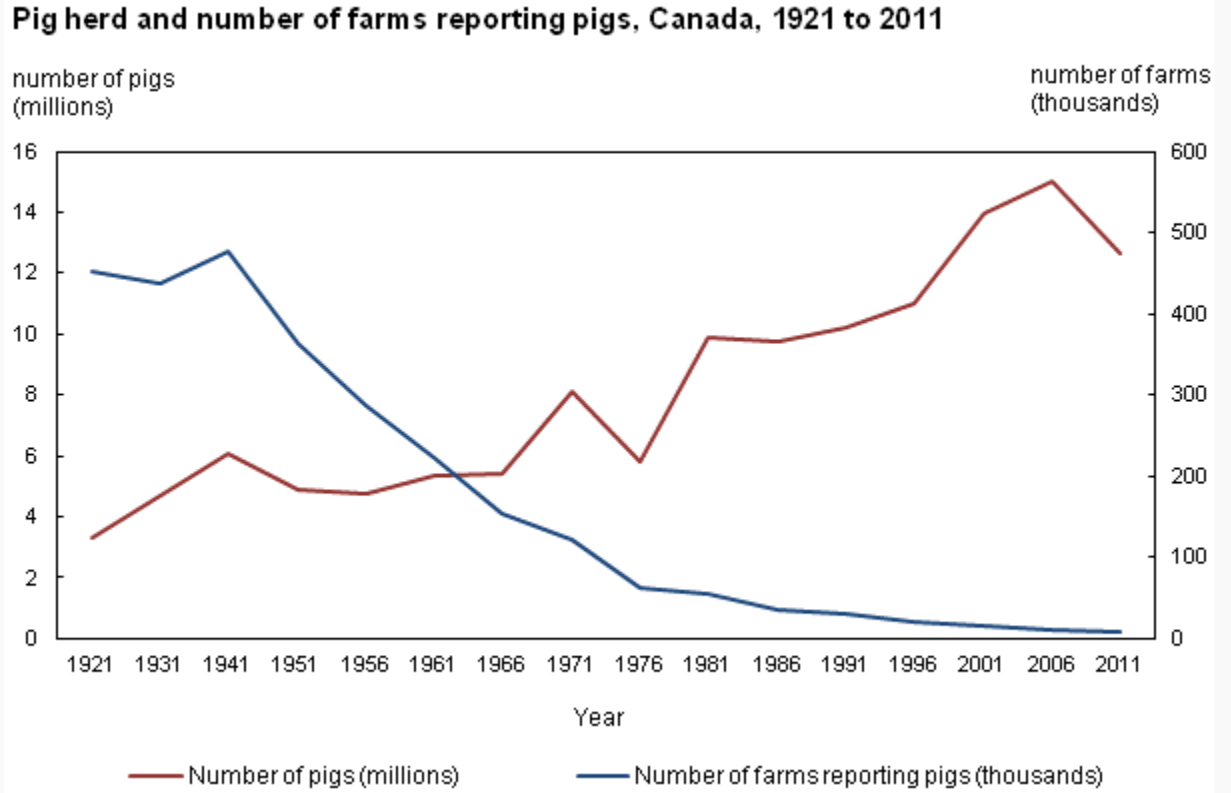
arguments to make a case that market signals should be tweaked to steer consumers away from unhealthy food choices. However, at present, the challenge to meatification is much less pronounced in public policy debates than it is in market forces. Rates of both vegetarianism and veganism have risen significantly in some of the countries that have long been at the forefront of meatification, including in Canada, the US, the United Kingdom, and Germany, especially among younger people (Charlebois et al. 2018; Sexton et al. 2022; Waters 2018; White 2018). Although vegetarians and vegans are still relatively small minorities in industrialized countries, there is abundant indication that this growth is affecting producers and retail spaces, from the proliferation of vegetarian and vegan options in supermarkets and restaurants, to the rise of entirely vegetarian and vegan restaurants, to the explosive development of plant-based proteins as a sub-sector of the food industry. *Beyond Meat* and *Impossible Foods* provide two dramatic illustrations of this, having moved quickly from small start-ups to multi-billion-dollar stock market capitalization.

For decades, vested interests in livestock production have tried to disparage plant-based advocacy in a number of ways. One well-established strategy has been to play up associations between meat and masculinity, connecting these to such things as historical imagery (e.g., rugged frontiersmen), physical strength, and ostensibly male-centered culinary practices (e.g., barbeques), or conversely seeking to associate plant-based diets with weakness, femininity, or naivety (Adams 2010; Gambert and Linné 2018). An especially blunt strategy is the establishment of 'food disparagement' legislation in the US, targeted largely at critics of livestock production, that seeks to either intimidate them into silence or muzzle them with the force of law should they proceed. A relative of this is the pursuit of laws to prohibit the producers and retailers of plant-based foods from using certain terms like meat, burger, sausage, hot dog, milk, and cheese to describe vegetarian and vegan alternatives (Gambert 2019).

Livestock processing corporations have also consistently tried to cast their products in positive terms, such as with food labels and advertisements featuring images of bucolic family farms and happy animals. Appeals to wholesome traditions and agrarian livelihoods are sometimes invoked to try to reduce criticism, as though opponents are trading in crude 'anti-farmer' conceptions. However, these images and this defense represent a very thin veneer that cannot hold up against the actual decline of farming livelihoods with industrialization, as Canada illustrates very clearly. For instance, in Canada's first agricultural census in 1921, almost two-thirds of over 700,000 farms reported having some pigs, whereas in the 2016 agricultural census only four percent of out of less than 200,000 farms reported pigs, in a context where the total population of pigs more than quadrupled. From the mid-1970s to 2016 alone, the number of pig-producing farms in Canada declined by a factor of seven while the average herd on a pig-producing farm rose from less than 100 to roughly 1700 (Statistics Canada 2016). Figure 1 shows the broad pattern of much fewer and larger pig operations in Canada.[1]

[1] Although there was a slight uptick in the number of farms reporting pigs from the 2011 to the 2016 census (rising just over 1000, to 8402) along with over 1.4 million more pigs (Statistics Canada 2016).

Figure 1:



Source: Brisson 2015

Further, an important aspect of industrialization that is understated in Figure 1 is the accelerating 'turnover time' of pigs, as the shortened time from birth to slaughter means that while there are now over 14 million pigs alive in Canada at any one time, every year around 21 million pigs are killed for food. A similar picture can be seen with poultry. In the 1950s, there were still over 400,000 farms in Canada that reported having some chickens, but in the 2016 agricultural census less than 19,000 farms reported layer chickens and less than 7300 farms reported having broiler chickens, with the average layer shed housing over 1300 hens and the average broiler shed housing over 14,000 birds at a time and turning over this 'inventory' more than six times a year. It is also noteworthy that Canada's entire layer hen and broiler chicken populations are reproduced at only around 1500 breeding sites (Statistics Canada 2016). The falling number and growing scale of animal enclosures and slaughterhouses are also entwined with the degradation of labour, from artificial inseminators at breeding sites to positions on fast-moving slaughter and disassembly lines, where workers face high rates of injury and job turnover and an immeasurable toll from contributing to and being constantly immersed in conditions of intense physical and psychosocial suffering (Blanchette 2020; Gillespie 2018; Imhoff 2011; Struthers Montford and Wotherspoon 2021). In short, any suggestion that criticism of industrial livestock production is anti-farmer melts against the reality that industrialization is

systematically expunging farmers and leaving fewer and larger operations that, while highly capitalized, depend upon many distressing and low-paying jobs.

A different but similarly flimsy diversion is the insistence that rising livestock production is needed to help feed the world, with specific reference to the potential nutritional value that more animal products could have for impoverished populations with protein-deficient diets. Such a claim deceives on two essential counts. First, meatification is driven by *effective* rather than *real* demand (i.e., the ability to pay as opposed to meeting basic human needs), reflected in the fact that it is skewed heavily towards more affluent populations, which is entwined with their highly uneven command of arable land and all the attendant wastage discussed earlier. Second, livestock production is a significant factor in climate change (Eshel and Martin 2006; IPCC 2019; Poore and Nemecek 2018; Ripple et al. 2014; Springmann et al. 2018; 2016; Steinfeld et al. 2006; Vermeulen et al. 2012), which is disrupting agricultural production most severely in the semi-arid and arid tropics that are home to the lion's share of food-insecure people. Thus, to submit that expanding livestock production is motivated by concerns about enduring problems of hunger and malnutrition is bound to call attention to the highly regressive character of meatification.

The possible paths of de-meatification

De-meatification is far from a 'single issue' political or activist stance. On the contrary, as discussed, there is amassing evidence that the rising scale of livestock production bears heavily on a wide range of important issues including: climate change; biodiversity loss; rates of non-communicable diseases; amplified risks of zoonotic disease evolution; mounting antibiotic resistance; poor health and safety conditions facing workers; and growing realms of animal suffering (Aiking et al. 2006; Blanchette 2020; Crist et al. 2017; D'Silva and Webster 2010; Imhoff 2011; Lymbery 2014; Machovina et al. 2015; Ripple et al. 2014; Springmann et al. 2018; Struthers Montford and Wotherspoon 2021; Weis 2013). The basic implication is that a "societal transition from meat to plant protein is indispensable" to rebuilding more sustainable, equitable, and humane agro-food systems (Aiking et al. 2006:187), and de-meatification must therefore be part of any project of critical food guidance.

If the strategic calculation is to try to affect behavioural change across as wide a spectrum as possible, it could be argued that the de-meatification imperative is best left at a general level in various forms of advocacy, and that the question framing this paper—what endpoint does it entail?—is best moderated or evaded altogether, especially if there is an assumption that many people are only likely to be open to making small changes. From this vantage, more open-ended messaging ('you should eat *less* meat') has a better chance of reaching the greatest number of people closer to where they are at and may be prepared to move to, while more strident demands ('you should eat *no* meat') could well cause many to instantly tune out. This sort of calculation is reflected in the campaign for 'Meatless Mondays', which encourages people to go vegetarian one

day a week, either for its own sake or as a possible gateway towards further changes (Weis 2015). Advocates for strategic moderation might also point to the risk that heated debates between conscientious omnivores, vegetarians, and vegans could inadvertently sow doubts about the coherence of the rationale and the changes needed.

However, while there is no disputing the primacy of challenging industrial livestock production, and there may be some grounds for strategic alliances between conscientious omnivores, vegetarians, and vegans, we argue that the differences cannot be masked or saved for that point in the future when industrial livestock is in retreat. Rather than distracting from the de-meatification imperative, debating its different endpoints is essential to strengthening it.

Conscientious omnivory

The notion of conscientious omnivory is entwined with calls for 'green' or 'ethical' meat and implies both a strident objection to the dominant system of livestock production (whether on environmental or moral grounds, or both) and a strident defence of meat, egg, and milk production associated with small, mixed farming systems. This position tends to place the nutritional value of animal protein together with the functionality of small livestock populations in mixed farming systems, stressing the role of livestock in recycling some wastes, returning condensed nutrients to land, and providing sources of labour. The case for animal functionality has been further augmented by claims that it is not only important in sustaining the health of land but that managed grazing by cows, sheep, and goats can have a key role in restoring soils in contexts of degradation, especially those contexts not suited to cultivation (e.g., mountain ranges, arid grasslands) and where native herbivores have been eliminated or drastically reduced (Holmgren 2002; Starhawk 2004; Toensmeier 2016). Clearly, to accept the necessary functionality of animals on farms and pastures augments the nutritional functionality, making some meat, eggs, and milk consumption both unavoidable and beneficial—or a 'benign indulgence' in Simon Fairlee's (2010) terms.

Claims to conscientious or ethical consumption also imply a degree of concern about animal welfare, with the belief that animals can have reasonably good lives before being killed and while generating milk, eggs, and honey. Some go further and insist that livestock are advantaged individually and in an evolutionary sense (i.e., at the species-level) by their place in human-managed environments, as they gain secure food supplies, protection from predators, and sometimes shelter from the elements.[2] The flipside of the evolutionary advantage is that physical and behavioural changes over the course of domestication have made these species unequipped for survival outside of human-managed environments, such that they would be fated for extinction without their place in human diets (Starhawk 2004). Of course, it is impossible to say

[2] The fact that livestock now comprise the majority of mammalian and bird biomass on earth (Bar-On et al. 2018) could presumably brace the case for the evolutionary advantage certain species have gained, though it also could be seen as a disaster for biodiversity.

definitively what a 'reasonably good' life would be for an animal destined to be killed short of a natural lifespan, or just how long it must last to be deemed good. But it is fair to assume that most people who explicitly identify animal welfare as a concern would acknowledge the need for animals to have degrees of mobility and choice in their everyday lives, allowing them to enact species-appropriate behaviours and have healthy social interactions with other members of their own species (Salatin 2017; 2011; Webster 2018). Related to this is a belief that farmers and herders can have affection for the animals they are raising and see them as individual subjects of their own lives (even as the inevitability of killing hangs over this interspecies relation), and further that animals might return affection to those farmers and herders who provide them good care.

Reflecting these concerns about sustainability and the ethics of animal husbandry, conscientious omnivores try to source their meat, eggs, and milk from small mixed farms or ranches. For some, this is entwined with a recognition that the vastly lower densities of animals in these systems compared with industrial livestock production translates to the need to significantly reduce levels of meat, milk, and egg consumption from those that prevail in wealthy countries like Canada and the United States. A good example of this is in one of Michael Pollan's well-known 'food rules' (Pollan 2008): to eat *mostly plants*, which implies that less but some animals are necessary in diets and in agriculture. However, there is no empirical evidence about the degree to which those who advocate 'green' or 'ethical' meat reduce their total volume of animal consumption. It is also possible that conceptions about the sorts of conditions that are possible at low densities (the shrinking minority in countries like Canada and the US) can lead down a slippery slope of justification, providing an offhanded rationalization for animal consumption at any scale, which is further problematic in light of the popularity of animal-heavy and grain-averse dietary fads (e.g., keto and paleo diets) that celebrate pastured livestock (Stanescu 2019; 2010).

Vegetarianism

The ethical basis of vegetarianism starts from an acceptance of the functional necessity of small livestock populations in mixed farming systems, including their ability to both provide beneficial on-farm services and generate useable nutrition, alongside abiding animal welfare concerns. For some, the nutrition component is undoubtedly augmented by pure palate pleasure, as in the love of ice cream, cheesy pizza, or scrambled eggs. Another assumption that vegetarians share with conscientious omnivores is that mutually affective relations between humans and animals being used for food are possible, with ideas about affection, care, and animal subjectivity all obviously easier to reconcile without slaughter looming. Unlike conscientious omnivores, however, ethical vegetarians do not believe that the need for animals on mixed farms justifies killing them for food, much less make it 'benign', and on the contrary hold out hope that a non-violent resolution is possible—an aspiration that has long roots in a range of cultures (Fox 1999; Preece 2008). The

first and more obvious aspect of this assumption is that reproductive outputs (i.e., milk and unfertilized eggs), wool, and honey can be taken without harm on an ongoing basis. The second and less obvious aspect of the prospect of use without violence is that animals have to be allowed to 'retire' and live out their natural lifespan after they cease to be useful to humans, which aligns with the belief that emotional bonds are possible.

These assumptions about what is possible run up against serious tensions in practice, especially between the advocacy of non-violence and the consumption of dairy and eggs. The central tension relates to the fact that for species where reproductive outputs are used, males do not have a direct nutritional function beyond their role in breeding, which does not require a commensurate population to females. Thus, in terms of nutritional yields, vegetarians have an interest in having populations heavily skewed towards females, as the function of surplus males in farming systems would lie mainly in cycling nutrients and, for some oxen (castrated bulls), providing traction where animal labour has not been outmoded by the combustion engine. While a female-dominated population might be plausible in a generational vacuum for hens, which can produce unfertilized eggs, the problem would always return anew when eggs are fertilized for the next generation. No such gap in reproduction (i.e., taking outputs before confronting the gender imbalance) is even conceivable for milked animals, as consistent supplies depend upon repeated states of pregnancy and lactation, which have been manipulated over millennia with varying degrees of coercion but little technology and now increasingly occur through artificial insemination (Gillespie 2018).

In sum, the gender imbalance that is optimal for vegetarians cannot be maintained without either killing or allowing many males to live out (in human terms) mostly unproductive lives. The tension gets much worse in contexts where eggs and milk primarily come from industrial systems, which many vegetarians are ultimately connected to, especially where eggs and dairy are heavily consumed to substitute for meat products. Industrial layer hen and dairy operations involve harsher enclosures than their broiler and beef counterparts and maintain extraordinary gender imbalances through systematized violence: male chicks are killed almost instantaneously upon birth, and motherly bonds with calves are swiftly broken and males mostly sentenced to short lives in crates to produce veal (Imhoff 2011; Lymbery 2014; Gillespie 2018). Taken together, it is important not to idealize non-violence within vegetarianism, and any effort to pursue it must be conscious of a number of considerations, including the scale at which it might conceivably be approached. In a world of nearly 8 billion people, it is hard to imagine that truly non-violent systems of egg and dairy production could generate the volumes needed to make these products an everyday expectation rather than just a rare treat.

Veganism

The essence of veganism is a rejection of all direct use of animals in production and consumption, which is rooted in varying combinations of ethical, environmental, and health motivations (Sexton et al. 2022; Twine 2018). For many (though certainly not all) vegans,

concern for animals is paramount, and food consumption practices not only provide a way to act upon one's values, but also a means to challenge the unconsciousness surrounding meat, eggs, and dairy. Mealtimes present regular opportunities to provoke others to think about how these products relate to the lives and deaths of other animals, and ultimately draw this everyday suffering out of the shadows (Twine 2018).

Vegans who seek to abolish all exploitation of animals refute the claims that affective relations with livestock are possible, as conscientious omnivores and vegetarians would have, given that these animals are conceived as property and human interests are inevitably paramount (Charlton and Francione 2015). While nutrient cycling can play out in benign ways, abolitionist vegans insist that it is impossible to reconcile affection with the coercion of animal labour (which also commonly involves castration and varying constraints on mobility during rest periods) and unnatural rates of reproduction, and most of all killing animals before a full life is lived and consuming their flesh. Abolitionist vegans also admonish vegetarians for their complicity in the slaughter of male chicks, male calves raised for veal, and 'spent' females, as well as for the misery of layer hens and dairy cows in industrial operations and male calves in industrial and non-industrial systems alike. Further, even small mixed farms face competitive pressures that make it highly improbable for unproductive males to be allowed to live or for females with declining reproductive capacity to be allowed to live out peaceful retirements, as is necessary for any non-violent conception of vegetarianism to hold.

Although the abolition of animal exploitation remains a central motivating factor for many vegans, vegan advocacy has also increasingly pointed to both environmental and health arguments, and their convergence (Sexton et al. 2022; Twine 2018; White 2018). This case pivots on the overwhelming evidence that plant-based diets tend to command much less land and resources than either omnivorous or vegetarian diets, and this greater efficiency is augmented by mounting epidemiological research showing that it is not only possible to be healthy with plant-based diets but that they tend to lower risks of non-communicable diseases and lead to improved health outcomes (Al-Shaar et al. 2020; Dinu et al. 2016; Popkin 2009; Sabate 2003; Willett et al. 2019). While these arguments are helping to increase the population of vegans, the three pillars of abolishing animal exploitation, increasing agricultural land and resource efficiency, and improving human health outcomes do not add up to a unified social movement with aligned political demands (Sexton et al. 2022; Twine 2018; White 2018). On the contrary, there are significant fractures between highly entrepreneurial and radical or anti-capitalist veganism, and between vegans who are motivated by animals in the first instance and those whose own health and well-being is the primary concern.

Entrepreneurial veganism essentially seeks to couple moral suasion with market mechanisms, placing great faith in the power of ethical consumption along with technological innovation bent on developing and mainstreaming plant-based substitutes for meat, milk, and eggs (Gheihman 2021; Reece 2018). The dynamism here is clearly evident in many modern supermarkets, which now contain vastly more fake meats, egg replacers, and dairy alternatives than just a decade or two ago. Some of this is emerging from new corporations expressly

dedicated to vegan processed foods, like *Beyond Meat* and *Impossible Foods*, which have been stoked by huge flows of venture capital emanating from Silicon Valley and have quickly penetrated some of the biggest food retailers, from *Burger King* and *Yum! Brands* in fast food to *Wal-Mart* in the supermarket sector. It is also significant to note that a considerable amount of the growth in vegan products is coming from large corporations focussed on livestock slaughter and packing or on processed foods that are heavy in animal products, partly through acquisitions of smaller plant-based companies and partly through the in-house development of new product lines (Yaffe-Bellany 2019). Another contradictory dimension of entrepreneurial veganism is that some plant-based start-ups touting moral claims have been found to engage in anti-union practices, which is clearly at odds with anti-capitalist vegans (Press 2020).

While most vegans would obviously find something heartening in the rising presence of vegan options in mainstream retail outlets, radical vegans warn against leaving veganism at the level of an individual lifestyle choice, where it amounts to a limited sort of identity politics (Gheihman 2021; Sexton et al. 2022; Twine 2018; White 2018). The great risk here is that it can diminish the need to challenge the systemic nature of animal exploitation and foster a level of complacency about the extent of changes when they are still on the far margins. Here, it is worth considering the extent to which entrepreneurial veganism might be capable of propelling change beyond a few aisles or freezer boxes in a supermarket or a few options in most restaurants, or the extent to which these additional options might help fortify the status quo by de-politicizing some vegans. In contrast, radical vegans seek to tie the ethical concern for non-violence and the environmental rationale together with anti-capitalist critiques and outreach strategies, including efforts to build alliances between veganism and other anti-systemic movements (Twine 2018; White 2018).[3] Related to this, radicals are also wary of the bourgeois cultural associations stemming from the growth of upscale vegan products, boutique retailers, and restaurants,[4] as well as the sorts of meat, egg, and dairy alternatives that emerge from industrial capitalist agriculture, including the reliance on large-scale monocultures, genetically modified organisms (for instance, key to the simulation of blood in the fake meat produced by *Impossible Foods*), and heavy fertilizer and pesticide use, with negative implications for farming livelihoods, wild animals, and ecosystem health.

Another divergence within veganism is between those who seek to abolish all use of domesticated animals (Charlton and Francione 2015) and those who envision some level of peaceful co-existence (i.e., interspecies relations that are free of all violence and exploitation)

[3] A popular vegan podcast provides good illustrations of this perspective: *Total Liberation* (https://totalliberationpodcast.com).

[4] The Toronto neighbourhood of Parkdale provides an important cautionary tale of entrepreneurial veganism becoming entwined with exclusionary dynamics of urban gentrification and impeding rather than fostering potential anti-systemic alliances. The debate centred around a vegan entrepreneur who bought up several properties to become high-end food businesses in the west Toronto neigbourhood of Parkdale, an area of the city facing intense gentrification. He coined his section of the neighbourhood 'Vegandale', and the upscale connotations this carried contributed to an outcry from many long-term residents and social justice activists (Ngabo 2018).

with domesticated animals on farms (Donaldson and Kymlicka 2013), which entail different transitional and operational challenges for agriculture.

Conclusions

This paper set out the case for de-meatification as a fundamental component of critical food guidance in light of the urgent need to transform the dominant agro-food system, exploring the three main paths it could follow. One underlying assumption is that while individual consumer choices matter to some degree (as can be seen in the rapid growth of new meat, egg, and dairy substitutes), there is also a need to recognize the limits of demand-driven dietary change in the face of structural problems. For instance, it is important to consider the extent to which it is possible for people to eat their way to more sustainable, equitable, and humane societies when the prevailing economic logic makes it much cheaper to consume a meat-heavy, chemical-laden diet as opposed to an organic vegan diet that commands much less land and resources. To put it another way, if the value of commodities continues to be determined in a way that greatly discounts environmental costs and completely disregards interspecies violence, in the context of large and growing social inequalities, then people do not have the same power to act on their principles through markets—which is a big part of why principles-based commodities tend to be confined to small upscale market niches. The skewed determination of value is further compounded by the immense disparities in advertising capacities between the dominant actors in the agro-food system, and the prevailing lack of information about the nature of production embedded in commodities.

These systemic barriers point towards the need to extend the de-meatification imperative from a matter of individual responsibility, as it largely is conceived of today, into a broadly-based political demand. While there are no strategic blueprints for this, we believe it is especially important to continue building awareness about the destructive impacts of industrial livestock production among those constituencies and social movements that are already attuned to environmental and social justice concerns. We also believe, as indicated at the outset, that while blurring over the endpoints of de-meatification might seem to provide an easier basis for coalition-building, working through the tensions within and between conscientious omnivory, vegetarianism, and veganism is necessary to strengthen not only individual convictions but also the footing for de-meatification within anti-systemic alliances.

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References

Adams, C. (2010[1990]). *The sexual politics of meat: A feminist-vegetarian critical theory*. London, U.K.: Bloomsbury.

Aiking, H., de Boer, J., & Vereijken, J. (Eds.) (2006). *Sustainable protein production and consumption: Pigs or peas?* Dordrechtt (Neth): Springer.

Al-Shaar L., Satija A., Wang, D.D., Rimm, E.B., Smith-Warner, S.A., Stampfer, M.J., Hu, F.B., & Willett, W.C. (2020). Red meat intake and risk of coronary heart disease among US men: prospective cohort study. *BMJ*, *371*:m4141. doi:10.1136/bmj.m4141

Anand, S.A., et al. (2015). Food consumption and its impact on cardiovascular disease: Importance of solutions focused on the globalized food system. *Journal of the American College of Cardiology*, *66*(14), 1590-1614.

Bar-On, Y.M., Phillips, R., & Milo, R. (2018). The biomass distribution on Earth. *PNAS*, *115*(25), 6506-6511.

Blanchette, A. (2020). *Porkopolis: American animality, standardized life, and the factory farm.* Durham: Duke University Press.

Brisson, Y. (2015). The changing face of the Canadian hog industry. *Statistics Canada*, November 30. Available at: https://www150.statcan.gc.ca/n1/pub/96-325-x/2014001/article/14027-eng.htm

Charlebois, S. (2018). Young Canadians lead the charge to a meatless Canada. *The Conversation*, March 24. Retrieved from https://theconversation.com/young-canadians-lead-the-charge-to-a-meatless-canada-93225

Charlton, A., & Francione, G.L. (2015). *Animal rights: The abolitionist approach.* Providence: Exempla Press.

Crist, E., Mora, C., & Engelman, R. (2017). The interaction of human population, food production, and biodiversity protection. *Science*, *356*(6335), 260-264.

Davis, M. (2020). *The monster enters: COVID-19, avian flu, and the plagues of capitalism*. New York: OR Books.

Dinu, M., Abbate, R., Gensini, G.F., Casini, A., & Sofi, F. (2016). Vegetarian, vegan diets with multiple health outcomes: a systematic review with meta-analysis of observational studies. *Critical Reviews in Food Science and Nutrition*, *57*(17), 3640–49.

Donaldson, S., & Kymlicka, W. (2010). *Zoopolis: A political theory of animal rights.* Oxford: Oxford University Press.

Economou, V., & Gousia, P. (2015). Agriculture and food animals as a source of antimicrobial-resistant bacteria. *Infection and Drug Resistance*, *8*, 49-61. doi:10.2147/IDR.S55778

Ellis, R.E., Weis., T, Surayanaman, S., & Beilin, K. (2020). From a free gift of nature to a precarious commodity: Bees, pollination services, and industrial agriculture. *Journal of Agrarian Change 20*(3), 437-59.

Eshel, G., & Martin, P.A. (2006). Diet, energy, and global warming. *Earth Interactions*, 10-009.

Fairlie, S. (2010). *Meat: A benign extravagance*. White River Junction, VT: Chelsea Green.

Foley, J.A. et al. (2011). Solutions for a cultivated planet. *Nature, 478*(7369), 337–342.

Food and Agriculture Organization Statistics Division (FAOSTAT 2022). *Production & resource STAT calculators*, Rome: FAO. Retrieved from: http://www.fao.org/faostat/en/

Fox, M. (1999). *Deep vegetarianism.* Philadelphia: Temple University Press.

Gambert, I., & Linné, T. (2018). From rice eaters to soy boys: Race, gender, and tropes of 'plant food masculinity'. *Animal Studies Journal*, *7*(2), 129-179.

Gambert, I. (2019). Got Mylk? The disruptive possibilities of plant milk. *Brooklyn Law Review 84*(3), 801-871.

Gheihman, N. (2021). Veganism as a lifestyle movement. *Sociology Compass*, *15*(5), e12877.

Gillespie, K. (2018). *The Cow with ear tag #1389*. Chicago: University of Chicago Press.

Godfray, H.C.J., Aveyard, P., Garnett, T., Hall, J.W., Key, T.J., Lorimer, J., Pierre, R.T., Pierrehumbert, R.T., Scarborough, P., & Jebb, S.A. (2018) Meat consumption, health, and the environment. *Science*, 361(6399), DOI: 10.1126/science.aam5324

Gunstone, T., Cornelisse, T., Klein, K., Dubey, A., & Donley, N. (2021). Pesticides and soil invertebrates: A hazard assessment. *Frontiers in Environmental Science*, *9*, 643847. doi: 10.3389/fenvs.2021.643847

Harris, M. (1974). *Cows, pigs, wars, and witches: The riddles of culture*. New York: Vintage

Hladik, M. L., Main, A. R., & Goulson, D. (2018). Environmental risks and challenges associated with neonicotinoid insecticides. *Environmental Science and Technology*, *52*(6), 3329-3335.

Imhoff, D. (ed.) (2011). *The CAFO reader: The tragedy of industrial animal factories*. Berkeley: University of California Press.

Intergovernmental Panel on Climate Change (IPCC) (2019). *Special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems.* Retrieved from: https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM_Approved_Microsite_FINAL.pdf

IPES-Food (2017): *Too big to feed*. The International Panel of Experts on Sustainable Food Systems and the ETC Group. Retrieved from: www.ipes-food.org/images/Reports/Concentration_FullReport.pdf

IPES-Food (2016). *From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems*. International Panel of Experts on Sustainable Food Systems. Retrieved from: www.ipes-food.org/_img/upload/files/UniformityToDiversity_FULL.pdf

Holmgren, D. (2002): *Permaculture: Principles & pathways beyond sustainability.* Hepburn: Holmgren Design Services.

Lymbery, P. (2014). *Farmageddon: The true cost of cheap meat*. New York: Bloomsbury.

Lappé, F.M. (1991[1971]). *Diet for a small planet*. New York: Ballantine.

Lim, S.S. et al. (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet 380*(9859), 2224-60.

Machovina, B., Feeley, K.J., & Ripple, W.J. (2015). Biodiversity conservation: The key is reducing meat consumption. *Science of the Total Environment*, *536*, 419-31.

McIntyre, B.D., Herren, H.R., Wakhungu, J., & Watson, R.T. (Eds.) (2009). *International assessment of agricultural knowledge, science and technology for development: Synthesis report*. Washington: Island Press.

Mekonnen, M.M. & Hoekstra, A.Y. (2012). A global assessment of the water footprint of farm animal products. *Ecosystems*, *15*(3), 401-415.

Morehead, M.S. & Scarbrough, C. (2018). Emergence of global antibiotic resistance. *Primary Care*, *45*(3), 467-484.

Ngabo, G. (2018). Is it Parkdale or Vegandale? Fight intensifies over identify of neighbourhood. *Toronto Star*, August 2, 2018. Retrieved from: https://www.thestar.com/news/gta/2018/08/02/is-it-parkdale-or-vegandale-fight-intensifies-over-neighbourhoods-identity.html

Pew Commission on Industrial Farm Animal Production (2008). *Putting meat on the table: Industrial farm animal production in America*. Washington: The Pew Charitable Trusts and The John Hopkins Bloomberg School of Public Health.

Pimentel, D. & Pimentel, M.H. (2003). Sustainability of meat-based and plant-based diets and the environment. *American Journal of Clinical Nutrition, 78*(3S), S605-33.

Pollan, M. (2008). *In defense of food: An eater's manifesto.* New York: Penguin.

Poore, J. & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science*, *360*(6392), 987-992.

Popkin, B. (2009). Reducing meat consumption has multiple benefits for the world's health. *Archives of Internal Medicine*, *169*(6), 543-45.

Preece, R. (2008). *Sins of the flesh: A history of ethical vegetarian thought*, Vancouver: UBC Press.

Press, A.N. (2020). Workers at no evil foods say the vegan, progressive company busted their union drive. *Jacobin*, June 18. Retrieved from: https://jacobinmag.com/2020/06/no-evil-foods-unionizing-workers-organizing

Ramírez, C. A., & Worrell, E. (2006). Feeding fossil fuels to the soil: An analysis of energy embedded and technological learning in the fertilizer industry. *Resources, Conservation and Recycling*, *46*(1), 75-93.

Reece, J. (2018). *The end of animal farming: How scientists, entrepreneurs, and activists are building an animal-free food system*. Boston: Beacon.

Rifkin, J. (1992). *Beyond beef: The rise and fall of the cattle culture.* New York: Dutton.

Ripple, W.J., Smith, P., Haberl, H., Montzka, S.A., McAlpine, C., & Boucher, D.H. (2014). Ruminants, climate change, and climate policy. *Nature Climate Change*, *4*(1), 2-5.

Sabate, J. (2003). The contribution of vegetarian diets to health and disease: A paradigm shift. *American Journal of Clinical Nutrition, 78*(3S): S502-7.

Sage, C. 2012. *Environment and food*. London: Routledge.

Salatin, J. (2017): *The marvelous pigness of pigs: Respecting and caring for All God's Creation*. New York: FaithWords.

----- (2011): *Folks, this ain't normal: A farmer's advice for happier hens, healthier people, and a better world*. New York: Center Street.

Sexton, A.E., Garnett, T., & Lorimer, J. (2022). Vegan food geographies and the rise of big veganism. *Progress in Human Geography* https://doi.org/10.1177/03091325211051021

Springmann, M., Spajic, L., Clark, M. A., Poore, J., Herforth, A., Webb, P., Rayner, M., & Scarborough, P. (2020). The healthiness and sustainability of national and global food based dietary guidelines: modelling study. *BMJ*, *370*:m2322. doi: 10.1136/bmj.m2322

Springmann, M., et al. (2018). Options for keeping the food system within environmental limits. *Nature*, *562*(7728), 519-525.

Springmann, M., Godfray, H.C.J. Rayner, M. & Scarborough, P. (2016). Analysis and valuation of the health and climate co-benefits of dietary change. *PNAS*, *113*(15), 4146-51.

Stanescu, V. (2019). Selling Eden: Environmentalism, local meat, and the postcommodity fetish. *American Behavioral Scientist*, *63*(8), 1120-1136.

Stănescu, V. (2010). 'Green' eggs and ham? The myth of sustainable meat and the danger of the local. *Journal for Critical Animal Studies*, *8*(1-2), 8-32.

Starhawk (2004): *The Earth path: Grounding your spirit in the rhythms of nature*. New York: HarperCollins.

Statistics Canada (2016). *2016 Census of Agriculture*. Ottawa: Government of Canada. Retrieved from: https://www.statcan.gc.ca/eng/ca2016

Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., & de Haan, C. (2006). *Livestock's long shadow: Environmental issues and options.* Rome: FAO.

Struthers Montford, K., & Wotherspoon, T. (2021). The contagion of slow violence: The slaughterhouse and COVID-19. *Animal Studies Journal*, *10*(1), 80-113.

Toensmeier, E. (2016). *The carbon farming solution: A global toolkit of perennial crops and regenerative agriculture practices for climate change mitigation and food security*. White River Junction: Chelsea Green Publishing.

Twine, R. (2018). Materially constituting a sustainable food transition: The case of vegan eating practice. *Sociology, 52*(1), 166-181.

Ventola, C.L. (2015). The antibiotic resistance crisis. part 1: Causes and threats. *Pharmacy and Therapeutics*, *40*(4), 277-283.

Vermeulen, S.J., Campbell, B.M., & Ingram, J.S.I. (2012). Climate change and food systems. *Annual Review of Environment and Resources*, *37*, 195-222.

Wallace, R. (2016): *Big farms make big flu: Dispatches on infectious disease, agribusiness, and the nature of science.* New York: Monthly Review.

Waters, J. (2018). A model of the dynamics of household vegetarian and vegan rates in the U.K. *Appetite, 127*, 364-372.

Watson, J.L. (2014). Meat: A cultural biography in (South) China. In: Klein, J.A., & Murcott, A. (Eds.). *Food consumption in global perspective: Essays in the anthropology of food in honour of Jack Goody*. New York: Palgrave Macmillan, pp. 25-44.

Webster. J. (2018): Green and pleasant farming: cattle, sheep and habitat. In: D'Silva, J., & McKenna, C. (Eds.): *Farming, food and nature: Respecting animals, people and the environment*. London: Routledge, pp. 101-106.

Weis, T. (2016). Industrial livestock and the ecological hoofprint: Inequality, degradation, and violence. In: Shucksworth, M., & Brown, D.L. (Eds.): *The Routledge Handbook on Rural Studies.* London: Routledge, 205-214.

Weis, T. (2015). Meatification and the madness of the doubling narrative. *Canadian Food Studies*, *2*(2), 296-303.

Weis, T. (2013). *The ecological hoofprint: The global burden of industrial livestock*. London: Zed Books.

White, R. (2018). Looking backward/moving forward. Articulating a 'Yes, BUT…!' response to lifestyle veganism, and outlining post-capitalist futures in critical veganic agriculture. *Europe Now Journal*, Sept. 4. Retrieved from: https://europenowjournal.org/2018/09/04/looking-backward-moving-forward-articulating-a-yes-but-response-to-lifestyle-veganism/

Willett, W., et al. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, *393*(10170), 447–492.

Winders, B., and Nibert, D. (2004). Consuming the surplus: Expanding 'meat' consumption and animal oppression. *International Journal of Sociology and Social Policy*, *24*(9), pp. 76-96.

Yaffe-Bellany, D. (2019). The new makers of plant-based meat? Big meat companies. The *New York Times*, Oct. 14. Retrieved from: https://www.nytimes.com/2019/10/14/business/the-new-makers-of-plant-based-meat-big-meat-companies.html

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Original Research Article

"Good healthy food for all": Examining FoodShare Toronto's approach to critical food guidance through a reflexivity lens

Alessandra Manganelli[a*] and Fleur Esteron[b]

[a] Hafencity University Hamburg
[b] Carleton University

Abstract

By building community-based food systems informed by transformative ideologies and principles, Community-Based Food Organisation (CBFOs) can be understood as agents of critical food guidance from the bottom-up. Framing food guidance as a socio-political process of co-construction of values and principles about food systems, this paper mobilises the notion of reflexivity as pivotal to the implementation of critical food guidance in CBFOs. Reflexivity is defined as the capacity of actors and organisations to establish as well as to reflect upon key food system principles and scale out these principles across communities. To examine reflexivity and its connection to critical food guidance, this paper retraces the story of FoodShare Toronto, a CBFO whose core mission is to foster "good healthy food for all". Going through different stages of its life course, this paper highlights the ways in which this organisation reframes core values and principles through time and how it attempts to scale out these principles through partnerships and programs. Learning from FoodShare´s trajectory, this paper highlights key lessons on how reflexivity can strengthen the capacity of food organisations to be vehicles for emancipatory and transformative food guidance.

Keywords: Community-based food organizations; critical food guidance; reflexivity; FoodShare Toronto

*Corresponding author: alessandra.manganelli@hcu-hamburg.de
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1. Introduction

The negative side effects of mainstream food systems on the health of people and the environment are well documented (iPES-Food, 2017). Critiques to mainstream food systems have highlighted how, far from solving the problem of hunger and food insecurity, profit-oriented food systems have contributed to perpetuate food insecurity conditions and to reproduce disparities in food access (De Schutter, 2017). Among others, these processes have led to the production of "obesogenic food environments", which are sociocultural and sociospatial contexts where unhealthy food choices, such as processed food, rich in salt, sugar and trans fats, have become the easiest and most accessible options, at the expenses of people´s health (Raja et al., 2017).

Providing alternative solutions to food systems´ failures and recognising the central role food plays in the life of communities, Community-Based Food Organizations (CBFOs) have emerged. These organisations arise from the grassroots level with the purpose of building community-based food systems shaped by values of food security, food sovereignty, and food justice (Holt Giménez, 2011). In many contexts, these initiatives are established to cope with conditions of food insecurity, as a consequence of state and market institutions failing to meet basic human needs, such as the need for fair and sustainable food (Holt Giménez & Shattuck, 2011). In their attempt to foster alternative principles and modes of organising food production, distribution, consumption, and disposal, CBFOs can be conceptualised as agents of "critical food guidance" from the bottom-up.

In this paper, we examine the evolution of one such organization, FoodShare Toronto,[1] and learn from its specific approach to critical food guidance. Particularly, this paper defines critical food guidance as a socio-political process, characterised by the co-construction of values, normative principles, and codes of behaviour among agents who seek to build a different food system (see section 2). We argue that the reflexivity of key actors and organisations—meaning their capacity to establish as well as reflect upon key food system´s values and principles as well as to scale out these principles across communities—is pivotal to the implementation of critical food guidance. After conceptualising critical food guidance from the bottom-up and connecting it to reflexivity in CBFOs (see section 2), this paper examines FoodShare's history and approach to critical food guidance (see section 3). This is done by analysing its transformative values and principles and observing the ways in which these principles are re-asserted or re-framed throughout the life course of the organisation. We unravel how, throughout its years of existence, FoodShare's key ideologies and transformative values inform its approach to critical food guidance, captured by the organizational mission of "good healthy food for all" (FoodShare,

[1]Our focus is on FoodShare Toronto, referred to as FoodShare. It is worth mentioning that there are several organisations in North American cities are also called "FoodShare." Inspired by FoodShare Toronto´s pioneer example, these organisations have their own unique histories, goals, and activities.

2021). This vision, increasingly informed by a food justice lens, reflects a history of targeting power structures in FoodShare´s advocacy, partnerships, and programming, while working towards more sustainable, healthy, and resilient communities with equitable access to nutritious and culturally appropriate vegetables and fruits. Learning from FoodShare´s history, this paper concludes by discussing key lessons about how reflexivity can be a tool to strengthen the capacity of CBFOs to be vehicles of emancipatory and transformative food guidance (see section 4).

2. Community-based food organisations and critical food guidance from the bottom-up

Food guidance is generally associated with a set of normative principles or behavioural guidelines on food production, delivery, and consumption established from the top. Typically, players such as international organisations, state agencies, authoritative experts´ groups, or food companies, act as food regulatory bodies, setting parameters on sustainable food consumption and food security (Henderson et al., 2010; Sumner, 2015). In a similar vein, food safety agencies establish guidelines concerning food safety hazards, food contaminants, but also nutrition security, in order to inform food system´s regulators as well as to enhance trust and transparency about the food chain among citizen-consumers (Tritscher et al., 2013). Yet, besides this common understanding of food guidance, "critical" food guidance is a negotiated process that is initiated from the ground up. Relevant to this bottom-up characterisation of critical food guidance is the co-construction of values, normative principles, and codes of behaviour among agents who seek to build a different food system.

From this perspective, bottom-up initiatives such as CBFOs, encompassing food consumption-distribution networks, food hubs, food policy councils, etc., (Manganelli, 2018; Rossi & Brunori, 2010; RUAF, 2019; Blay-Palmer et al., 2013) are examples of organisations or networks seeking to mobilize alternative food guiding principles. These organisations arise from the grassroots level with the purpose of developing more locally-oriented supply networks, implementing alternative food infrastructures, and sensitising and educating inhabitants, communities and other actors of the food system (Levkoe, 2006). CBFOs are driven by transformative values or ideologies, the most common being community food security, food sovereignty, and food justice (Holt Giménez, 2011; Welsh & MacRae, 1998). Inspired by principles of community food security, grassroots organisations engage in critical food guidance by means of training, networking and coalition building to set up community food projects from the ground up.[2] Moving beyond a food security focus, food sovereignty asserts the right of people and communities to exercise control over the food system (Patel, 2009). In short, this

[2] See for instance the mission statement of the Community Food Security Coalition, which has been one major network fostering community food security objectives in North America (http://foodsecurity.org/aboutcfsc/, accessed 14th February 2022).

ideology empowers communities and previously disadvantaged players in the food system by making them protagonists in setting the rules of the game on how food is produced and delivered. This is in line with the principles of critical food guidance. Food justice complements food sovereignty by addressing the wider structures of injustice that prevent certain groups from having control over access to means of production and adequate food (Moragues-Faus, 2017). Thus, critical food guidance is reflected in the reformation of dominant agri-food policies or state rules in the direction of removing structural forms of inequity affecting the most marginalised groups (Alkon & Guthman, 2017).

CBFOs have certainly met challenges in being vehicles of more just ways of organising food systems that is synonymous to critical food guidance. One of the key challenges is integrating the needs of a diverse range of actors, including citizen-consumers of different socioeconomic and cultural backgrounds, in order to build alternatives that are more democratic and accessible for many (Goodman & Goodman, 2016; Maye, 2013). Other challenges concern how to translate allegedly "pure" values such as "local", "organic", and "sustainable" into a reality in which these values are de facto highly contested and negotiated (Ilbery & Maye, 2015; Sonnino & Marsden, 2006). Another connected element concerns ways of scaling out these values across diverse communities and territorial contexts (Corsi et al., 2018).

Overall, while recognising these challenges, the agro-food debate has highlighted how these grassroots initiatives hold transformative aspirations that are linked to fundamental critiques of the dominant food system (Holt Giménez, 2011). In many respects, the latter is considered unjust and unsustainable, failing to meet people´s right to food sovereignty, while simultaneously being jointly responsible for serious environmental side effects related to greenhouse gas emissions, food waste generation, land, energy, and resource exploitation. Therefore, critical food guidance should not only be considered in terms of knowledge building, or awareness raising. By scaling out and embedding normative principles across actors and practices, critical food guidance is also a matter of engendering a transformative process which allows for substantial and collective change (Kirwan et al., 2017).

This paper examines how key ideologies and transformative values inform CBFOs in the establishment of alternative guiding principles as well as in exporting these principles across communities and actors of the food system. However, it is essential to assess the capacity of these organizations to readjust and re-frame key values and principles as the organization evolves (Manganelli, 2022). Indeed, as the initiative develops and scales out, different factors, both internal and external to the organization, influence its modalities to scale out and to practically implement alternative food guiding principles. One example are challenges of ensuring access to operational resources (e.g., funding, human capital, material and immaterial infrastructures, etc.) (Blay-Palmer et al., 2013). These challenges may limit or at least affect the capacity of CBFOs to reach communities and embed alternative food principles within them. External factors related to changes in the political climate, socioeconomic crises and disruptions also play a role in how CBFOs (re)frame their role as agents of critical food guidance. Given this background, the concept of "reflexivity" is a useful tool to conceptualize the ways in which

CFBOs, by going through different stages of their life course, reflect upon their role and positionality, and, possibly, re-assess or re-adjust some of the guiding principles according to their changing contextual circumstances (Manganelli, 2018). Thus, the next section (*Defining reflexivity: a socio-political view*) defines reflexivity, characterizing it from a socio-political perspective, while the following section (*Examining reflexivity in community-based food organizations*) applies the concept to the study of CBFOs.

Defining reflexivity: a socio-political view

The concept of reflexivity has been variably defined, but overall it can be conceived as referring to the capacity of actors (e.g. individuals, organizations or movements engaged in collective processes) to self-reflect upon and reconsider underlying values and practices, as well as established guidelines and normative frameworks (De Schutter & Lenoble, 2010; Stirling, 2006). Originally, the notion of reflexivity was introduced in sociological debates about risks and uncertainties of the modern society by authors such as Beck et al., (1994). These authors have developed the concept of "reflexive modernity" and arguing that risks and unpredictable side effects, brought about by modernization processes (e.g., processes of economic and cultural globalization), mobilize a reflexive approach to modern societies. This reflexive attitude implies confronting and reconsidering the underlying foundations of modern growth and socioecological change (Lee, 2008). The notion of reflexivity has been mostly debated in scientific contributions on "reflexive governance" by the sustainability transition literature, and by governance approaches derived from this literature, such as adaptive governance and transition management (Feindt & Weiland, 2018; Hendriks & Grin, 2007; Voß et al., 2006). Overall, these normative perspectives link the notion of reflexivity to the stirring of societal transitions towards sustainable development (Feindt & Weiland, 2018). In these debates, reflexivity is understood as a mode of steering where actors and organizations are encouraged "to scrutinize and reconsider their underlying assumptions, institutional arrangements and practices" (Hendriks & Grin, 2007, p. 333).

In this respect, a useful distinction is the one between first order and second order reflexivity (Stirling, 2006). First order reflexivity involves a reactive attitude to unpredictable effects or shocks brought about by societal development. An example could be the Green Revolution, which has responded to crises and shocks related to food shortages through measures based on liberalised agriculture and global trade, without considering radical alternatives to the economic growth paradigm (De Schutter & Vanloqueren, 2011; Holt-Giménez & Altieri, 2013; Marsden, 2013). The same occurs when responses to climate change delivered through technological solutions do not lay the basis for a deep de-carbonisation of society. Instead, second order reflexivity is about questioning established normative frameworks and underlying institutions in which collective actors operate (De Schutter & Lenoble, 2010). Radical and transformative approaches to food system change such as food sovereignty or food as a

Commons reflect this second order reflexivity (De Schutter et al., 2018; Holt Giménez, 2011). Thus, deep reflexivity involves being critical about underlying norms that regulate collective action, including established paradigms that are at the basis of the organization of food systems (Sonnino et al., 2014).

Overall, what emerges from the above reflections is the importance of scrutinizing reflexivity in its socio-political dimension (Brousseau et al., 2012; Stirling, 2006). Reflexivity is not only a cognitive process whereby actors, by interacting with one another, gain new factual knowledge, or acquire alternative understandings of a problem. Reflexivity also involves negotiating and co-constructing values and normative frames among actors engaged in collective processes (Manganelli, 2022). Consequently, socio-institutional factors such as the political landscape, the institutional setting, as well as the dominance of certain normative and cultural frames around food, necessarily affect reflexive processes and outcomes, including the potential for triggering socio-political transformation. In this respect, it can be argued that "transformative learning" is an element that further qualifies reflexive dynamics. Relevant to this point is the contribution by De Schutter and Lenoble (2010) who introduce a "genetic" approach to reflexive governance. According to this approach, alternative futures are encouraged by "re-imagining ways to act collectively that are not constrained by the existing institutional frameworks and by the narrow range of possibilities such frameworks allow" (De Schutter & Lenoble, 2010, p. xxi).

To synthesize the literature, reflexivity can be defined as the collective capacity to be critical and open to self-reflection and learning. This also means being open to re-examine established positionalities and ways of doing, embedding transformative learning across actors and practices. Therefore, reflexive dynamics should be understood as negotiated and co-constructed collectively through the interaction among actors and organizations, taking into account the socio-political and socioeconomic realty in which collective agents are embedded.

Examining reflexivity in community-based food organizations

The concept of reflexivity in relation to CBFOs remains relatively understudied (Manganelli, 2018). Early references to reflexivity come from debates regarding the hybridization of alternative and conventional value systems and in studies on "localism" in community-based food initiatives (Goodman & Goodman, 2016; Ilbery & Maye, 2015; Sonnino & Marsden, 2006).

Overall, these scholarly contributions have underlined how, contrary to normative and idealistic perspectives attached to re-localisation, in practice the notion of "local" is neither pure, nor inherently more sustainable or just (DuPuis & Goodman, 2005). On the contrary, in real-life local food networks, emancipatory values related to social justice, ethics of care, or environmental stewardship, can coexist with neoliberally oriented consumeristic types of behaviours (Hinrichs, 2000; Maye, 2013). As a result, agro-scholars have argued in favour of a more reflexive notion of localism, articulated through "'open,' continuous, 'reflexive' processes

which bring together a broadly representative group of people to explore and discuss ways of changing their society" (Dupuis & Goodman, 2005, p. 361).

Although not explicitly addressing reflexivity, further connections with this notion are visible in analyses on "value tensions" related to the upscaling of CBFOs carried out by Canadian scholars (Blay-Palmer et al., 2013; Knezevic et al., 2017; Mount, 2012). Some of these authors accentuate how CBFOs can be "important sites of transformative learning" (Levkoe, 2006, p. 97), thanks to their values and principles translated into practices that promote capacity building and community development. Conversely these authors also point to the different kinds of dilemmas that these initiatives go through as they scale out or up, increasing their material basis and involving a wider network of participating actors such as citizens, farmers, processors, etc. (Mount, 2012). First, not dissimilarly from debates on "conventionalism" versus "alterity," these authors ask how values related to transparency, accountability, community cohesion, food quality, etc., can be maintained if the initiatives scale up (Mount, 2012). Second, the literature focusses on how value tensions and dilemmas affect the organizational governance of these initiatives, provoking different types of reflexive outcomes. For instance, authors such as Levkoe and Wakefield (2013) and Levkoe (2015) point to certain reflexive dilemmas that these initiatives face in the governance of their networks. In particular, the authors highlight the trade-off between a more centralised and hierarchical governing structure and a more informal and decentralised type of organisational governance (Manganelli, 2022).

Thus, one insight from the above analysis is that CBFOs can be vehicles of reflexivity and learning by organizing in networks or assemblages and exporting transformative values across actors and initiatives, as exemplified in food policy councils. These initiatives are spaces in which reflexivity is encouraged by bridging knowledge between communities and state actors, as well as by stimulating a food system lens across city administrative structures (Blay-Palmer, 2010). However, reflexivity is also an expression of (value) tensions and dilemmas CBFOs go through as they develop and scale out, with the ambition to exercise transformative change across communities and actors of the food system.

On this basis, it is arguable that three elements of CBFOs deserve deeper attention. The first element relates to the analysis of socio-political factors triggering reflexive dynamics in CBFOs. As mentioned in the previous section (*Community-based food organisations and critical food guidance from the bottom-up*), these factors may be internal or external to the organization and are tightly connected to the socio-political environment in which the CBFOs navigate. The second element concerns unravelling the ways in which reflexive dynamics manifest in relation to critical food guidance. More precisely, analysing how the organization self-reflects upon its own guiding principles, by modifying or, rather, by further reasserting these principles, and what organizational strategies are adopted to export such principles across communities and actors through time. The third and final element relates to what can be learned about reflexivity as a tool or a strategy for improving the resilience of the organization through time and supporting its capacity to provide a solid foundation for emancipatory and transformative food guidance. By

scrutinizing reflexivity in different stages of FoodShare, sections 3 and 4, seek to illuminate these aspects.

2.1 Methodology

Empirical data on the genesis and development of FoodShare was collected in three phases. The first phase was carried out by the second author between 2011 and 2013. The fieldwork was based on the FoodShare History Project that was part of the larger Nourishing Ontario[3] participatory action research project funded by the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and the Social Sciences and Humanities Research Council (SSHRC). Nourishing Ontario focussed on systematically documenting lessons learned from CBFOs working to build or enhance local food hubs, defined as "networks and intersections of grassroots, community-based organisations and individuals that work together to build increasingly socially just, economically robust and ecologically sound food systems that connect farmers with consumers as directly as possible." (Blay Palmer et al., 2013, p. 524). During this phase we conducted interviews with fourteen key informants. These key informants played an instrumental role in the evolution of FoodShare since its inception in 1985. The key informants were recruited using both convenience and snowball sampling. Interviews were conducted to carve out key contextual factors triggering the origins of FoodShare; the ways in which key pioneering actors framed the values and missions of the organisation; how these values and missions evolved through time and how FoodShare built alliances and activated networks and projects accordingly.

The second phase of data collection occurred in 2017 and was conducted the first author as part of a research project on the Hybrid Governance of Alternative Food Networks financed by the Flemish research foundation (FWO). This phase involved seventeen interviews conducted in Toronto. These interviews targeted the former FoodShare´s executive director, staff involved in the management of key programs within FoodShare as well as members of FoodShare´s board of directors. In addition, other actors of the Toronto food movement were interviewed (such as coordinators of the TFPC and grassroots organisations) which provided further contextual information. Complementing and updating the first phase, phase two was focussed on retracing the evolution of FoodShare from its inception in 1985 to 2017, identifying significant milestones and stages of its evolution, including key factors that triggered its reflexivity.

The third and final phases occurred in 2021, where the first author carried out eight online interviews with key informants (e.g., the former FoodShare´s executive director, managers of key programs, and other staff). The purpose was to update the previous fieldwork, to refine the stages of FoodShare´s evolution considering changes which occurred between 2018 and 2021.

[3] Now known as Nourishing Communities.

In all the three phases, interviews were complemented with other methods of data collection. These methods involved analyzing key documentation, such as FoodShare strategic plans, yearly reports, policy statements, press documentation, peer-reviewed and grey literature (focussing on 1985 to 2021). Data on present-day activities were gathered from publicly available documents for additional context. Additionally, personal observations through site visits were carried out during phase one, which included two meetings at FoodShare, a tour by the former Executive Director and two former staff members, in addition to attending the 2013 Annual General Meeting. These activities helped to gain a deeper understanding of FoodShare and the organization's day-to-day activities.

3. Reflexivity and critical food guidance in FoodShare´s life course

The analysis of reflexivity and its articulation in critical food guiding principles in FoodShare´s trajectory is carried out in three phases. The first phase involves the genesis and early year (1985 to 1990s), when FoodShare begins to frame itself as a community food security organization. The second phase (1992 to 2017) involves a long period led by Debbie Field, the former executive director. In this phase, FoodShare begins to embrace a more holistic food system approach. The third and most recent phase (2017 to 2021) is characterized by new leadership and the impact of the COVID-19 outbreak, coalescing with a greater concern towards socio-racial injustices in food systems.

FoodShare´s genesis and early stage (1985 to 1992)

Depicting the socio-political context in which FoodShare emerged is essential in understanding FoodShare's guiding values and reflexive positionality at the time of its establishment. FoodShare was established in the 1980s, amid growing rates of domestic poverty and hunger (Fisher, 2017). Food banks, food rescue, and other charitable food responses emerged as the "answer" to domestic food insecurity and became institutionalized to a degree not previously experienced (Riches & Silvasti, 2014). In Toronto, concerned civil society and policy actors mobilised to respond to this reality and developed civil society initiatives and policy networks seeking to respond to food insecurity.

One outcome of this enhanced social and political concern was a motion, launched by former Mayor Art Eggleton and the City of Toronto's Executive Committee in September 1985. This motion signified the official start of FoodShare as a charitable organisation with the policy mandate to help fight hunger in Toronto (City of Toronto, 1985). In line with this mandate, FoodShare´s pioneers were committed to addressing food insecurity by linking residents to emergency food resources, but also by exploring alternative solutions, such as community

gardens, novel food distribution and retailing systems,[4] and school food programs. Although emergency food organizations were becoming more institutionalized, a charitable approach to hunger was not the direction that the key players involved in the establishment of FoodShare wanted to pursue. In 1986, for instance, FoodShare received a donation of one million pounds of potatoes for distribution amongst local food banks, including the recently formed Daily Bread Food Bank (Ferguson, 1986). The so-called "Potato Drive" was an important piece of FoodShare's history because it was an early example of FoodShare's critique of food surplus being used as a response to hunger. More broadly, influenced by evolving food security and health promotion discourses, the reflexive positionality of FoodShare pioneers shifted from a charitable response to hunger, to a community food security approach.

This implied a shift of action from linking citizens to charitable food organizations, toward community development and capacity-building work, supported by a commitment to values of universal access to food, empowerment, and social change. As stated by one key informant, "health promotion and this notion of healthy public policy, which evolved in the 80s, legitimated looking at the social determinants of health" (quote from a former Toronto Food Policy Council associate, 2011). These emerging trends in understanding how to achieve food security and health provided support for FoodShare's implementation of critical food guidance by emphasizing the need to develop programs and engage in partnerships to facilitate community empowerment and socio-political change toward more just and sustainable food systems.

The type of programming that FoodShare began to develop in its early years formalized the emerging reflexivity of the organisation and of its approach to critical food guidance. FoodShare´s initial programming illustrates its will to shift away from charitable approaches, but also the challenges FoodShare faced in shaping its role as a community-based food security organisation with a focus on universality and health. In the 1990s, FoodShare began to expand its programming to include incubation space for food projects ranging from access to fresh produce,[5] to growing (urban agriculture), to cooking and catering.[6] During the early years, key informants observed a "tension" between charitable food organizations and FoodShare (former Toronto Food Policy Council associate and a former FoodShare staff, 2011). Another suggested that FoodShare had to cautiously remove itself from the charitable food model, especially since it was beginning to feel like it was "enabling food banks" and becoming "a fundraising arm of food banks" (former FoodShare executive director, 2011). This suggests that FoodShare's shift from a charitable approach to a community food organization was a negotiated and contested process in its early years and was indicative of the reflexive positionality of FoodShare—the struggle to

[4] The *Hunger Hotline*, a call-in service linking Toronto's citizens to food banks, was FoodShare's first program and evolved into *FoodLink*, linking Torontonians to community food-security resources including community gardens, farmers' markets, bulk buying, and community kitchens (Johnston, 2003).

[5] Good Food Box, which continues to this day. See FoodShare (n.d.b) https://foodshare.net/program/goodfoodbox/, accessed 14th February 2022.

[6] Former Field to Table Catering program (FoodShare, 2009)

distinguish itself from dominant responses to hunger, by building an alternative model, together with communities across Toronto.

Furthermore, as reported by one key informant, the City funded FoodShare to "do some work on the issue of hunger in Toronto… It was all about the food injustice*"* (former FoodShare staff, 2011). These responses illustrate how FoodShare began to position itself as a vehicle of critical food guidance by embracing alternative values and principles and seeking to export these principles in communities through programming.

In summary, the need to address root causes of hunger and prioritize community development and engagement was central to FoodShare's founding values and mission, which were key pillars of critical food guidance that FoodShare intended to export to wider communities across Toronto.

FoodShare intermediary years (1992 to 2017)

A turning point in FoodShare´s history was 1992, when Debbie Field, a community food security activist and concerned citizen, became FoodShare's Executive Director. The role of FoodShare's leadership in framing and communicating core values and mission of the organisation in its intermediary stage was consistently emphasized by key informants. Overall, alongside major changes in FoodShare´s leadership, these core years of FoodShare´s life course are characterised by the development of its programming, as well as by a reinforced commitment to foster meaningful partnerships with communities and political actors. Programming and partnering are concrete ways in which FoodShare intended to scale out its food guiding principles.

FoodShare´s leadership and reinforced commitment to a public food system

FoodShare´s guiding vision "Good Healthy Food for All" (FoodShare, 2021) is exemplary of its core years. This vision derives from the genesis of FoodShare and the commitment of the funding members to find universal solutions to food insecurity. In this phase, FoodShare's new leadership promoted a reinforced commitment to universality in all aspects of program delivery, providing guidance for the orientation of its programs. Among others, this guiding vision also shows how principles of food justice underpins FoodShare's work (see section "*FoodShare current stage*"). FoodShare's commitment and engagement toward universal access to food is evident in programs such as "Field to Table7," Good Food Box8, and, later, Good Food Markets[9]. These programs emerged in the 1990s and were set up due to the executive director's leadership and the creative staff that continued to advocate for developing alternative approaches to food insecurity through universal programs (former FoodShare executive director, former

[7] Field to Table. See FoodShare (n.d.f) https://foodshare.net/program/student/, accessed 14th February 2022.
[8] Good Food Box. See FoodShare (n.d.b) https://foodshare.net/program/goodfoodbox/, accessed 14th February 2022.
[9] Good Food Markets. See FoodShare (n.d.c) https://foodshare.net/program/markets/, accessed 14th February 2022.

FoodShare staff, current FoodShare staff, 2011). These programs empower communities and foster a food system approach "from field to table" (Esteron, 2013).

In addition to being aware of the persistence of food insecurity, there was the recognition that food insecurity is also the product of a food system that is "fundamentally broken when it comes to the kind of food [that] is distributed" (former FoodShare executive director, 2021). Thus, the need to develop a public, or common food system, became stronger in the values and missions of FoodShare and its leading actors during its intermediary years (Field, 2009).

FoodShare reached out to citizens and attempted to sensitize its values by cultivating leadership and commitment at the level of communities, volunteers, and dedicated staff. For example, CAMH's Sunshine Garden program, which is the first market garden on hospital grounds whereby CAMH patients tend to the garden and then sell their harvest at the Garden Market.[10] The coordinators of this program began their relationship with FoodShare as program participants, then became volunteers, and eventually gained skills leading to paid employment (former FoodShare staff, 2011). This program exemplifies FoodShare's programs' ability to scale out and up as it works alongside its community.

Scaling out food guiding principles through partnerships and programs

FoodShare scales out alternative food guiding principles and attempts to guarantee the sustainability and longevity of its programs through partnership-making. In reference to the Good Food Box program, "not a single box could go out the door without hundreds of partnerships. Each stop has a community coordinator, a volunteer in a neighbourhood or an agency staff member" as written by Debbie Field in the *Strategic Plan* (2009, p.3).

Thus, partnership-making involved establishing links with actors such as non-profit organisations, community leaders, community agencies, residents, schools, facilitating the deliveries of good food boxes, the establishment of good food markets in neighbourhoods, or the set-up of food nutrition programs in schools, and so on. It also encompassed maintaining solid relationships with food suppliers at the Ontario Food Terminal, involving both local growers from Southern Ontario, but also suppliers from the conventional food system (Field, 2014; Manganelli, 2022). Furthermore, partnership-making also concretised in maintaining relationships with funding agents, such as individuals, donors, private foundations, state agencies, to safeguard the financial viability of FoodShare´s programs.

Overall, FoodShare connected to partners and engaged in partnership-making by targeting actors and organisations aligning with FoodShare´s values. Among others, promoting access to "good healthy food" across Toronto's inhabitants, particularly those living with food insecurity, remains prominent in the way in which FoodShare positioned itself and its mission in

[10] The Sunshine Garden is a partnership between FoodShare and the Centre for Addiction and Mental Health (CAMH). See FoodShare (n.d.e) https://foodshare.net/program/sunshine/, accessed 14 February 2022

the intermediary stage. Prioritizing access to food for (and in) communities means mediating different values attached to food. FoodShare's commitment to purchasing locally grown produce whenever feasible facilitated market opportunities for local farmers and its role as a food hub enabled novel partnerships with actors along the supply chain (former Toronto Food Policy Council coordinator, a former FoodShare staff, and a current FoodShare staff, 2013). Fostering these partnerships has meant supporting local family farm livelihoods in advance of widespread societal interest in local food. Yet, FoodShare's commitment to universality to avoid stigmatization and contribute to a more just and sustainable food system also came with inherent tensions. Giving priority to accessibility has consequently meant prioritising financially and culturally accessible food—often coming from the conventional sector—over "local" or "organic." Specifically, the Good Food Box program aims to keep box prices the same throughout the year by modifying its contents based on the growing season—it can either be locally sourced or imported items (FoodShare staff, 2021). FoodShare recognizes that culturally appropriate foods are staple foods in one's diet, whether these are sourced locally or not, and ensures that program members receive them (FoodShare staff, 2021).

Our fieldwork also suggests that community programming promotes secondary outcomes, beyond food accessibility, and reveals the multidimensionality of food. One example is the Mobile Good Food Market which are "travelling community food markets filled with fresh, quality vegetables and fruits" (FoodShare, n.d. a, para. 1)". This program aims to increase access to fresh produce *and* concurrently promotes community cohesiveness and capacity. The School Grown program represents another example of leveraging a multitude of benefits from a strategic partnership. Involving farming on school rooftops and yards, this program has contributed to both youth employment opportunities and food literacy (FoodShare, n.d. b, para. 1). A key informant explains, "It is not just about making sure that kids eat healthy…it is about educating kids…with [food] …trying to keep food affordable and…buying directly to support the local economy whenever you can…buying from diverse small family farms not mono-culture corporate farms." (FoodShare staff, 2011).

Furthermore, FoodShare also fostered partnerships with several donors, from smaller foundations to larger corporate funders. As societal interest in food increased, a greater number of funding partners emerged, "Because of the obesity epidemic and diabetes epidemic that's rising, especially in kids, people are getting that we've done something wrong here and we need to address it. So, there's definitely a huge shift in available funding and foundations and organizations that are willing to step up and…address these health issues that are affecting society, especially kids… We think also the environmental movement is so strong right now" (former FoodShare staff, 2011).

Funding availability is subject to shifting societal discussions and priorities of funding agents. This means that financial stability and steady growth of key programs causes tension for FoodShare´s staff. More precisely, if few of the programs can rely on consistent funding, others are more unstable and can run the risk of being dismantled or remain underfinanced, "Right now our program [i.e., Field to Table School and School Grown] is in a good financial position, but

this is cyclical: funders decide what their priorities are and sometimes we fit well, sometimes not" (FoodShare staff, 2017).

In addition, a key informant declared, "To compete in a non-profit, it's really hard. People come in, put their heart and soul into stuff, and that doesn't matter—it's not necessarily about the quality of their work or the amount that they care. If you don't have the funding, you don't have the funding for them" (former FoodShare staff, 2011).

Furthermore, FoodShare built networks with state actors to sensitize state authorities toward a public food system which needs supportive policies for systemic change. The organization has created and fostered relationships with the municipal, provincial, and to a lesser extent, the federal government.[11]

Informants highlighted the importance of FoodShare's partnerships with the municipal government and key actors at the city level. From its inception, the City of Toronto provided physical space for FoodShare's operations, including free space in several different city buildings. When FoodShare started the Good Food Box, it was allowed to use a city building once a month. After outgrowing that location, the city, in partnership with the Ontario Realty Corporation, provided access to 200 Eastern Avenue, which became FoodShare's produce warehouse. The new space enabled FoodShare to pack and distribute the Good Food Box weekly, as opposed to monthly.

The Toronto Food Policy Council (TFPC), founded in the early 1990s, has also been a key partner.[12] The city provided the TFPC with funds to conduct a feasibility study which, in turn, led to Field to Table, one of FoodShare's earliest programs. The Field to Table program was the foundation for FoodShare's Good Food Box, Student Nutrition Program, Urban Agriculture, and Incubator Kitchen programs (communication with a former TFPC coordinator, 2011). The TFPC's institutional home was Toronto Public Health (TPH) and the missing connection between City resources and local non-profit organizations. The TFPC´s formation provided "an advocacy group housed within the City's administration with direct access to the politicians" (former TFPC coordinator, 2011). One key informant suggested that the attainment of physical space from the city would not have been possible without the support of a key political figure and the TFPC.

FoodShare's alignment with political environments was seen as a resource by a few informants, who observed a lot of "political undercurrents involved with really starting these programs" (former FoodShare staff, 2011). Working with state actors and obtaining consensus means having clear and communicable guiding principles, while, concurrently speaking to "everyone's political agenda" (former FoodShare staff, 2011).

[11] Relations with the federal government are currently stronger regarding the advocacy for the establishment of a School Food Program in Canada. Organisations such as the Coalition for Healthy School Food and Food Secure Canada, close to FoodShare, are protagonists of this engagement.

[12] The TFPC is a hybrid type of organisation, housed in the Board of Health while representing the voices of community partners (Fridman & Lenters, 2013). Since 2019, the TFPC has been undergoing a profound revision of structure and organisation, the contours of which are not yet clear.

In sum, partnership making and program delivery are ways in which FoodShare engaged with diverse actors to build capacity and export its values and principles across communities. Translating its principles into concrete action has also meant prioritising certain values while leaving aside others which resulted in key tensions. Indeed, while a variety of government and funding agency partnerships served to build a degree of resilience, threats of financial instability and changing political priorities were also critical factors undermining the durability and effectiveness of certain programs.

FoodShare current stage (2017 to present)

The latest years of FoodShare´s life-course are characterized by a profound shift in how the organization frames itself and its role as a CBFO. While the focus on building a public food system remains strong, an emphasis on promoting food justice and Indigenous food sovereignty emerges and reshapes FoodShare's organizational governance. The revived reflexivity on food justice also influences the ways in which FoodShare creates alliances and shapes its programs, thus further mobilizing critical food guiding principles. Two key factors have played a role in this revived commitment to food justice: First, its current executive director Paul Taylor, promotes a clear orientation towards food justice. Second, the effects of the COVID-19 pandemic include a sharp increase in food insecurity and revives the need for racial justice across disadvantaged communities in Toronto.

New FoodShare leadership and enhanced reflexivity on food justice

Like the intermediate stage, the introduction of a new leader at the head of FoodShare signifies a shift in the organisation´s trajectory. Being a leader and organiser who himself experienced food insecurity and poverty, Paul Taylor brings a "reinforced commitment to tackle anti-black racism as part of our work to address food insecurity" (Taylor, 2021). Thus, what emerges in these years is the clear intention to reframe food insecurity and re-inscribe it into a wider anti-racism, anti-oppression, and anti-colonialism discourse (see also Manganelli, 2022). The greater orientation toward food justice is evident in FoodShare´s new strategic plan, that argues for "working to dismantle systemic forms of oppression that exist in our food system and in our food movement, consisting of colonialism, capitalism, white supremacy, and patriarchy" (FoodShare, 2021, p.4).

Informed by this food justice lens, FoodShare engages in several actions tailored to scale out its principles. First, it acknowledges and provides evidence on the structural forms of oppression experienced by disadvantaged people such as Black and Indigenous communities. FoodShare partnered with the multi-disciplinary research group called PROOF from the University of Toronto. This partnership conducted a study to determine the connections between food insecurity and racism. The study shows that the probability of being food insecure is significantly higher for a person of colour than for a white person (Dhunna & Tarasuk, 2021).

This study provides the basis for evidence-based advocacy with the purpose to "challenge some of the understanding around food insecurity" (Taylor, 2021).

Additionally, FoodShare intentionally begins to scale out food justice principles by liaising with actors and movements sharing similar food justice values. For instance, FoodShare aligns with the push for racial justice fostered by the Black Lives Matter movement and builds alliances with food initiatives engaging in Black food sovereignty in Toronto, such as the Afri-Can FoodBasket and Black Creek Community Farm (Taylor, 2020). Food justice intentionally guides the way in which FoodShare targets communities and makes sense of its engagement through partnerships and programming. Specifically, FoodShare works "Alongside communities, across the City of Toronto that have faced chronic underinvestment— that have been on the brunt, or the receiving end, of systemic racism, sexism, those sorts of issues. And we're working with these communities…to build community-led food infrastructure." (Taylor, 2021)

Moreover, FoodShare orients its food sourcing strategies to embed food justice principles in an intentional and purposive way. FoodShare still focusses on providing culturally appropriate and accessible food but, in this phase, its leadership and staff reflect more deeply on other equity aspects as well. Notably, FoodShare has "Set up a 'dismantling white supremacy good food box', even if it does not reach enough volume… We want also to look to migrant workers. We are concerned with where we are sourcing from. Are they using migrant workers? We are trying to find ways to make that more important in our conversation with our suppliers. We want to find ways to bring this conversation up." (FoodShare staff, 2021).

Finally, a greater reflexivity on food justice is tangible in the ways FoodShare begins to (re)think and re-adjust its own organisational governance (see also Manganelli, 2022). For instance, an Indigenous advisory committee was created, consisting of sixty members, to be consulted for strategic decisions. Equity is at the forefront as FoodShare selects new staff and organises its labour, as they radically decided to virtually eliminate unpaid staff from its programs. This is a huge shift from the early and intermediary stages of FoodShare. Despite its challenges, volunteers are essential to program delivery and, as mentioned in the previous section (*FoodShare intermediary years*), being a volunteer could lead to a paid staff position. According to FoodShare´s leadership, these and other changes were guided by the will "to make a priority for us to do the work that we see we need to have in society, in our organisation as well" (Taylor, 2021).

The COVID-19 pandemic: coping with a new context of crisis

Shifting focus toward denouncing systemic injustices has intermingled with revived food insecurity challenges caused by the COVID-19 pandemic. As the COVID-19 pandemic initially manifested as an emergency crisis, FoodShare's programming pivoted to respond to worsening food insecurity. For example, Good Food Box deliveries went from 250 to 1000 per week up to 2500 deliveries in the peak phase of the emergency (communication with a FoodShare staff, 2021; Manganelli, 2022). FoodShare relied on its partnership-making and fundraising capacity,

and its solid relations with the Ontario Food Terminal, to reinforce and expand the delivery system and respond to a situation of emergency in a short time (Manganelli, 2022). FoodShare staff mobilized a huge fundraising effort, connected with donors that raised money to cover the costs of the good food boxes, which allowed FoodShare staff to deliver food boxes for free to community agencies and food insecure inhabitants, "It is something that FoodShare never did. Technically, we are a charity but we have never been an organisation that gives food for free because we need to be able to change the system so that people can afford the food that they want and not being recipient of food at no cost. So that was a huge shift in how we operate." (Quote from a FoodShare staff, 2021).

Thus, responding to an emergency situation has meant temporarily putting aside some of the core values at the foundation of FoodShare. Overall, the pandemic outbreak has further revealed the massive level of food insecurity still affecting Canada and the North American context. The number of food insecure people went up from 4.5 million pre-pandemic to 5.5 million during the pandemic, "This is a massive crisis in this country… People see food costs going up, caused by the pandemic, by climate change, and also by greedy corporations…we need to look at who is most impacted by food insecurity and who is made more vulnerable." (Taylor, 2021).

Overall, the dream for a publicly supported food system has yet to be realized, and FoodShare´s leadership is in the midst of pursuing advocacy for Indigenous people, people of colour, disabled people—those who are the most impacted by food injustices. Yet, FoodShare is also aware that initiatives such as charities or food access programs are not going to solve a situation of endemic food insecurity (Manganelli, 2022) since FoodShare does "not have the capacity to end food insecurity or poverty—those are income issues. We are over-relying on charities to do the heavy lifting of tackling food insecurity and poverty" (Taylor, 2021).

In other words, while engaging in rebuilding food infrastructures from the bottom-up, FoodShare recognises that it is also essential to raise a consistent voice that advocates for changes at the government and policy levels, in order to remove structural barriers that impede the implementation of food justice.

4. Discussions and conclusions

By narrating the story of FoodShare, this paper has investigated the role of reflexivity in a CBFO, i.e., the ways in which an organisation such as FoodShare has re-examined and reasserted key values and principles through time, while scaling out these principles as vehicles of critical food guidance among actors and communities. Based on the conceptual framework, our empirical analysis has highlighted the relevance of key socio-political factors catalysing reflexive dynamics in FoodShare. In the first phase, a socio-political landscape of crisis, food insecurity, and emergency food networks ushered in a reflexive attitude in FoodShare´s pioneer actors. This reflexivity is manifested in the will to move away from the food bank model and

instead focus on community food security and empowerment as approaches tailored to work on structural and systemic solutions to food insecurity. This has led to partnership building and the setup of community programs as a means to practically implement and scale out food guiding principles. Supportive city councillors, community agencies, as well as other organisations such as the TFPC—sharing a similar mission to work on structural solutions—were key partners in the initial stages of FoodShare.

In the background of persistent food insecurity, but also with societal concerns about food system health, sustainability, and justice, the second phase addressing food system distortions became pronounced in FoodShare´s values system. Indeed, the organisation began to adopt a clear food system lens, underlining the need to repair food systems´ malfunctions which lead to food injustices. Thus, promoting a public or common food system, driven by values of universality and health, has been the flagship mission of FoodShare throughout its central years. As a result, partnerships and programs were developed to tackle different aspects of the food system—from access to land and community growing, to school nutrition programs, youth education and empowerment, to alternative food distribution systems, good food markets and composting programs. These partnerships and programs mark a clear intention to seek food system change through community empowerment and capacity building (Esteron, 2013). Yet, as highlighted in section "*Defining reflexivity: a socio-political view*", these programmatic actions are not free from socio-political tensions. In particular, these tensions relate to the very unstable multi-level political environment with respect to supporting community-based food systems. They also concern challenges to ensure stable access to funding and human capital to implement and sustain programs.

Another common theme throughout the history (and trajectory) of FoodShare is a stronger positionality on food justice, particularly in the latest phase of FoodShare´s life-course. This is mainly due to a socio-political and cultural landscape of enhanced sensitivity to race and justice issues, combined with the advent of a new leader at the guidance of FoodShare, as well as with a revived context of community food insecurity brought about by the COVID-19 pandemic. As explained in section "*Examining reflexivity in community-based food organizations*", this revived reflexivity on food justice has visible consequences in the organisational governance of FoodShare, including the ways in which the organisation builds alliances and shapes its programming.

Important lessons can be drawn from these understandings about endogenous and exogenous socio-political factors ushering in reflexive dynamics, and from the ways in which reflexivity becomes a medium to implement critical food guidance. Particularly interesting is how reflexivity can become a means to strengthen the resilience of a food organisation, i.e., its capacity towards sustainability and to provide a solid and durable alternative. In this respect, the concluding part of this section highlights three points.

The first point relates to the importance of holding clear values and mission as guiding principles and anchoring points of a CBFO. FoodShare has been in existence for almost forty years and has been consistent in its core principles. Basic values related to universality, health,

community empowerment, as well as structural solutions to food system inequities, remained rather solid through time, despite the different stages and challenges the organisation has faced. These were instrumental to guide the organisation through time, as well as to define the approach of FoodShare to partnership making and programming. This also relates to the role of leadership. Indeed, no one can deny the role of leaders such as Debbie Field—as the head of FoodShare for decades—and currently Paul Taylor, as charismatic figures who embody and communicate key organisational principles. These figures play a key role as leaders between the governing bodies of the organisation, the staff, and the "external" socio-political environment. Furthermore, leadership is measured at different levels. Committed staff members play a crucial role as program initiators, communicators, and translators of key principles into practices of critical food guidance. Moreover, resonating with food sovereignty principles, FoodShare translates critical food guidance into practices that also means empowering communities, i.e., building the community capacity to be leaders and champions of their own food systems.

Besides holding core values as non-negotiable pillars, the second point relates to the awareness about key socio-political tensions in which CBFOs navigate. As we learn from FoodShare´s history, phases of crisis and socioeconomic instability are part of the ways in which capitalist food systems and societies are built (Holt Giménez & Shattuck, 2011). While crises are surely sources of threat, they can also be important opportunities in which key values and missions are discussed, reframed, re-asserted and co-constructed through the interaction among actors and organisations (Manganelli, 2020). Furthermore, tensions also relate to the constant austerity in terms of resource scarcity and political support with which many CBFOs, including FoodShare, need to cope (Bedore, 2014). As highlighted in the latest stage of FoodShare (see section "*Examining reflexivity in community-based food organizations*"), too often, CBFOs need to compensate for the lack of political will or capacity of state and market institutions to repair food system´s dysfunctions. Being aware of these kinds of socio-political tensions, CBFOs should consistently raise their voices on the roles and responsibilities of state institutions to care for the right to food sovereignty. Thus, in a way, critical food guidance is a matter of shared responsibility of diverse agents playing a role in a joint or hybrid food system governance (Manganelli, 2022).

The third and final point, the existence of key socio-political tensions can also invite CBFOs to revise or re-adjust key values or modes of governance on the basis of changing contextual circumstances. On this point, the story of FoodShare is also illustrative. In the context of a revived emergency caused by the COVID-19 outbreak, core programs active in the organisation, such as the Good Food Box, pivoted into charitable food emergency programs. Thus, in a context of emergency, values of solidarity and mutual help were predominant over the focus on structural and long-term solutions. Moreover, as highlighted in section "*Defining reflexivity: a socio-political view*", acquiring political consensus has also meant reframing key values into pragmatic messages that can be attractive to various political coalitions. Therefore, being open, adopting an outward looking as well as a pragmatic approach to translating principles into practices may be essential in the face of uncertain and rapidly changing food

system and socio-political environments. In other words, "If you build an organisation with strong commitments to principles and flexibility in terms of programming and changing, you can survive a very long time." (Quote from a former FoodShare executive director, 2021).

In a sense, this capacity to revise certain values while maintaining a structural anchoring to important pillars is also critical in order to avoid a narrow or inward-looking attitude. Indeed, very often food organisations holding strong ideologies can run the risk of being short-sighted, adopting certain viewpoints while not listening to other perspectives. On the contrary, being open to self-reflection also means listening to a diversity of perspectives. After all, this is also what food democracy is about, and we like to think that this should also inform the ways in which critical food guidance is collectively implemented.

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References

Alkon, A., & Guthman, J. (Eds.). (2017). *The new food activism: Opposition, cooperation, and collective action*. University of California Press.

Beck, U., Giddens, A., & Lash, S. (1994). *Reflexive modernization: Politics, tradition and aesthetics in the modern social order*. Stanford University Press.

Bedore, M. (2014). The convening power of food as growth machine politics: A study of food policymaking and partnership formation in Baltimore. *Urban Studies, 51*(14), 2979-2995. https://doi.org/10.1177%2F0042098013516685.

Blay-Palmer, A. (2010). The Canadian pioneer: The genesis of urban food policy in Toronto. *International planning studies, 14*(4), 401-416. https://doi.org/10.1080/13563471003642837.

Blay-Palmer, A., Landman, K., Knezevic, I., & Hayhurst, R. (2013). Constructing resilient, transformative communities through sustainable "food hubs". *Local Environment, 18*(5), 521-528. https://doi.org/10.1080/13549839.2013.797156.

Brousseau, E., Dedeurwaerdere, T., & Siebenhuner, B. (Eds.). (2012). *Reflexive governance for global public goods*. MIT Press.

City of Toronto (1985). *A concept to help fight hunger in Toronto.* FoodShare Toronto. https://foodshare.net/custom/uploads/2015/11/1985-CityOfToronto-A_concept_to_help_fight_hunger_in_Toronto.pdf.

Community Food Security Coalition. (n.d.). *About the CFSC*. http://foodsecurity.org/aboutcfsc/.

Corsi, A., Barbera, F., Dansero, E., & Peano, C. (Eds.). (2018). *Alternative food networks: An interdisciplinary assessment.* Palgrave Macmillan.

De Schutter, O. (2017). The political economy of food systems reform. *European Review of Agricultural Economics, 44*(4), 705-731. https://doi.org/10.1093/erae/jbx009

De Schutter, O., & Lenoble, J. (Eds.). (2010). *Reflexive governance: redefining the public interest in a pluralistic world*. Bloomsbury Publishing.

De Schutter, O., Mattei, U., Vivero-Pol, J. L., & Ferrando, T. (2018). Food as commons: Towards a new relationship between the public, the civic and the private. In J. L. Vivero-Pol, T. Ferrando, O. De Schutter, & U. Mattei (Eds.), *Routledge Handbook of Food as a Commons* (pp. 373-396). Routledge.

De Schutter, O., & Vanloqueren, G. (2011). The new green revolution: how twenty-first-century science can feed the world. *Solutions, 2*(4), 33-44.

Dhunna, S., & Tarasuk, V. (2021). Black–white racial disparities in household food insecurity from 2005 to 2014. *Canadian Journal of Public Health, 112*, 888–902. https://doi.org/10.17269/s41997-021-00539-y

DuPuis, E. M., & Goodman, D. (2005). Should we go "home" to eat?: toward a reflexive politics of localism. *Journal of Rural Studies, 21*(3), 359-371. https://doi.org/10.1016/j.jrurstud.2005.05.011

Esteron, F. (2013). The evolution of FoodShare: An exploratory investigation of the Canada´s largest community food security organisation [Unpublished master's thesis]. Ryerson University.

Feindt, P. H., & Weiland, S. (2018). Reflexive governance: exploring the concept and assessing its critical potential for sustainable development. Introduction to the special issue. *Journal of Environmental Policy & Planning, 20(*6), 661-674. http://dx.doi.org/10.1080/1523908X.2018.1532562

Ferguson, D. (1986, May 10). *'Potato Express' on track to Metro*. The Toronto Star (pp. A1, A14). https://foodshare.net/custom/uploads/2015/11/1986-FERGUSON-Potato_Express_on_track_to_Metro-TorStar.pdf.

Field, D. (2009). The crisis of food security: Building a public food system. *Esurio: Journal of Hunger and Poverty, 1*(2), 1-8.

Field, D. (2014). *Good food box: History, opportunities and challenges.* Sustain Ontario webinar. https://businessdocbox.com/Agriculture/66088426-Good-food-box-history-opportunities-and-challenges.html.

Fisher, A. (2017). *Big hunger: The unholy alliance between corporate America and anti-hunger groups.* MIT Press.

FoodShare. (n.d. a) *A different kind of food truck.* FoodShare. https://foodshare.net/program/mobile/.

FoodShare. (n.d. b). *Discover goodness in every box.* https://foodshare.net/program/goodfoodbox/

FoodShare. (n.d. c). *Advancing food access*. https://foodshare.net/program/markets/.

FoodShare. (n.d. d). *Growing food to grow people*. https://foodshare.net/program/schoolgrown/.

FoodShare. (n.d. e). *Growing hope along with food.* https://foodshare.net/program/sunshine/.

FoodShare. (n.d. f). *Student approved food curriculum*. https://foodshare.net/program/student/.

FoodShare (2009). *Strategic Plan 2009 – 2011.* https://foodshare.net/custom/uploads/2015/11/FoodShare-StrategicPlan2009.pdf.

FoodShare. (2021). *Rooted in food justice.* FoodShare Toronto strategic Plan 2019-2021. https://foodshare.net/custom/uploads/2019/05/Strategic-Plan-2019-2021.pdf.

Fridman, J., & Lenters, L. (2013). Kitchen as food hub: adaptive food systems governance in the City of Toronto. *Local Environment, 18*(5), 543-556. https://doi.org/10.1080/13549839.2013.788487

Goodman, M. K., & Goodman, D. (2016). Place and space in alternative food networks: Connecting production and consumption. In M. K. Goodman & D. Goodman (Eds.), *Consuming space: Placing consumption in perspective* (pp. 203-226). Routledge.

Henderson, J., Coveney, J., & Ward, P. (2010). Who regulates food? Australians' perceptions of responsibility for food safety. *Australian Journal of Primary Health, 16*(4), 344-351. https://doi.org/10.1071/py10011

Hendriks, C. M., & Grin, J. (2007). Contextualizing reflexive governance: the politics of Dutch transitions to sustainability. *Journal of Environmental Policy & Planning, 9*(3-4), 333-350. https://doi.org/10.1080/15239080701622790

Hinrichs, C. C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market. *Journal of Rural Studies, 16*(3), 295-303. https://doi.org/10.1016/S0743-0167(99)00063-7

Holt Giménez, E. (2011). Food security, food justice or food sovereignty? Crises, food movements and regime change. In A. H. Alkon & J. Agyeman (Eds.), *Cultivating food justice* (pp. 309–330). MIT Press.

Holt-Giménez, E., & Altieri, M. A. (2013). Agroecology, Food Sovereignty, and the New Green Revolution. *Agroecology and Sustainable Food Systems, 37*(1), 90-102. https://doi.org/10.1080/10440046.2012.716388

Holt Giménez, E., & Shattuck, A. (2011). Food crises, food regimes and food movements: rumblings of reform or tides of transformation? *The Journal of Peasant Studies, 38*(1), 109-144. https://doi.org/10.1080/03066150.2010.538578

Ilbery, B., & Maye, D. (2015). The changing dynamics of alternative agri-food networks: a European perspective. In G. M. Robinson & D. A. Carson (Eds.), *Handbook on the Globalisation of Agriculture* (pp. 425–445). Edward Elgar Publishing.

International Panel of Experts on Sustainable Food Systems (iPES-Food). (2017). *Unravelling the food–health Nexus: Addressing practices, political economy, and power relations to build healthier food systems*. The global alliance for the future of food and iPES-Food. https://futureoffood.org/insights/unravelling-the-food-health-nexus/.

Johnston, J. (2003). Food for all: the story of FoodShare shows how community food security programs can make a difference, even if they can't end hunger. *Alternatives Journal, 29*(4), 29.

Kirwan, J., Maye, D., & Brunori, G. (2017). Reflexive governance, incorporating ethics and changing understandings of food chain performance. *Sociologia Ruralis, 57*(3), 357-377. https://doi.org/10.1111/soru.12169

Knezevic, I., Blay-Palmer, A., Levkoe, C. Z., Mount, P., & Nelson, E. (Eds.). (2017). *Nourishing communities: From fractured food systems to transformative pathways.* Springer.

Lee, R. L. (2008). In search of second modernity: reinterpreting reflexive modernization in the context of multiple modernities. *Social Science Information, 47*(1), 55-69. https://doi.org/10.1177%2F0539018407085749

Levkoe, C. Z. (2006). Learning democracy through food justice movements. *Agriculture and Human Values, 23*(1), 89-98. https://doi.org/10.1007/s10460-005-5871-5

Levkoe, C. Z. (2015). Strategies for forging and sustaining social movement networks: A case study of provincial food networking organizations in Canada. *Geoforum, 58*, 174-183. https://doi.org/10.1016/j.geoforum.2014.11.013

Levkoe, C. Z., & Wakefield, S. (2013). Understanding contemporary networks of environmental and social change: complex assemblages within Canada's 'food movement'. *Environmental Politics, 23*(2), 302-320. https://doi.org/10.1080/09644016.2013.818302

Manganelli, A. (2018). Hybrid governance tensions fuelling self-reflexivity in alternative food networks: the case of the Brussels GASAP (solidarity purchasing groups for peasant agriculture). *Local Environment, 23*(8), 830-845. https://doi:10.1080/13549839.2018.1477745

Manganelli, A. (2020). Realising local food policies: a comparison between Toronto and the Brussels-capital region's stories through the lenses of reflexivity and co-learning. *Journal of Environmental Policy & Planning, 22*(3), 1-15. https://doi.org/10.1080/1523908X.2020.1740657

Manganelli, A. (2022). *Hybrid Governance and its Tensions: Learning from Urban Food Movements in Toronto and Brussels*. [Manuscript submitted for publication]. Springer, Urban Agriculture Series.

Marsden, T. (2013). From post-productionism to reflexive governance: Contested transitions in securing more sustainable food futures. *Journal of Rural Studies, 29*, 123-134. http://dx.doi.org/10.1016/j.jrurstud.2011.10.001

Maye, D. (2013). Moving alternative food networks beyond the niche. *The International Journal of Sociology of Agriculture and Food, 20*(3), 383-389. https://doi.org/10.48416/ijsaf.v20i3.173

Moragues-Faus, A. (2017). Problematising justice definitions in public food security debates: Towards global and participative food justices. *Geoforum, 84*, 95-106. https://doi.org/10.1016/j.geoforum.2017.06.007

Mount, P. (2012). Growing local food: scale and local food systems governance. *Agriculture and Human Values, 29*(1), 107-121. https://doi.org/10.1007/s10460-011-9331-0

Patel, R. (2009). Food sovereignty. *The Journal of Peasant Studies, 36*(3), 663-706. https://doi.org/10.1080/03066150903143079

Raja, S., Morgan, K., & Hall, E. (2017). Planning for equitable urban and regional food systems. *Built Environment, 43*(3), 309-314. http://dx.doi.org/10.2148/benv.43.3.309

Riches, G., & Silvasti, T. (Eds.). (2014). *First world hunger revisited: Food charity or the right to food?*. Palgrave Macmillan, UK.

Rossi, A., & Brunori, G. (2010). Drivers of transformation in the agro-food system: GAS as co-production of alternative food networks. *Proceedings of the 9th European IFSA Symposium*. http://dx.doi.org/10.13140/2.1.2684.8649

RUAF. (2019). Food Policy Councils. Urban Agriculture Magazine, 36, pp.. https://ruaf.org/document/urban-agriculture-magazine-no-36-food-policy-councils/

Sonnino, R., & Marsden, T. (2006). Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe. *Journal of Economic Geography, 6*(2), 181-199. http://dx.doi.org/10.1093/jeg/lbi006

Sonnino, R., Torres, C. L., & Schneider, S. (2014). Reflexive governance for food security: The example of school feeding in Brazil. *Journal of Rural Studies, 36*, 1-12. https://doi.org/10.1016/j.jrurstud.2014.06.003

Stirling, A. (2006). Chapter 9: Precaution, foresight and sustainability: Reflection and reflexivity in the governance of science and technology. In J-P. Voß, D. Bauknecht & R. Kemp (Eds.), *Reflexive governance for sustainable development* (pp. 225-272). Edward Elgar.

Sumner, J. (2015). Waging the struggle for healthy eating: food environments, dietary regimes and Brazil's dietary guidelines. *Local Environment, 21*(10), 1230-1242. https://doi.org/10.1080/13549839.2015.1087480

Taylor, P. (2020, June 10). *When you're Black, you're at greater risk of everything that sucks: FoodShare's Paul Taylor on the links between race and food insecurity*. Toronto Life. https://torontolife.com/food/when-youre-black-youre-at-greater-risk-of-everything-that-sucks-foodshares-paul-taylor-on-the-links-between-race-and-food-insecurity/, accessed 1st April 2022.

Taylor, P. (2021). Next economy conversations: Paul Taylor of FoodShare. Public speech, February 2021. https://socialinnovation.org/news/event_auto/next-economy-conversations-paul-taylor-of-foodshare/.

Tritscher, A., Miyagishima, K., Nishida, C., & Branca, F. (2013). Ensuring food safety and nutrition security to protect consumer health: 50 years of the Codex Alimentarius Commission. *Bulletin of the World Health Organization, 91*(7), 468-468. https://dx.doi.org/10.2471%2FBLT.13.125518

Voß , J.-P., Bauknecht, D., & Kemp, R. (Eds.). (2006). *Reflexive governance for sustainable development*. Edward Elgar.

Welsh, J., & MacRae, R. (1998). Food citizenship and community food security: lessons from Toronto, Canada. *Canadian Journal of Development Studies/Revue canadienne d'etudes du developpement, 19*(4), 237-255.

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Original Research Article

Critical food guidance for tackling food waste in Canada: A closed-loop food system alternative to the food recovery hierarchy approach

Tammara Soma*

Simon Fraser University

Abstract

Food waste is a complex problem with far reaching negative environmental, social, and economic impacts. To identify appropriate solutions to address food waste, the food recovery hierarchy developed by the Environmental Protection Agency is currently the most popular guiding framework in food waste prevention and reduction. However, this paper found that the application and the interpretation of the guide is quite problematic due to its lack of consideration of scale in efforts to prevent and reduce food loss and waste. Furthermore, the food recovery hierarchy is premised on a linear food supply chain instead of a circular approach. Although the hierarchy recommends prevention as the most preferred approach, it still provides the option (albeit less preferred) to landfill food waste. Based on values and worldviews that potentially serve as better tools for food waste prevention and reduction, this paper explores the tensions within the food recovery hierarchy framework and identifies alternative critical food guidance developed in a Canadian social innovation lab.

Keywords: Food waste; food recovery hierarchy; social innovation; closed loop; Canada

*Corresponding author: tammara_soma@sfu.ca
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Introduction

An estimated 35.5 million metric tonnes of food is wasted annually in Canada, with avoidable food loss and waste costing Canada $49.5 billion per year (Gooch et al., 2019). Scholars and policy makers are generally in agreement that the amount of food wasted in Canada is detrimental to environmental sustainability and contributes to climate change, economic inefficiencies, and social inequality (MacRae et al., 2016; Parizeau et al., 2015; Soma et al., 2020; Urrutia et al., 2019; van der Werf, 2017;). The problem of food waste is also a logical consequence of an industrial food system predicated on overproduction (Gille, 2012), corporate subsidies (Patel, 2007) urbanization, dietary transition (Parfitt et al., 2010) and a linear food chain that does not encourage waste prevention or the return of nutrients from organic waste back into production (Ontario, 2017). While this study is primarily focused on Canada, it is important to note that demands by Canadian consumers impact global agriculture. As Stuart (2009, p. xv) noted, demand for food in one part of the world "indirectly stimulates the creation of fields thousands of miles away." In fact, the dominant food system "has left many stuffed and many starved" (Patel, 2007, p. 18). This paradox identified by Patel is particularly relevant in the contexts of agri-food systems, waste systems, and health systems that take place on land, and within the colonial context of Canada. For example, when speaking of the issue of plastics waste and landfilling, Liboiron (2021) noted the intimate relationship between plastics pollution and colonialism. Liboiron argues that this waste issue is due to "assumed access by settler and colonial projects to Indigenous lands for settler and colonial goals" (2021, p. 5), which in this case is based on excessive consumption and resource extraction. Similarly, in a food system where Indigenous peoples are disproportionately impacted by food insecurity and food-related non-communicable diseases such as diabetes, food has historically been weaponized to harm children in residential schools through poor nutrition and insufficient foods (Mosby &Galloway, 2017), as well as through forced farm labour (Giancarlo, 2020). The colonial framework is also entrenched in an agricultural system that has in some cases profited from the exploitation of migrant farm workers (Reid-Musson, 2017). The foregoing examples illustrate the adverse consequences that arise when food is treated as a commodity (Soma et al., 2020), and how the food supply chain is embedded within a linear system as opposed to a more preferable circular system.

Recognizing the detrimental impact of food waste, a flurry of activities and solutions to address the issue have emerged. These solutions have ranged from educational approaches to food waste prevention such as the *Love Food Hate Waste Canada*[1] awareness campaign, policy strategies such as *Ontario's Food and Organic Waste Framework Action Plan* (Ontario, 2017), the growth of food waste reduction apps such as FlashFood and Feedback, as well as popular charity-based solutions focused on *food rescue* such as Second Harvest, Food Share Network B.C, and Leftovers Calgary.

[1] Lovefoodhatewaste.ca

On the waste management and diversion side, there are also calls to encourage the management of food waste in a more sustainable manner. For example, large retailers such as Walmart have committed 244 of their Canadian stores to send organic waste to anaerobic digestion facilities instead of landfills (Walmart Canada, 2018). Smaller-scale solutions include vermicomposting (worm composting) enterprises such as Waste Not Farms[2], a green bin office pick-up service where organic waste from green bins is picked up and composted in a local worm farm with the resulting soil amendments given back to the clients. All of these diverse food waste solutions can be represented at various levels of the Food Recovery Hierarchy Framework (hereinafter Framework) made popular by the Environmental Protection Agency in the United States (Figure 1).

This paper will critically analyze and unpack the hierarchies of solutions promoted by the Framework, especially as the Framework is increasingly viewed as an authoritative guide on how to best address the issue of food waste (CEC, 2017; Eriksson et al., 2015; Papargyropoulou et al., 2014). This paper argues that this Framework is premised upon a paradigm that perpetuates and does not challenge, the dominant linear, industrial food supply chain. Moreover, the Framework does not address the issue of "competing solutions" from diverse stakeholders (Mourad, 2016). As Mourad (2016) argues, actors who have diverse interests and agendas in the food commodity chains actually develop competing solutions, many of which can be categorized as "weak sustainability" instead of holistic solutions defined as "strong sustainability."

As an alternative paradigm, this paper explores a conceptual framework for critical food guidance that would potentially create a better tool for food waste prevention and reduction. Using a case study of the Food Systems Lab for social innovation in Toronto, we showcase an alternative framework based on the principles of justice, reconciliation, and innovation. This framework was developed through a social innovation workshop with diverse attendees including farmers, retailers, restaurateurs, Indigenous community members, migrant farm worker, faith organizations and more. Findings from the lab demonstrate the need to explore the *values* that will feed into a closed-loop food system. One of the values embraced was the Indigenous principles based on All My Relations" and the importance of Reconciliation (TRC, 2015). Considering an Indigenous person in Canada is 28.2% more likely than non-Indigenous peoples to be food insecure (Tarasuk et al., 2016), an approach based on decolonization and reconciliation may serve as an alternative paradigm to challenge the commodification of food and the injustice prevalent in the dominant food system, and correspondingly contribute to tackling the issue of food waste in a systemic manner. This framework, we suggest, can provide critical guidance in the vital area of food waste reduction and prevention

[2] wastenotfarms.com

Hierarchy of food waste solutions: The food recovery hierarchy framework

Figure 1:

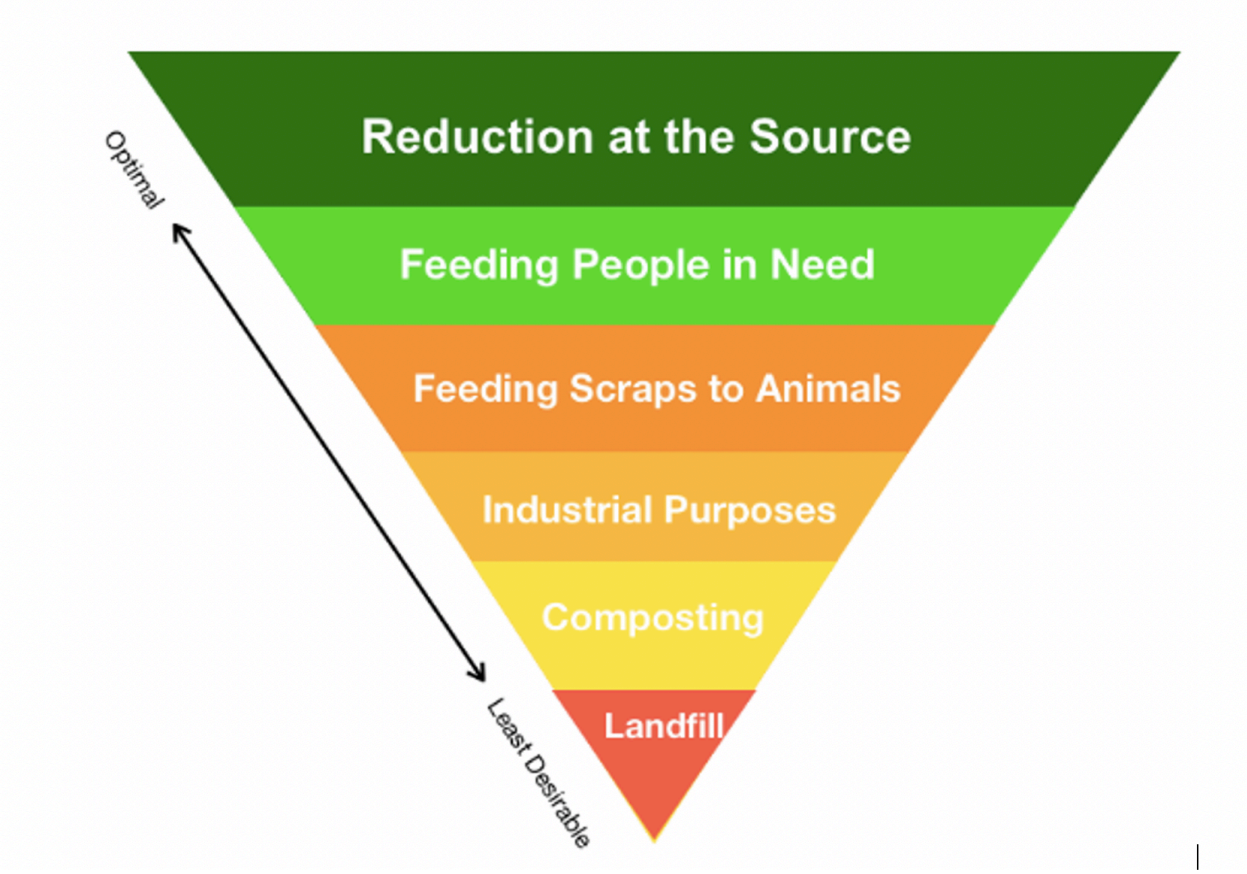

Diagram adapted from the EPA Food Recovery Hierarchy <https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy>

The Food Recovery Hierarchy Framework provides guidance for food waste prevention, reduction, and recovery in the shape of an upside-down pyramid. The genesis of the framework is a "Waste Ladder" with five rungs, developed in 1979 by Ad Lansink and also known as the "Lansink Ladder" (Hendriks et al., 2003). The ladder includes: 1) prevention; 2) reuse; 3) recycling; 4) recovery; and 5) disposal. The model visually illustrated by the Environmental Protection Agency is currently the most dominant guide in food waste prevention, reduction, and recovery and is cited in various food waste reports, albeit often slightly modified or adapted (CEC, 2017; Garrone et al., 2014). Waste management guidelines often frame waste as a resource exemplified by the 3R principles of Reduce, Re-use and Recycle (Papargyropoulou et

al., 2014). In Europe, the 3R hierarchy of Reduce, Reuse and Recycle was enacted into law in 1975 (European Commission, 2009).

According to Papargyropoulou et al. (2014), the food waste hierarchy has the potential to deliver substantial environmental, social, and economic benefits. However, this paper argues that the ways in which the hierarchy categorizes the recovery of food waste may potentially limit innovation. This is due to its lack of consideration of scale where the food waste occurs, and the fact that it does not distinguish the types of food waste in determining desirable and least desirable practices/options. The levels of the hierarchy also appear to be arbitrary, especially when considering the different types, definitions, scales, and categories of food waste. The limitations of these hierarchies will be analyzed by looking at the levels of food management options from the most desirable (source reduction/prevention) to the least desirable option (landfill/disposal).

Prior to critically analyzing the hierarchies, it is important to understand that there are many definitions and diverse conceptualizations around 'food waste' which highlight the tensions and issues within the practices promoted by the Framework. A systematic review by Roodhuyzen et al. (2017) found that scholars in the field use various angles and terminologies to define food loss and waste, and while there is no consensus, there are generally two terms commonly used to describe food that is wasted: *food loss* and *food waste*. The term food loss is primarily used to define food that is wasted at the agricultural/production stage due to spoilage, lack of farm infrastructure, harvesting, and processing issues (Gustavsson et al., 2011). Meanwhile, food waste is the term that is often used to define food wasted at the consumer or retail stages and is mainly linked with behavioural issues rather than infrastructural issues.

According to the Food and Agriculture Organization (FAO) (2019), food waste is any edible material that was produced for human consumption that instead of being eaten, is discarded, lost, degraded or consumed by pests. Lee and Soma (2016) define food waste as any discarded organic matter that was intended for consumption by humans, regardless of its ultimate fate. Scholars such as Smil (2004) include overnutrition within the definition of food waste, and Stuart (2009) includes the diversion of edible food from the human food chain to animal feed as food waste. O'Brien, on the other hand, argues that food waste is the natural logic of capitalist surplus and, as such, 'waste' is an imaginary construct (2012). In a study conducted in Indonesia, it was noted that income, cultural preferences, and class, influence who is able to determine what is 'food' and what is considered 'waste' (Soma, 2017a).

In addition to the diverse interpretations of what is meant by 'food waste', there are further categories and distinctions. For example, the U.K organization Waste and Resources Action Program (WRAP)(2009) has categorized food and drink waste by how avoidable the waste was prior to being disposed.

a. **Avoidable food waste**: food that was at some point edible prior to disposal, e.g. food that was overpurchased or spoiled (meat, apples, cooked/prepared foods).

b. **Potentially avoidable food waste**: food consumed by some people but not by others. Examples include carrot skins, potato skins, bread crusts, broccoli stalks.
c. **Non-avoidable food waste**: food waste that under normal circumstances would not be edible (usually the result of food preparation), e.g.avocado skin and seed, eggshells, bones from meat, pineapple skin.

It is important to note that the terminologies and categories used in the food recovery hierarchy framework are often used interchangeably, which can also lead to confusion (Teigiserova et al., 2020). For example, feeding food to animals can be considered both reuse and recycling, while anaerobic digestion has been included in both recovery (as part of energy recovery) and recycling (Teigiserova et al., 2020). Giordano et al. (2020) also argue that despite the hierarchy focusing on source reduction, most of the research is focused downstream. While there are different versions of the food recovery hierarchy (see Teigiserova et al., 2020 on a Best Environmental Option-Waste Hierarchy), thus far, none have adequately addressed the issue of justice, and within the context of Canada, the colonial structure that has resulted in a regime of extraction.

Tensions within the food recovery hierarchy framework

Source reduction

The first level of the Food Recovery Hierarchy promotes source reduction**,** based on the goals of preventing food waste at the source. While other aspects of the Framework are easier to quantify, Mourad (2016) noted that prevention or source reduction is the least measurable category within the hierarchy. In a study analyzing the implementation of the waste recovery hierarchy in Europe, Giordano et al. (2020) found that despite clear recommendations to address source reduction, interventions based on the implementation of the waste recovery hierarchy in Europe (France and Italy) are focused on weaker interventions such as energy recovery or food donations.

For some, the objective of food waste prevention and source reduction would imply pushing towards systemic solutions to address the root problem of agricultural overproduction. Papargyropoulou et al. (2014) noted that food waste prevention would include practices such as producing only the necessary amount of food that would both cover global needs as well as safeguard food security. Despite scholars such as Godfray et al. (2010) and institutions such as the World Bank (2008) arguing that we need to produce anywhere between 70 to 100% more food by 2050 to address the challenge of feeding 9 billion people, we currently produce more food than is needed by the current population (Elinder, 2005; Holt-Gimenez et al., 2012). As Elinder (2005) argues, it is important to address the oversupply/overproduction of food driven by

agricultural subsidies and trade-distorting measures, which undermine agricultural sectors in the Global South (Organization for Economic and Cooperative Development, 2004).

Overconsumption is also another pressing issue. For example, between 1999 and 2000, per capita calories per person per day in the United States reached 3900 calories (Putnam et al., 2002), far beyond what is needed for a person with an active lifestyle (USDA, 2002). Prevention would entail challenging the global food supply chain and targeting certain agricultural subsidies on commodity crops such as corn and soy (Carolan, 2011), which have contributed to the prevalence of 'cheap food'. As Carolan (2011, p. 2) noted, the term cheap food refers to the "de-contextualization of food in its broadest sense" which includes collaterals such as pollution and resources extracted to grow the food. In the United Sates, on average, a decreasing amount of annual income is spent on food, with the percentage of disposable income spent on food dropping from 13.9 to 9.8 percent between 1970 and 2005 (Carolan, 2011). Cheap food enables overconsumption and is deceptive as it does not take fully into account the true cost of food production.

As noted by various scholars, the lack of clarity on what is meant by food waste prevention results from the fact that 'prevention' indicators are challenging to measure and are considered the least tangible (Gentil et al., 2011; Mourad, 2016). Thus far, food waste prevention studies have generally focused on raising awareness and encouraging individual behavioural changes, rather than structural changes in agricultural production (Mourad, 2016) or actual source reduction (Joshi & Visvanathan, 2019). The terms *food waste prevention* and *source reduction* have also been used to identify practices such as retail food donation (Schneider, 2013), which technically fit within the second level of the Framework's hierarchy (i.e., feeding people in need). From the household waste prevention scale, authors such as Cox et al. (2010) have used the example of home composting as a form of source reduction and prevention (which may understandably refer to source reduction of waste from landfills). Yet according to the Framework, this strategy is second to last in terms of desirability and is only one level above landfilling.

There is a dearth of efforts to address the complex problem of oversupply at the production stages within the context of source reduction/food waste prevention discussions and literature. Agricultural-level studies on food loss have focused on quantifying losses (Beretta et al., 2013; Ridoutt et al., 2010) or minimizing losses due to damage caused by pests during harvest (Treeamnuk et al., 2010). Few studies have explored the correlation between crop overproduction and food waste (Gille, 2012). However, studies focusing on individual and household food waste prevention such as meal planning, behavioural interventions, a grocery list, and portion planning are plentiful (Graham-Rowe et al., 2014; Quested et al., 2013; Stefan et al., 2013;van der Werf et al., 2018) This supports the assertion of Welch et al. (2018) and Swaffield et al.(2018) that the overall focus on consumers' role in food waste reduction reflects a neoliberal environmentalism paradigm, which focuses on turning to consumption (e.g., sustainable consumption) to solve the problems that are caused by consumption itself. This approach has been interpreted by scholars such as Maniates (2001) as allowing governments and

institutions to abdicate their responsibilities in changing the system. A deeper engagement with source reduction and systemic solutions would require addressing questions of land distribution, access to food, discriminatory agricultural practices, farm labour, the type of food being produced and commoditized, and speculation, as well as unjust trade distortion or subsidies (Soma et al., 2021).

Feeding people in need/ feed hungry people

The second most desirable option to manage food from becoming waste on the Framework is 'Feeding People in Need' or 'Feed Hungry People.' This solution is promoted to ensure that edible surplus food (i.e., food that is fit for human consumption) is donated or shared with people to alleviate hunger rather than having it wasted. At a glance, this solution has been promoted by proponents as a win-win solution (Macleod, 2015), as not only is food waste prevented, but those who are hungry benefit from the donated foods. In the effort to push retailers to donate food instead of discarding it, images of mountains of edible food wasted by corporate retailers have sparked an outcry and garnered significant media attention. For example, after the CBC (Canadian Broadcasting Corporation) investigated the contents of Walmart garbage bins, they found large amounts of discarded food well before the best-before date, most of which was still in its packaging (Mancini &Vellani, 2016).

Concerns over perfectly edible food going to waste have resulted in calls to improve processes for donating, and proposals to develop a food waste tax incentive (National Zero Waste Council, 2016). However, this seemingly desirable solution has also been criticized from a social justice angle and by anti-poverty activists (Patel and Saul, 2017). Caplan (2017) argues that these types of food 'solutions' to hunger contribute to hunger's normalization as well as the idea of people as 'waste' infrastructure (Soma, 2017b; Yates, 2011). There are numerous limitations with respect to using wasted food to feed hungry people (Millar et al., 2020). When this approach is scaled up or replicated, it absorbs infrastructural investments that would be better used to develop long-term solutions to better wages, or to invest in closed-loop systems. As Fisher (2017) noted:

> Donors want free waste removal, convenience, a tax deduction, and the halo effect that accompanies hunger relief efforts. Donors do not want to be judged about the quality of the food they provide. Food bankers fear that if they decline a product the donor will not deliver other desirable items. (p. 53)

There is stigma (Riches, 2002) in offering people foods that corporations have deemed as 'waste'. There are also concerns that the food charity approach has been promoted to invest in practices and infrastructures that divert attention away from the need to focus on food waste prevention or source reduction, as well as that free surplus food distribution may be used to scale

up programs such as food banks that have limited use for long-term impacts for food security (Riches, 2018; Tarasuk et al., 2014). As Giles (2015) argues, under the current economic and industrial food system, "the work of making waste itself becomes a source of economic value" (p. 82). In summary, the work of waste-making is reflected in the logistics around corporate surplus food, that is then categorized as 'waste', which in turn becomes a source of economic value for hunger-relief organizations and a source of corporate social responsibility.

There are other approaches to food accessibility that are not predicated on a two-tiered food system where one group has the privilege of choice, and the other group relies on whatever food is provided to them. Food sharing (Lazell, 2016; Lazell et al., 2018) via apps such as OLIO to support community-based sharing practices is another example where food can be redistributed. While food sharing between residents, neighbours and households may not have the stigma associated with food banks, there are still limitations due to issues of trust and concerns for food safety (Lazell, 2016). Scale matters when taking into account the prescription to feed hungry people. When it comes to efficiency and equity of common resource use, addressing the issue of scale is particularly relevant (Giordano, 2008). While encouraging individuals to share extra food is commendable and distributing surplus food to individuals in need is preferable to disposing of it in the landfill, if the issue of scale is not addressed, neither of these interventions will result in efficient waste reduction or effectively address the issue of food insecurity. Moreover, without considering scale, this intervention level may conflict with the priority of food waste prevention.

Feeding animals

Third from the top of the Food Recovery Hierarchy is feeding animals. In general, according to Leib et al. (2016), food that is still edible for humans should continue to be consumed by humans. However, when food is no longer edible for humans but is safe for animal consumption, the next best option according to the hierarchy is to feed it to animals.

In his seminal book *Waste: Uncovering the Global Food Scandal,* Tristram Stuart, a farmer, activist, and freelance writer noted how the massive supply of free excess food from bakeries and markets were a boon for pig farmers due to the expensive cost of pig feed. When he reflected upon the fact that most of the food he collected was actually fit for human consumption, he recognized that feeding food waste to animals did not address the root cause of the problem (Stuart, 2009). While the pre-industrial or agroecological practice of feeding food scraps to animals is an important part of a closed-loop food system, the scale of industrial agriculture and the industrial food system has made what may be a simple practice more complicated for food-safety purposes. In the current industrial context, food scraps are not necessarily scraps from derived farm produce such as corn husks or vegetables trimmings. In Las Vegas, food scraps used for animal feed might include massive amounts of uneaten meat, bread, vegetables and desserts sourced from all you can eat buffets at restaurants and hotels, 22 million

pounds of which are sent for pig feeds each year (Spector, 2012). Food scraps in the context of animal agriculture could also entail the feeding of processed animal by-products, such as ground up cattle from the remnants of industrial scale slaughterhouses, to animals that are naturally herbivores (Alali & Ricke, 2012). Thankfully, this practice has declined since the 1980s due to disease outbreaks such as foot-and-mouth disease and mad cow disease connected to leftovers or by-products containing untreated infected meat being used for animal feed (Canadian Food Inspection Agency [CFIA], 2015; DEFRA, 2002; Leib et al., 2016). It was not until 1997 that mammalian proteins consisting of skulls, brains, eyes, tonsils, spinal cords, dorsal root ganglia, trigeminal ganglia were prohibited for animal feed (CFIA, 2015).

Feeding food scraps to animals can save farmers and businesses money as well as divert a significant amount of food waste from landfills (Leib et al., 2016). However, there is very little research that evaluates or audits whether or not the food given to animals is actually still fit for human consumption and if so, how scholars and policy makers can provide better recommendations to reduce and prevent avoidable food waste at the source. Secondly, there are also health consequences for animals due to the prevalence of rapidly digestible baked goods and carbohydrate overload in the feed, causing a type of illness called acidosis in ruminants consuming high levels of carbohydrates (Morgante, 2002).

Beyond cattle, there is also the potential to reduce livestock waste or divert scraps to feed black soldier flies, which in turn can be fed to chickens and to fish in aquaculture, (St-Hilaire et al., 2007). It is argued that feeding black soldier fly larvae to fish can improve the sustainability of aquaculture (Diener et al., 2009), which at the industrial scale is extremely wasteful due to its practice of feeding wild fish to farmed fish, the destruction of mangrove forests to make way for shrimp and tilapia farms, heavy use of antibiotics, and even violence between corporations and the poor living in coastal communities (Islam, 2014). To reiterate, while feeding animals food scraps is a critical component of a circular economy and a closed-loop food system, concerns around animal health, the industrial scale of animal feed operations, and animals' natural diet should also be addressed. Attempts to prop up an animal agriculture system (e.g. intensive livestock operations and industrial slaughterhouses) by feeding food waste to animals are tenuous, often contributing to unnecessary and unwanted consequences such as antibiotic resistance and pathogens, poor animal welfare and labour, and massive environmental pollutants (Weis, 2013), all of which are not conducive to long-term sustainability or a just closed loop food system.

Industrial purposes (biogas, rendering)

Fourth from the top of the Food Recovery Hierarchy, only two steps above landfilling, is recovering food waste through industrial purposes. In this case, the EPA Food Recovery Hierarchy identifies the rendering of waste oils for fuel conversion and the use of food scraps as feedstock for digestion as legitimate ways to recover energy so that it is not 'wasted'(EPA, nd).

Industrial agriculture and animal farming in particular, result in substantial waste throughout the supply chain, starting from animal rearing and feeding, slaughtering and processing (Mekonnen et al., 2016). As Mekonnen et al. (2014) argue, the scale of modern industrial animal agriculture produces a significant amount of by-products via slaughter, which are considered by the industry as non-edible portions. The rendering industry collects and processes these by-products such as hide, skin, fats, oil, blood, and feathers, which are then transformed into ingredients for the cosmetic industry, feed additives, industrial commodity chemicals, biofuel, and pharmaceuticals (Mekonnen et al., 2014). In 2013 alone, the North American rendering industry recycled 27.8 million tonnes of perishable by-products from the beef, pig, and poultry industries as well as supermarkets, food processing facilities and restaurants (Mekonnen et al., 2014). Protein by-products such as feather meal, bone meal, meat and blood meal are utilized in pet food, aquaculture, and industrial livestock feed.

Without the rendering industry, there would be a massive waste crisis in the industrial animal agriculture sector as it would be impossible to manage the disposal of by-products from industrial-scale slaughter. While the process of rendering may kill various forms of bacteria such as *Salmonella, Listeria monocytogenes*, etc. (Troutt et al., 2001), it does not inactivate the transmission of bovine spongiform encephalopathy (BSE) or mad cow disease (Meeker &Hamilton, 2006). At the scale at which industrial animal agriculture operates, the restriction and limitations on certain cattle tissues have resulted in a significant loss of economic value. Due to Canada's limitations on Specified Risk Materials (SRM) from ruminants, it is estimated that more than three hundred thousand tonnes of rendered SRM materials that were once sold as meat or bone meal are now landfilled (Mekonnen et al., 2014).

Food waste can also be used to generate biogas through anaerobic digestion. While industrial uses such as biogas are seen as less preferable than feeding food waste to animals, depending on the characteristic of the food product (specifically water and energy content), anaerobic digestion may result in lower greenhouse gas (GHG) emissions than using the food for animal feed (Eriksson et al., 2015). Biogas is used for electricity and as thermal energy (Gilroyed et al., 2010). The conversion of waste protein to energy destroys BSE-causing prions and pathogens; the final product may take the form of pellets, liquid fertilizers, inedible tallow, and biogas (Somerville et al., 2009; Mekonnen et al., 2014).

Currently, the growth of the biogas industry is served by the growth of food waste produced by hotels, restaurants, and companies, as well as population growth (Zhang et al., 2014). The process of anaerobic digestion uses anaerobic bacteria to break down food waste and convert the organic materials into biogas (methane). Regulations such as landfill bans on organic waste and climate change mitigation policies may help support the growth and investment in biogas industries (Levis et al., 2010). For example, the province of Nova Scotia has enacted a landfill ban on organic waste, which has been in place since 1998 (Friesen, 2000). MacRae et al. (2016) noted that despite the landfill ban, Nova Scotia is facing challenges in sending food waste to biogas facilities as there is a lack of infrastructure to absorb the materials. It is important to note that biogas companies face steep competition from other sectors competing for the product.

MacRae et al. (2016) noted that it would cost a major Canadian retailer $2385 to divert food waste to an anaerobic digestion facility, compared to $1323 for animal feed, $897 for on-site composting, and $0 for donations. Eriksson et al. (2015) concluded that the properties of individual food products (e.g., whether they have a higher water or energy content) influence which waste management option is more favourable. Scale matters with respect to the use of food waste for industrial purposes, as the scaling up of this energy source might contribute to a deviation from food waste prevention. Source reduction of food waste would result in the collapse or scaling down of industries reliant on food waste as a source of wealth generation and growth for their industry. Anaerobic digestion, therefore, should be focused on processing non-avoidable food waste (or food scraps) rather than avoidable food waste.

Composting

Just above landfill and incineration in terms of desirability in the Food Recovery Hierarchy Framework is composting. Composting turns organic waste into a resource for food production in the form of a soil amendment (Sidder, 2016). Composting and in turn compost itself is a vital component of an integrated, sustainable waste management program and sustainable agriculture. In fact, composting has been promoted as one of the most feasible tools to address the management of organic waste since it reduces the waste that would otherwise go in landfills (Hoornweg et al., 1999).

Composting has the potential to provide numerous benefits: serving as a natural soil amendment for agriculture; creating employment opportunities; generating additional income for municipalities/communities that run composting programs; diverting waste from landfills; and providing a relatively inexpensive process to manage organic waste, especially at the smaller scale (Hoornweg et al., 1999; Nunan, 2000). However, the efficacy and success of composting initiatives hinge on successful waste segregation (i.e., source separation of organic waste from other waste), especially at the municipal level where household waste is often mixed. Composting, depending on its scale and approach/methodology (e.g., windrow versus worm composting, industrial composting versus home composting) can look very different.

Community-based composting is a decentralized approach to waste management that is diverse in its scale and involves various stakeholders. In decentralized composting projects, government authorities take a hands-off approach and require the community to manage its own waste collection. With the increase in the types and complexity of waste, it has become more difficult for modern residents to practice composting. For example, in Indonesia residents noted that with the rise of modern packaging, their traditional practice of composting organic waste or burying organic waste has become difficult (Soma, 2017a). In addition, farmers' willingness to pay may be reduced, as those wishing to use compost have to compete with subsidized chemical fertilizers (Rouse et al., 2008).

In the case of Ontario, Canada, there are many barriers to developing a community-based composting program. Even at a small to medium-scale, compost operators would need to go through very costly approval processes. In Ontario, the Environmental Protection Act categorizes compost feedstock as waste product rather than as a 'resource', which then requires those interested in managing compost to obtain an Environmental Compliance Approval (ECA) for a waste disposal site prior to handling or processing waste (Vidoni, 2011). While it is unlikely that a community garden managing its own organic waste and then composting on site would need the ECA, should they bring in any outside materials (for example, coffee grounds from a corner café or food scraps from a neighbour), they would be prohibited from doing so.

In an ideal context, community-based composting will result in a reduction of energy required to transport waste long distance. However, the current policy landscape poses regulatory and financial barriers for interested small to medium-scale entrepreneurs. A study by Adhikari et al. (2010) found that if urban organic wastes are treated via home/community composting, waste management costs could be reduced by 34% for Canada. In comparison to centralized composting, on-site composting can reduce GHG emissions by 40% for Canada (Adhikari et al., 2010).

While centralized composting may result in more residents/households participating, the actual quality of the compost feedstock might be compromised due to improper source segregation. In fact, studies have shown the impact of various contaminants in the content of compost. As Zhou et al. (2013) noted, contaminants in compost feedstock from centralized facilities include alkaline batteries, galvanized nails, zinc-plated screws, copper wires, and cables. At the most basic level, composting is a simple, low-cost option to turn nutrients from food scraps into a soil amendment that can then be used to improve soil and consequently food production. However, there are numerous regulatory and financial barriers that would negatively impact the quality of the compost or the long-term financial feasibility of smaller-scale enterprise. Most importantly, the role of food packaging, as it contributes to a waste crisis and changes the regimes of urban waste management (Hawkins, 2012), makes the practice of composting difficult due to contamination of feedstock (composting materials) and an added layer of complexity for waste segregation. It is also important to ensure that industrial-scale composting does not encourage the wasting of food (i.e., a licensing effect). For example, one study by Qi and Roe (2017) found that when consumers are informed that food waste will be composted, the food waste generated is significantly greater, which undermines food waste reduction efforts. Therefore, a critical food guidance should recognize the important role of composting as part of a regenerative food system, while acknowledging the context of scale and the type of materials being composted to ensure that this intervention does not impinge upon efforts to reduce food waste.

Landfill/ incineration

The last resort and the least desirable option in the Food Recovery Hierarchy is landfill and/or incineration. Despite being the least preferable option, it is telling that landfilling and incineration are normalized as an option in the management of food waste. While some scholars might assume the Framework is circular, the inclusion of the landfilling is inconsistent with the concept of circularity. A circular food system or a circular economy designs waste out of the system; landfilling is reflective of linearity. Although food is biodegradable, when thrown in the landfill it is often placed in plastic garbage bags, generating the greenhouse gas methane as it degrades in an environment without oxygen (anaerobic). Methane gas is more potent than carbon dioxide in contributing to climate change, and it is estimated that a head of lettuce discarded in the landfill would take approximately 25 years to decompose (Rathje and Murphy, 2002; Rothman, 2014). Food waste in the landfill also contributes to toxic leachate. Canada has primarily relied on landfills to deal with the management of solid waste, which also includes food waste (Taylor, 2009). Landfilling is an unacceptable approach to deal with modern wastes, many of which are no longer biodegradable, are toxic, and have long lifecycles (for example, plastic). Moreover, borrowing Liboiron's discourse on plastics waste whereby "disposable plastics are simply not possible without colonizer access to land" (2018, np), disposability of food in landfills is also based on colonizer access to land.

Landfill siting is problematic as it often reflects "environmental racism" (Agyeman et al., 2016, p. 323). For example, in the United States, there is considerable evidence that toxic waste facilities or landfills are often located in predominantly black and low-income communities (Agyeman et al., 2016). In Canada, this is also the case with waste and pollution disproportionately impacting Indigenous communities (Mascarenhas, 2007). While landfilling is the predominant method to manage food waste in most municipalities, especially smaller municipalities with a lack of centralized composting or food waste diversion option, this will increasingly change with the growth of diversion programs as well as organic waste bans in landfills such as in British Columbia (City of Vancouver, 2015).

Although Canada's commitment to reduce the amount of waste landfilled in Canada is commendable, the impact of distancing, as in the separation of primary resource extraction from final consumption decisions (Princen, 2002), means that most of the public do not understand or will not experience the direct consequences of their consumption decisions. Another important fact is that Canada's waste does not necessarily stay in Canada. It has been well documented that countries of the Global North, including Canada, ship their waste internationally and often to countries in the Global South (Clapp, 2002).

This particular issue of shipping waste to the Global South created an international scandal when Prime Minister Trudeau was confronted on his official visit to the Philippines with the call to 'repatriate' 103 shipping containers full of Canada's rotting waste that were sent to the Philippines. The Philippine case is an example of the impact and consequences of waste

distancing, as the Canadian waste was shipped to the Philippines under the guise of 'recyclable goods' (which is permitted under the Basel Convention) when it was actually household trash and landfill materials (Blatchford, 2017). In essence, the Food Recovery Hierarchy Framework should not be including landfilling as an option when the objective of the hierarchy is to better manage or reduce food waste. As the food recovery hierarchy does not address context, scale, or values, I will demonstrate an alternative food guidance towards re-valuing food and preventing food waste.

Case study in critical food guidance: food systems lab

An alternative approach to the dominant Food Recovery Hierarchy Framework is provided by the case study of the Food Systems Lab social innovation pilot project in Toronto. This alternative framework to address the issue of food waste is centered on the values of reconciliation and justice in the food system. Concepts such as food justice (Alkon and Agyeman, 2011), Indigenous food sovereignty (Kepkiewicz and Rotz, 2018; Morrison, 2011) and just sustainability (Agyeman & Evans, 2004) inform this approach to addressing food waste that seeks to re-frame how people value food, animals, the land, and each other. Developed after the social innovation process, the framework also seeks to better ensure the inclusion of diverse voices in developing food waste prevention and reduction policies and moves beyond the concept of a circular economy to emphasize the social justice component. Some of the quotes shared in this paper are included in the Food Systems Lab Design Brief (Food Systems Lab, 2016).

The Food Systems Lab was launched in 2016 as the first food-waste-focused social innovation lab in the Greater Toronto Area (GTA), Canada. Social innovation was selected as a methodology as it promotes deep engagement rather than one-way consultation. As Westley and Antadze (2010) identified:

> Social innovation is a complex process of introducing new products, processes or programs that profoundly change the basic routines, resource and authority flows, or beliefs of the social system in which the innovation occurs. Such successful social innovations have durability and broad impact (p. 2).

Social innovation was selected as a methodology and a tool for engaging stakeholders as it offers an innovative way to deal with complex challenges (Rittel and Webber, 1973). The lab started in September 2016 and was completed in June of 2017. It commenced with 47 key informant interviews to better understand the food landscape in the City of Toronto, and three social innovation workshops with a total of 92 stakeholders across the food system. The stakeholders consisted of both urban and rural farmers; a migrant farm worker; food bank recipients; representatives of various not-for-profit organizations; Indigenous members/elders; policy

makers at the provincial and municipal levels; small to large-scale businesses in the retail, food processing and restaurant sector; academics; and members of faith communities.

Three workshops were held: *Seeing the System* in November 2016; *Designing Solutions* in March 2017; and *Prototyping* in June 2017. The workshops included traditional Indigenous teachings, learning circles with Indigenous leaders and Elders, and participation in smudging, all centered around the All My Relations teaching. The first workshop aimed to better understand the root causes of the food waste problem and the various political, economic, and regulatory forces that have led us to the current problem. The convening question -a question posed in a social innovation lab to gather stakeholders together to address a problem- was "How can we reduce food waste while ensuring that food is accessible, affordable and that we support a vibrant food sector?" (Food System Lab, 2016). Several stakeholders found this question problematic. For example, one stakeholder noted:

> The key isn't that food is unaffordable, but that people's other expenses are so high and non-variable. You can't skip out on paying rent. People often sacrifice food in favour of fixed expenses like rent, heat, or electricity. (Food Bank representative)

The quote above from a food bank representative clearly identifies the need to disrupt the two-tiered food system. Accordingly, when addressing the paradox of food waste and food insecurity in Canada, the solution is therefore not to simply move unwanted foods to 'feed hungry people' as identified by the food recovery hierarchy, but rather, to address root causes such as economic injustice. In envisioning solutions to reduce and prevent wasted food in a way that is dignified, collaborative and just, the key is to create a new relationship based on respect and reciprocity of peoples, beliefs, and cultures, as one Indigenous Elder noted:

> I look forward to the day that I can sit in the circle with our brothers and sisters from Europe and they will say, hey, this is our ceremony, this is how we did food work. I look forward to that day because it will be reciprocal.

Another stakeholder, a chef for a community organization, also noted the importance of health in transforming surplus food for community members as well as the need to preserve an individual's dignity:

> ….I believe in the dignity of people and the respect for a human being. Serving garbage, highly processed food, and rotten food for anybody is disrespectful. I do not serve any food here that I wouldn't give to my son. I serve everybody here like I serve the person who I love the most in the world. (Chef)

The final workshop culminated with connecting all of the learnings in the lab through the All My Relations principle. This teaching promotes respect for all beings and views plants and animals as relations and not as commodities. Moreover, the principle challenges the structural and systemic weaponization of food against marginalized and particularly Indigenous peoples. The Special Advisor to the Lab Melanie Goodchild (Anishinaabe from the Biigtigoong Nichanaabeg First Nation) taught everyone in the Lab to reflect on food as medicine:

> Food is nurturing, and in our traditional teachings, food is also medicine, it's one of the medicines. And food sources are our relatives. So you don't hunt elk, deer and bison, they give their life to you, to give you life and that's a reciprocal relationship. And when you die, you're put back in the ground because you are giving life to them as well….the relationship and the value of food as a relative might hold some insights for people who are working to reduce food waste.

As the Lab was embedded in a process of decolonization and reconciliation through the integration of Indigenous ceremony, the voices of Indigenous special advisors, elders, Indigenous foods (catered), and an Indigenous expert who assessed the solution pitches, it became evident that the options offered by the Food Recovery Hierarchy framework are insufficient. The Framework offers very little in terms of the relationality, interconnectivity, dignity, and the circularity that is offered by the All My Relations principle. While one participant did not find any issue with the Framework, in general, the long-term relationship building and educational approach of the workshops helped to bring diverse peoples toward common ground. The lessons learned from the Lab made it impossible to continue viewing the issue of food waste through a linear framework that neither accounts for, nor challenges the systemic and structural injustices existent within the current industrial food system. At the final Lab workshop, through various iterations, and having discussed the findings from the workshop, it became clear that it is imperative to take a holistic approach to analyzing the food system. Therefore, the Lab research team developed a diagram representing the values that are needed and the elements that should be considered to address the issue of food waste in a systemic, just, and decolonizing approach. Rather than hierarchies, this alternative diagram is based on the values that can assist in shaping a more just and closed loop food system. Each value is interconnected (hence loops to the centre, rather than disparate levels). The definition of a closed loop food system based on the social innovation lab is the following:

> We define a closed-loop food system as a system that generates no waste and is governed with the commitment to food as a right, acknowledging the interconnectedness of all parts of the ecosystem and inculcating respect for all of its inhabitants.

As identified above by the participants and food leaders, central to the removal of waste and injustice from the food system is the resolution of economic issues endemic in the food system.

Further, it is necessary that the harm of colonization is acknowledged and addressed through decolonization and reconciliation based on respectful relationships. The correlation between community health and the provisioning of nutritious food is also an integral part of a just and vibrant food system. Other values identified include systems thinking to understand connectivity (plant, animals, human, land, environmental relations, impact of solutions), and the need to reconnect/relearn the knowledge and food literacy that has been disrupted by colonization. Through the teachings of the Indigenous Elders and leaders, many of the non-Indigenous participants including the Lab team members had the opportunity to learn critical principles and values needed to transform the food system. In comparison to the hierarchy, the closed loop food system diagram is based on the recognition that all the elements of the values need to work together and be treated holistically to achieve the objective, as opposed to being viewed within silos.

Figure 2: Values that feed into a closed-loop food system

(diagram developed by Kelsey Carriere)

The first value of *resilient and just economies* is based on the need to support financial and infrastructural investments for small- and medium-scale growers, fishers, ranchers, food processors, distributors, retailers, entrepreneurs, and those who employ fair and just labour practices to operate within the principles of a sustainable circular economy. Simply diverting food waste from one preferred level to another level without addressing the root causes of an unjust food system is problematic, resulting in the marginalization of some groups.

The next step in the process of *reconciliation* is to reiterate the importance of acknowledging and recognizing the injustices meted out to Indigenous communities and other global populations as a result of colonization and unjust trade laws. Reflecting on the earlier premise noted by Liboiron (2021), without addressing and acknowledging the harm of colonization, land will continue to be treated as a landfill and the industrial and extractive food system will continue. Governments should reverse the chains of discrimination and oppression by supporting Indigenous knowledge and food sovereignty, land and wealth redistribution, and promoting principles such as All My Relations and Seven Generations. These values are necessary because they counter the commodification of food, which results in waste.

The diagram also acknowledges that a closed-loop food system should promote the value of *health*. Unwanted foods are often not suitable for human and animal consumption, which have adverse effects upon overall health and well-being. Creating value-added foods that are highly processed and derived from 'wasted foods' entail an unacceptable trade-off between health and food waste reduction. The value of health challenges the production of ultra-processed foods, which are not only wasteful, but also reliant on the overproduction of cheap and highly subsidized commodities.

The value of *systems thinking* acknowledges interconnectivity in our food system and accordingly encourages innovation and creative approaches to growing, cooking, processing, and food recovery that counters the linear 'take, make, and dispose' mentality. Systems thinking is also critical for understanding how solutions based on short term thinking exacerbate current issues or result in the creation of further issues.

The e*nvironmental* value is reflected by approaches to sustainability that respect biodiversity and nutrient recycling to build the foundation of a healthy soil. The current industrial food system is disconnected and does not necessarily provide the opportunity to properly cycle nutrients back to regenerate the soil. A regenerative agricultural approach may include agroecological practices that integrate animals in a way that that is complementary.

Finally, the value of *education* is premised on the concept of food literacy, in that all generations should know how to sustainably grow, cook and preserve food, and manage organic waste. Knowledge of plants, seeds, animals, and the natural environment will empower people to make decisions beyond the confines of 'best before' date labelling. Critical food literacy education and pedagogy can help transform values around food (Sumner, 2016) and can be implemented through farm to school programming, supporting Elders, and other school or university-based programs.

Figure 2 serves as an example of critical food guidance, as it clearly illustrates a set of relevant criteria that interact to create a paradigm for preventing the wasting of food. In addition, a values-based guidance lays out the principles that challenge the commodification of food by recognizing the need to address the inequalities in the food system due to colonialism and unjust trade. A key feature of this closed-loop model that distinguishes its approach from the Food Recovery Hierarchy is that it includes values rather than a hierarchy of strategies, and that it is circular and interconnected rather than linear. As such, it can serve as a critical guide for communities by focusing on the elements that are necessary to build a foundation for a sustainable food system.

Conclusion

First in the Food Recovery Hierarchy, and the most desirable option to the capitalist logic of overproduction, is source reduction. To address source reduction systematically, it is important to understand the principles and paradigm (colonization, imperialism, capitalism) that serve as the foundations of industrial agriculture. Practices that promote overproduction, unjust subsidies that benefit the rich while crippling the poor, and the exploitation of natural resources, biodiversity, and labour, all shape our current food system which results in the paradox of food waste amidst hunger, and starvation amidst plenty (Patel, 2007; Soma et al., 2021). The consolidation of wealth through land dispossession, speculation, discrimination, and commodification are not challenged under the dominant Food Recovery Hierarchy Framework, as it does not address or embed concerns around social justice within the framework.

From a technical perspective, a better understanding of the quality and categories of foods that go into pig swill or ruminant feed will also allow for a better assessment in regard to the appropriateness of certain types of foods for animal feed and the appropriateness of these industrial feeds to an animal's natural diet. It is also important to understand the composition of feedstock (type of food wasted) provided to biogas companies, as source reduction and prevention of avoidable food waste should remain a priority.

This paper cautions food waste scholars, activists, and policy makers who are currently working on this issue: solutions and policies that are not premised on justice, and that do not challenge the industrial food system, regardless of whether they technically divert or reduce the amount of food wasted in landfills, have the potential to lead to other systemic problems. Overall, this paper argues that a critical food guidance calls for a more holistic approach based in values that support a closed-loop system. Our model was derived from a participatory workshop that integrated social justice and Indigenous teachings. This becomes an entirely different paradigm for critical guidance on food waste, which has yet to be widely tested.

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References

Adhikari, B. K., Trémier, A., Martinez, J., & Barrington, S. (2010). Home and community composting for on-site treatment of urban organic waste: perspective for Europe and Canada. *Waste Management & Research*, *28*(11), 1039-1053.

Agyeman, J., Schlosberg, D., Craven, L., & Matthews, C. (2016). Trends and directions in environmental justice: From inequity to everyday life, community, and just sustainabilities. *Annual Review of Environment and Resources*, *41,* 321-340.

Agyeman, J., & Evans, B. (2004). 'Just sustainability': the emerging discourse of environmental justice in Britain? *Geographical Journal*, *170*(2), 155-164.

Alali, W. Q., & Ricke, S. C. (2012). The ecology and control of bacterial pathogens in animal feed. In J. Fink-Gremmels (Ed.) *Animal Feed Contamination: Effects on livestock and Food Safety* (pp. 35-55). Woodhead Publishing Limited.

Alkon, A. H., & Agyeman, J. (Eds.). (2011). *Cultivating food justice: Race, class, and sustainability*. MIT Press.

Beretta, C., Stoessel, F., Baier, U., & Hellweg, S. (2013). Quantifying food losses and the potential for reduction in Switzerland. *Waste Management*, *33*(3), 764-773.

Blatchford, A. (2017). Filipinos urge Trudeau to take out Canadian trash still festering in Manila. *CBC News.* https://www.cbc.ca/news/politics/trash-manila-trudeau-1.4400622

Canadian Food Inspection Agency CFIA. (2015). About Canada's Enhanced Feed Ban. http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/enhanced-feed-ban/eng/1424374475489/1424374476208

Caplan, P. (2017). Win-win?: Food poverty, food aid and food surplus in the UK today. *Anthropology Today*, *33*(3), 17-22.

Carolan, M. (2011). *The real cost of cheap food*. Routledge Taylor Francis.

CEC. (2017). *Characterization and management of food loss and waste in North America.* Commission for Environmental Cooperation.

City of Vancouver. (2014). By-Law No. 11092: A By-law to amend Solid Waste By-law No. 8417 regarding organic waste. https://bylaws.vancouver.ca/consolidated/11092.PDF

Clapp, J. (2002). The distancing of waste: Overconsumption in a global economy. In T. Princen, M. Maniates,& K. Conca(Eds.), *Confronting consumption*, (155-176). The MIT Press.

Cox, J., Giorgi, S., Sharp, V., Strange, K., Wilson, D. C., & Blakey, N. (2010). Household waste prevention—a review of evidence. *Waste Management & Research*, *28*(3), 193-219.

DEFRA. (2002). Origin of the UK Foot and Mouth Disease epidemic in 2001. https://webarchive.nationalarchives.gov.uk/20130402184227/http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/fmd/documents/fmdorigins1.pdf

Diener, S., Zurbrügg, C., & Tockner, K. (2009). Conversion of organic material by black soldier fly larvae: establishing optimal feeding rates. *Waste Management & Research*, *27*(6), 603-610.

Elinder, L. S. (2005). Obesity, hunger, and agriculture: the damaging role of subsidies. *British Medical Journal*, *331*(7528), 1333-1336.

Eriksson, M., Strid, I., & Hansson, P. A. (2015). Carbon footprint of food waste management options in the waste hierarchy–a Swedish case study. *Journal of Cleaner Production*, *93*, 115-125.

European Commission. (2009). Regulation 1069/2009 of the European Parliament and of the Council of 21 October 2009 Laying Down Health Rules as Regards Animal By-products and Derived Products Not Intended for Human Consumption and Repealing Regulation (EC) 1774/2002 (Animal by-products Regulation). Official Journal of the European Union.

FAO. (2019). The State of Food and Agriculture. http://www.fao.org/3/ca6030en/ca6030en.pdf

Fisher, A. (2017). *Big hunger: The unholy alliance between corporate America and anti-hunger groups*. MIT Press.

Food Systems Lab. (2016). Design Brief. https://foodsystemslab.ca/wp-content/uploads/2016/12/Food-Systems-Lab-Design-Brief-FINAL.pdf

Friesen, B. (2000). Landfill ban stimulates composting programs in Nova Scotia. *BioCycle*, *41*(3), 53-53.

Garrone, P., Melacini, M., & Perego, A. (2014). Opening the black box of food waste reduction. *Food Policy*, *46*, 129-139.

Gentil, E. C., Gallo, D., & Christensen, T. H. (2011). Environmental evaluation of municipal waste prevention. *Waste Management*, *31*(12), 2371-2379.

Giancarlo, A. (2020). Indigenous student labour and settler colonialism at Brandon Residential School. *The Canadian Geographer/Le Géographe canadien*, *64*(3), 461-474.

Giles, D. (2015). The work of waste-making: biopolitical labour and the myth of the global city." In J.P. Marshall & L.H. Connor (Eds.). *Environmental change and the world's futures*. (95-109). Routledge.

Gille, Z. (2012). From risk to waste: global food waste regimes. *The Sociological Review*, *60*, 27-46.

Gilroyed, B. H., Reuter, T., Chu, A., Hao, X., Xu, W., & McAllister, T. A. (2010). Anaerobic digestion of specified risk materials with cattle manure for biogas production. *Bioresource Technology*, *101*(15), 5780-5785.

Giordano, C., Falasconi, L., Cicatiello, C., & Pancino, B. (2020). The role of food waste hierarchy in addressing policy and research: A comparative analysis. *Journal of Cleaner Production*, *252*, 119617.

Giordano, M. (2008). The geography of the commons: The role of scale and space. *Annals of the Association of American Geographers*, *93*(2), 365-375.

Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., Pretty, J., Robinson, S., Thmas, S.M., & Toulmin, C. (2010). Food security: the challenge of feeding 9 billion people. *Science*, *327*(5967), 812-818.

Gooch, M., Bucknell, D., LaPlain, D., Dent, B., Whitehead, P., Felfel, A., Nikkel, L., & Maguire, M. (2019). *The avoidable crisis of food waste: Technical report* Value Chain Management International and Second Harvest.

Graham-Rowe, E., Jessop, D. C., & Sparks, P. (2014). Identifying motivations and barriers to minimising household food waste. *Resources, Conservation and Recycling*, *84*, 15-23.

Gustavsson, J., Cederberg, C., Sonesson, U., Van Otterdijk, R., & Meybeck, A. (2011). *Global food losses and food waste*. Food and Agriculture Organization of the United Nations.

Hawkins, G. (2012). The performativity of food packaging: market devices, waste crisis and recycling. *The Sociological Review*, *60*, 66-83.

Hendriks, C. F., & Janssen, G. M. T. (2003). Use of recycled materials in constructions. *Materials and Structures*, *36*(9), 604-608.

Holt-Giménez, E., Shattuck, A., Altieri, M., Herren, H., & Gliessman, S. (2012). We already grow enough food for 10 billion people… and still can't end hunger. *Journal of Sustainable Agriculture*, 36(6); 595-598.

Hoornweg, D., Thomas, L., & Otten, L. (1999). Composting and its applicability in developing countries. *World Bank working paper series* 8.

Islam, Md S. (2014). *Confronting the blue revolution: industrial aquaculture and sustainability in the global south*. University of Toronto Press.

Joshi, P., & Visvanathan, C. (2019). Sustainable management practices of food waste in Asia: Technological and policy drivers. *Journal of Environmental Management*, *247*, 538-550.

Kepkiewicz, L., & Rotz, S. (2018). Toward anti-colonial food policy in Canada?(Im) possibilities within the settler state. *Canadian Food Studies/La Revue canadienne des études sur l'alimentation*, *5*(2), 13-24.

Lazell, J., Magrizos, S., & Carrigan, M. (2018). Over-claiming the Circular Economy: The missing dimensions. *Social Business*, *8*(1), 103-114.

Lazell, J. (2016). Consumer food waste behaviour in universities: Sharing as a means of prevention. *Journal of Consumer Behaviour*, *15*(5), 430-439.

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Perspective

Seizing this COVID moment: What can Food Justice learn from Disability Justice

Martha Stiegman*

York University

Abstract

It is now a shameful truism that COVID-19 functioned as a big reveal, exposing, and amplifying the structural inequalities Canadian society is built upon. We are now a year and a half into the global pandemic. I am writing from Toronto, where "hot spots" (neighbourhoods with high infection rates) is code for racial and economic inequality (Wallace 2021) and public health guidelines have rendered low income "essential workers" disposable, amidst ballooning food insecurity rates, especially in low-income racialized communities (Toronto Foundation 2020; CBC News 2020). We are all in the same storm but in very different boats, as the new saying goes. I want to suggest that this moment, as Canadians are poised to step out of lockdown and return to 'normal', is a particularly useful one for Food Studies to consider what we could learn from Disability Justice movements in order to address a glaring hole in our collective scholarship and analysis.

Keywords: Disability justice; food justice; ableism

*Corresponding author: stiegman@yorku.ca
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Introduction

It is now a shameful truism that COVID-19 functioned as a big reveal (at least to some), exposing and amplifying the structural inequalities Canadian society is built upon. We are now a year and a half into the global pandemic. I am writing from Toronto, where "hot spots" (neighbourhoods with high infection rates) has become code for racial and economic inequality (Wallace, 2021) and where public health guidelines have rendered low income "essential workers" disposable. All of this is amidst ballooning food insecurity rates, especially in low-income racialized communities (CBC News, 2020; Toronto Foundation, 2020). While we are all in the same storm, we are in very different boats, as the new saying goes. For food scholars and activists, the pandemic has served as a grim pedagogical exercise, focusing public attention on some of the structural injustices baked into the architecture of the global industrial food system, as well as its related vulnerabilities (Hendrickson, 2020). COVID exposed the unacceptable living and working conditions of migrant farm workers who come to Canada through the temporary foreign worker program, as well as the dependence of Canadian farms on their exploited labour (Haley et al., 2020; Weiler et al., 2020). Outbreaks at meat processing plants underlined the extreme concentration of corporate ownership in supply chains and its consequences for workers' rights, animal welfare, and for the stability of our food supply (Dryden & Reiger, 2021; Fraser, 2020; Garcés, 2020; National Farmers Union, 2020). The very emergence of the virus highlighted the ecological consequences of intensive livestock production and of continued deforestation to make way for expanding industrial agriculture—both of which create breading grounds for novel viruses (not to mention their violation of animal rights or their impacts on Indigenous and peasant communities) (Akram-Lodhi, 2020; Garcés, 2020; Wallace et al., 2020).

I would like to argue that our embodied experiences of the COVID-19 pandemic might offer a different kind of pedagogical exercise, one that calls our attention to the need for food studies to deepen an analysis of the ways ableism shapes both food systems, and food movement praxis. I offer this insight as someone with a relatively newly acquired invisible disability following a series of life-changing concussions. One of the more valuable insights that navigating the world of concussion and invisible disability has given me is an embodied understanding of ableism and the many ways our society excludes, stigmatizes, and devalues people with bodies and minds that fall outside a culturally constructed norm. Feminist standpoint epistemology tells us that due to their experiences of intersecting structural injustices, marginalized groups hold positions of epistemic privilege; that experience can offer a powerful lens through which to identify and analyze structural power (Haraway, 2004; hooks, 2000). For many people, COVID-19 offered a first-hand experience of being disabled by their environment. I would like to suggest that these experiences—viewed through the lens of critical disability studies—could offer some of us an embodied glimpse at the pernicious ways ableism structures our worlds; and that these insights could help deepen conversations between food justice and disability justice, and expand our analysis of the transformative change needed to build food

justice. I do this first by providing a brief introduction to critical disability studies and disability justice movements, then by giving an overview of some impacts of the COVID-19 pandemic and the ways it created disabling environments for many people previously untouched by ableism. I then present an overview of the food justice and food sovereignty literature that has animated my own practice, a body of literature which critiques the impacts of settler colonialism and racial capitalism on the global food system, and food movement praxis. Finally, I show how an engagement with critical disability studies might expand the horizons of food justice to better account for the ways structural ableism buttresses the structures of power that shape the global food system, and the cultural shifts that will be needed to bring a more robust vision of food justice to life.

What is disability justice?

Simpson (2017), Hall (2014, 2017) and Gerber (2007) are among a small number of scholars who work at the intersections of food and critical disability studies. For most food scholars this conversation is new, so I will begin with some basic terminology. While the medical model of disability locates physical or cognitive impairment as the source of a person's disability, the social model of disability (Oliver, 1990, 2013) focuses on barriers due to the ways our society and built environments are structured. Critical Disability Studies and Crip theory distinguish between impairment and disability and hold that people are disabled by a world that is structured by ableism. Like whiteness, disability is a category that has shifted with time in relation to white supremacy, heteropatriarchy, and settler-colonialism, as these are the dominant discourses that define "normality". This is illustrated by the fact that enslavement of Africans was once "justified" by the supposed cognitive limitations, muted experience of pain, and exceptional strength of Black bodies (Schalk, 2017); that homosexuality has been considered a disorder worthy of conversion therapy and given a designation of mental illness; and by the ethnic cleansing project of Indian Residential Schools (TRCC, 2015).

Disability justice is a practice and a movement first articulated by the Sins Invalid collective (Berne, 2015). This collective centres the experiences, leadership, and brilliance of queer and BIPOC disabled people who critique the disability rights movement for its single issue, rights-based focus that overlooks intersectional experiences of disability. While state-centred gains such as the American Disability Act or the Accessibility for Ontarians with Disabilities Act are crucial, they are insufficient and dangerous in that they curtail broader political mobilization and extend state control deeper into the realm of the personal. As Leah Lakshmi Piepzna-Samarasinha (2019) writes, "our focus is less on civil rights legislation as the only solution to ableism and more on a vision of liberation that understands that the state was built on racist, colonialist ableism and will not save us, because it was created to kill us" (p. 23). Liberal framings of "inclusion" are not enough. In the words of disability justice activist Mia

Mingus (2011), “we don’t want to simply join the ranks of the privileged; we want to dismantle those ranks and the systems that maintain them.”

Jay Dolmage (2017) has demonstrated the shameful role the academy has played in buttressing ableism—from contributing intellectual labour, to its social construction, to the elitism that defines the notion and practice of “higher education”, which is embodied in its built environment and the ways of knowing enforced within its walls. Dolmage (2017) tracks the persistent ableism of our current neoliberal moment, epitomized by token accommodations and diversity without empowerment, that refuse the transformative potential of embracing disability—not a problem to be fixed, but as a valuable way of knowing and as a site of knowledge production. What if we considered our embodied experiences of the COVID-19 pandemic as a valuable site of knowledge production?

COVID-19

In March of 2020, when COVID-19 began spreading and much of urban Canada went into lockdown, many people lost a previous sense of control over their lives. Those with the privilege of being “non-essential” workers, became housebound. Projects were upended, cherished plans cancelled, and preferred ways of being, doing, thinking, and working became off-limits. We were called on to function through the cognitive haze of increased stress and anxiety (Boals & Banks, 2020; Hogan, 2021)—an emotional burden born more heavily by women, and in the low income and BIPOC communities where the pandemic hit hardest (Maffly-Kipp et al., 2021; Vindegaard & Benros, 2020). The borders between our public and private lives evaporated. As schools and daycares closed, toddlers interrupted team meetings. On-line classes became group therapy sessions, and the weight of our personal circumstances made punctuality and deadlines impossible. In other words, we were disabled by the pre-existing structures that no longer fit the reality of our lives. If disability is like being hit by a bus, as Leah Lakshmi Piepzna-Samarasinha (2020) put it, paraphrasing a “bad joke” circulating in her disability community, then with COVID-19 we were “all hit by a bus in different ways.”

The pandemic magnified a plethora of structural inequalities. The pivot to remote work was a luxury offered, for the most part, to middle and upper classes; andwas smoothest for those with the privilege of high-speed internet and homes large enough to carve out a quiet office. Women and single parents exited the work force or reduced their work productivity in alarming numbers to care for children and elders, rolling back decades of gains in gender equality in workplaces (Desjardins & Freestone, 2020; National Academies of Sciences, Engineering, and Medicine 2021). Similar trends were reported for academics from racial and ethnic minorities, where COVID compounded the ‘minority tax’ paid by BIPOC faculty who take on the invisible double duties of pushing for diversity and inclusion in their workplaces (Sandi & Carey, 2021; Trejo, 2020).

Despite the structural conditions COVID amplified, it was neoliberal, individualized coping strategies that abounded. At my university, colleagues and I braced ourselves with grim humour for the "wellness Wednesday" emails that cautioned us against excessive screen time and championed the benefits of yoga, as our job descriptions ballooned to include learning new technologies and pedagogical strategies, supporting community partners staggering under the weight of the pandemic, while caring for our children, elders and/or chosen families fulltime (Sandi & Cari, 2021; Trejo, 2020;). In other words, we were asked to continue to 'perform' under capitalism as atomized, disembodied subjects, despite the impossibility of doing so due to the non-negotiable realities of our personal and collective circumstances.

Then all of a sudden, the internet was flooded with articles about the impacts of stress on the nervous system and on cognition (Hogan, 2021; Keay, 2020; Sarner, 2021). All of a sudden, the kind of flexible workplaces and accommodations that so many of us need for so many different reasons—and were often denied—materialized. We were encouraged to bring compassion to work, knowing our colleagues or students might be struggling (Corbera et al., 2020). In my own faculty, we created a roster of colleagues who could provide guest lectures or entertain young children over zoom to help those of us teaching while homeschooling. In other words, the academy, which can be a competitive, atomizing kind of place, where we are trained to value ourselves, our colleagues, and our students based on a very particular form of productivity (the epitome of a certain type of ableism), experienced a cultural shift, at least in parts.

And mixed with the grief and fear and outrage as so many lives were lost or placed in danger by government pandemic strategies that rendered "essential workers" disposable, I had a horribly inappropriate feeling of relief as my able-bodied colleagues entered a world I know well. The rhythms of work and life began operating on what Alison Kafer (2013) calls 'crip time', which "bends the clock to meet disabled bodies and minds" (p. 27) rather than the inverse. Work proceeded, and meetings were run with flexibility and understanding, making space for our extraordinary circumstances and our differences. In short, and seemingly overnight, we developed a cultural of care, previously uncommon to competitive and ableist university settings.

In writing this, I do not mean to suggest that these subtle and welcome shifts were enough. I do not mean to discount the very pernicious effects this mass transition to on-line work and learning will have: the ways remote learning disadvantaged already marginalized students (Toronto Foundation, 2020), or the ways shifting academic teaching to platforms like "eclass" and "moodle" come with increased threat of managerial surveillance and the erosion of intellectual property rights (Noble, 2002). Flexibility is also a neoliberal buzzword; and as Naomi Klein's *Shock Doctrine* (2007) has demonstrated, capitalism loves a crisis. I do not mean to overlook the medical ableism and triage protocols which threatened that disabled people would be denied ICU beds if resources had to be rationed, or the 'k' recovery we will no doubt witness aggravating already existing inequalities (Meng & Abdool, 2021). But I do want to suggest that our experiences of COVID-19, which could offer so many of us an embodied glimpse at ableism, might be generative in ways that expands the horizon of food studies to

better include questions related to disability justice. My comments here are fractured and preliminary and mirror the embryonic state of scholarship linking food and disability justice

Expanding food justice

In my own research and teaching, I have tended towards a historical materialist analysis of the global industrial food system, drawing on the work of Friedmann (2016) and Patel (2007) to consider the food system as a reflection of, and a driving force of global capitalism. Mintz (1986), Choudry & Smith (2016) and others have helped me understand this history as deeply entwined with white supremacy, the Atlantic slave trade, and indentureship. Carter (1990) and Daschuk (2013) have convincingly positioned the agri-food system as a driving force of settler-colonialisms' dispossession of Indigenous peoples from their Lands and ways of life. The Indigenous Food Sovereignty work of Morrison (2011, 2020) and Pictou (2017) are among those who have demonstrated the ontology and worldview this severs. Racial capitalism thrives on divisions, pitting the interests of different groups against one another. The architecture of the global food system has positioned the interests of Indigenous peoples, settler farmers, and workers in opposition since its inception, demanding farmers produce at well below cost so that workers' wages can be kept low, while dispossessing Indigenous peoples of their Lands and waters (Mintz, 1986; Patel, 2007). The political ecology of food studies I am familiar with has generally focused on the contradictions and fault lines produced by this intertwining of capitalism, white supremacy, and settler colonialism. And while these are critical queries, where do they leave the question of ableism?

Grounded in her work with Sins Invalid, Lakshmi Piepzna-Samarasinha (2019) proposes a deeply intersectional understanding of ableism:

> "The histories of white supremacy and ableism are inextricably entwined, both forged in the crucible of colonial conquest and capitalist domination. One cannot look at the history of US slavery, the stealing of indigenous lands, and US imperialism without seeing the way that white supremacy leverages ableism to create a subjugated 'other' that is deemed less worthy/able/smart/capable… We cannot comprehend ableism without grasping its interrelations with heteropatriarchy, white supremacy, colonialism and capitalism. Each system benefits from extracting profits and status from the subjugated 'other'."(p. 20-1)

Her analysis applies equally in Canada. If we, as food scholars, consider the global food system as shaped by the same toxic juggernaut of power relations, how might examining the food system in relation to structural ableism deepen our analysis? What groups of people are we excluding as a result of this blind spot? And how might taking their experiences seriously deepen our work?

One of the many sites of food and ableist entanglement is eugenics, a historical social engineering project that took "race betterment" as its goal (Kelly et al., 2021; Moss et al., 2013). Ian Mosby's (2013) work exposing the use of nutrition experiments in Indigenous communities and residential schools, and Travis Hay's (2021) work critiquing the "thrifty gene" hypothesis and settler-colonial scientific study of diabetes in Indigenous communities both expose sites of this sinister confluence and point to ways food and eugenics have been used as tools in the settler colonial project. Considering the discourses of authenticity and purity in relation to local organic food (Wilkerson, 2021), and the persistence of healthism (Power, 2021) within dietetics and food studies, is it a coincidence that the study of eugenics in Canada emerged in agricultural colleges and farmer organizations (Kelly et al., 2021; Moss et al., 2013)? At their worst, food movements can be a preachy, privileged, judgmental, and exclusionary. Would examining the historical entanglement of food, eugenics, and settler colonialism reveal the roots of a disguised, normalized white supremacy encoded in the language of organic and local food? Might this history give us stronger analytic tools to understand the "white farm imaginary" (Alkon & McCullen, 2011, p. 938) that haunts normative food movements? Could exposing such a history provide us with tools to help exorcise that beast?

Connecting food and disability justice

Food Justice and Disability Justice hold similar tensions within their theories of change with respect to the role of the state. State-centred solutions in the form of food policy (MacRae, 2011) and income redistribution (Dachner & Tarasuk, 2018; Kirkpatrick & Tarasuk, 2009; Swift & Power, 2021) are crucial for ensuring food sovereignty and food security. However, our racialized and Indigenous colleagues have consistently pointed to the ways white supremacy and on-going settler-colonialism are operationalized by the state (Morrison 2011, 2020; Settee & Shukla, 2020) and unwittingly deployed within the well-intentioned food movement (Indigenous Circle, 2010) in ways that threaten the very survival of their communities and nations. A food justice lens demands our movement expand our understanding of the work involved in food system transformation. Existing literature has made a convincing case that challenging neoliberal capitalism must involve dismantling the white supremacy and settler-colonialism it reflects and reinforces at institutional and interpersonal levels (Coulthard, 2014; Pictou, 2017); but the role ableism plays in this sinister mix has been largely unexamined, as have the experiences of disabled people navigating the food system and the food justice movement. For example, processed and packaged foods are often shunned as seductive evils of the capitalist food industrial complex (Pollan, 2006). But what about the disabled people unable to prepare meals from scratch? How does this discourse further stigmatize and exclude disabled persons from normative framings of health (Hall, 2014)? And how might disabled-led initiatives within the food movement analyze and confront these phenomena?

Building a just and sustainable food system will require no end of political mobilization, research, anti-racist education, community-based solutions, and policy changes. It will also require a cultural shift. Here, I believe, we have much to learn from the hard-earned insights of disability justice activists and scholars.

Food is sacred (Food Secure Canada, 2013; Indigenous Circle, 2010), a relative with whom we have reciprocal obligations of care and live with in profound interdependence (Kimmerer, 2013). This is a reality that is encoded in the language, laws, and ways of life of Indigenous peoples (Borrows, 2018) and an insight that challenges the bedrock of capitalism that treats nature as an alienable resource to be owned, sold, and exploited. This is a lesson our Indigenous colleagues have been trying to teach the settler-dominated food movement for decades (Indigenous Circle, 2010; Stiegman, 2012), and a cultural shift the food justice movement must make if it is to work in true solidarity with Indigenous peoples and challenge settler-colonialism in the food system and beyond. But how are we, as settler-colonial subjects, to absorb this teaching when we are steeped in a worldview that instrumentalizes all of life—including human life? Under racial capitalism some lives are more disposable than others; COVID-19 has brought this fact into horrifyingly sharp relief. But capitalist ideology devalues all of us in that it teaches us to value ourselves and others in terms of our individual capacities to produce. Those of us with bodies that defy capitalist expectations of productivity know this all too well.

Capitalism creates, exploits, and celebrates us as individuals; specifically, straight, white, male, able-bodied subjects with wives and/or paid help to take care of any needs related to social reproduction. “Whose oppression and exploitation must exist for your “independence”?”, asks disability justice activist, Mia Mingus (2010). The farther one falls outside socially constructed white, heteropatriarchal, ableist norms, the harder it is to thrive within our economic system. The relationship between “normal”, and the ideal of independence is another area where disability justice activists have particularly rich insights. Mingus (2017) continues:

> “The myth of independence reflects such a deep level of privilege, especially in this rugged individualistic capitalist society and produced the very idea that we could even mildly conceive of our lives or our accomplishments as solely our own…the Myth of Independence is not just about the truth of being connected and interdependent on one another; it is also about the high value that gets placed on buying into the myth and believing that you are independent; and the high value placed on striving to be independent, another corner stone of the ableist culture we live in.”

In place of independence, disability justice theorizes, celebrates, and practices interdependence, liberatory access, and collective care. Disability is understood not (just) as a medical experience, but as a political one, where access needs are not seen as individual needs, but rather fault lines that reveal ableism (in relation to multiple other power relations) at work in the everyday world. Disability justice proposes a world where access needs are not seen as a

burden, or the task of making space for someone who cannot fully contribute, but as a fundamental practice of being in community and one that explodes narrow heteronormative ideas of relationships, family, and kinship that are themselves conditioned by and hold up interlocking systems of power (Erickson, 2020; Lakshmi Piepzna-Samarasinha, 2019; Mingus, 2017).

In their scoping of literature linking food insecurity and disability, Schwartz et al. (2019) found multiple studies pointing to a correlation between disability and household food insecurity and that a robust analysis of the factors mediating that relationship had yet to be articulated. They note studies by She and Livermore (2007) that point to increased levels of poverty among disabled people, and by Huang et al. (2010) that suggest increased income proves less protective for disabled peoples' household food insecurity - a pattern also noted by St-Germain and Tarasuk (2017) and Coleman-Jensen and Nord (2013). Huang et al. (2010) found that energy intensive "coping strategies" such as bargain hunting or cooking meals from scratch are inaccessible to disabled people, resulting in a greater reliance on highly processed and/or pre-cooked foods that are often more expensive and less nutritious. Schwartz et al. (2019) also note that food literature tends to examine the causal relationship between household food insecurity and disability (in terms of chronic illnesses) but rarely the inverse, and, more rarely still, by taking a critical lens to disability.

Analyses of food deserts (McClintock, 2011), or food apartheid (Bradley & Galt, 2014) and their links to the obesity 'epidemic' (Shannon, 2014) provide a telling example. Food Justice literature has developed a compelling analysis of the neoliberal underdevelopment and structural racism that have created food apartheid, and the barriers to food access these create for marginalized and often racialized communities, as well as the related negative health outcomes. But as Natasha Simpson (2007) points out, existing analyses overlook the additional barriers faced by disabled people, which include social isolation and a lack of accessible transportation and/or grocers. Simpson (2007) argues the existing discourse that does consider food access and disability does not do so critically, thus compounding ableist barriers and producing a less robust analysis. She writes: "While these barriers are often framed as being a result of disabilities themselves, effectively depoliticizing disability, I would argue that they are all evidence of systemic oppression within society, in which myths of independence, expectations of economic productivity, and abledness are glorified. This type of depoliticization obscures ableism as a root of these barriers to food access" (Simpson, 2007, p. 407). Simpson draws from Crip theorist, Alison Kafer (2013), for a path forward who argues that "What is needed, then are analyses that recognize and refuse the intertwined exploitation of bodies and environments without demonizing the illnesses and disabilities, and especially the ill and disabled bodies, that result from such exploitation" (p.158).

How can food studies and the food movement respond to this necessary provocation? We are getting better at designing programs, developing studies, and crafting analyses that take the question of race, settler-colonialism, gender and class into account. How will including disability justice as a necessary frame improve our work? What will food studies look like through a lens that includes critical disability justice? The seeds of a food and disability movement exist in the

work to champion a Universal Basic Income, to advocate on behalf of migrant farm workers who experience pesticide exposure and workplace injuries, in the emerging discourse around body positivity, and in the countless food-related mutual aid initiatives in disabled communities. How might developing a self-conscious field of study and action linking food and disability justice create linkages between these projects, and new understandings of both power and resistance? I do not have answers to these questions, but I look forward to our collective work in exploring them.

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References

Akram-Lodhi, A. H. (2021). Contemporary pathogens and the capitalist world food system. *Canadian Journal of Development Studies / Revue Canadienne d'études Du Développement*, *42*(1–2), 18–27. https://doi.org/10.1080/02255189.2020.1834361

Alkon, A. H., & McCullen, C. G. (2011). Whiteness and farmers markets: Performances, perpetuations ... contestations? *Antipode*, *43*(4), 937–959. https://doi.org/10.1111/j.1467-8330.2010.00818.x

Berne, P. (2015). *Disability justice—A working draft by Patty Berne*. Sins Invalid. https://www.sinsinvalid.org/blog/disability-justice-a-working-draft-by-patty-berne

Berne, P., Brown, L., Piepzna-Samarasinha, L. L., & Heath-Stout, A. (n.d.). *Organizing in a Pandemic: Disability Justice Wisdom* (No. 61). https://irresistible.org/podcast/61

Boals, A., & Banks, J. B. (2020). Stress and cognitive functioning during a pandemic: Thoughts from stress researchers. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), S255. https://doi.org/10.1037/tra0000716

Borrows, J. (2018). Earth-bound: Indigenous resurgence and environmental reconciliation. In M. Asch, J. Tully, & J. Borrows (Eds.), *Resurgence and Reconciliation: Indigenous-Settler Relations and Earth Teachings* (pp 49-82). University of Toronto Press.

Bradley, K., & Galt, R. E. (2014). Practicing food justice at Dig Deep Farms & Produce, East Bay Area, California: Self-determination as a guiding value and intersections with foodie logics. *Local Environment*, *19*(2), 172–186. https://doi.org/10.1080/13549839.2013.790350

Carr, R. M., Lane-Fall, M. B., South, E., Brady, D., Momplaisir, F., Guerra, C. E., Montoya-Williams, D., Dalembert, G., Lavizzo-Mourey, R., & Hamilton, R. (2021). Academic careers and the COVID-19 pandemic: Reversing the tide. *Science Translational Medicine*, *13*(584), eabe7189. https://doi.org/10.1126/scitranslmed.abe7189

Carter, S. (1990). *Lost harvests Prairie Indian reserve farmers and government policy*. McGill-Queen's University Press.

CBC News. (2020, November 13). Food insecurity worsening for low-wage workers in Toronto due to pandemic, report shows. *CBC News*. https://www.cbc.ca/news/canada/toronto/food-insecurity-toronto-covid-19-pandemic-1.5800335

Choudry, A., & Smith, A. A. (2016). *Unfree Labour?* PM Press.

Coleman-Jensen, A., & Nord, M. (2013). *Food insecurity among households with working-age adults with disabilities*. U.S. Department of Agriculture, Economic Research Service. Washington, D.C.

Corbera, E. E., Anguelovski, I., Honey-Rosés, J., & Ruiz-Mallén, I. (2020). Academia in the time of COVID-19: Towards an ethics of care. *Planning Theory & Practice*, *21*(2), 191–199. https://doi.org/10.1080/14649357.2020.1757891

Coulthard, G. S. (2014). *Red skin, white masks: Rejecting the colonial politics of recognition*. University of Minnesota Press.

Dachner, N., & Tarasuk, V. (2018). Tackling household food insecurity: An essential goal of a national food policy. *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation*, *5*(3), 230–247. https://doi.org/10.15353/cfs-rcea.v5i3.278

Daschuk, J. W. (2013). *Clearing the plains: Disease, politics of starvation, and the loss of Aboriginal life*. U of R Press.

Desjardins, D., & Freestone, C. (2020, November 19). Canadian women continue to exit the labour force. *RBC Thought Leadership*. https://thoughtleadership.rbc.com/canadian-women-continue-to-exit-the-labour-force/

Dessanti, C. (2021). *The she-covery project confronting the gendered economic impacts of COVID-19 in Ontario*. Ontario Chamber of Commerce.

Dolmage, J. (2017). *Academic ableism: Disability and higher education*. University of Michigan Press.

Dryden, J., & Rieger, S. (2021, February 6). New COVID-19 outbreak declared at Cargill meat plant in Alberta—Site of Canada's largest outbreak. *CBC News*. https://www.cbc.ca/news/canada/calgary/cargill-high-river-outbreak-1.5904444

Erickson, L. (2020). Flaunting towards otherwise: Queercrip porn, access intimacy and leaving evidence. In Shuttleworth, Russell & Mona, Linda (eds) *The Routledge Handbook of Disability and Sexuality* (pp. 275-289). Routledge.

Food Secure Canada. (2013, August 14). *What is Food Sovereignty*. Food Secure Canada. https://foodsecurecanada.org/who-we-are/what-food-sovereignty

Fraser, E., & Von Massow, M. (2020). What COVID-19 means for food systems and meat packing. *IPolitics*. https://ipolitics.ca/2020/04/24/what-covid-19-means-for-food-systems-and-meatpacking/

Friedmann, H. (2016). Commentary: Food regime analysis and agrarian questions: widening the conversation. *The Journal of Peasant Studies*, *43*(3), 671–692. https://doi.org/10.1080/03066150.2016.1146254

Garcés, L. (2020). COVID-19 exposes animal agriculture's vulnerability. *Agriculture and*

Human Values, *37*(3), 621–622. https://doi.org/10.1007/s10460-020-10099-5

Gerber, E. (2007). Food studies and disability studies: Introducing a happy marriage. *Disability Studies Quarterly*, *27*(3). https://doi.org/10.18061/dsq.v27i3.19

Haley, E., Caxaj, S., George, G., Hennebry, J., Martell, E., & McLaughlin, J. (2020). Migrant farmworkers face heightened vulnerabilities during COVID-19. *Journal of Agriculture, Food Systems, and Community Development*, *9*(3), 35–39. https://doi.org/10.5304/jafscd.2020.093.016

Hall, K. Q. (2014). Toward a queer crip feminist politics of food. *Philosophia*, *4*(2), 177–196.

Hall, K. Q. (2017). Cripping Sustainability, Realizing Food Justice. In J. Sibara & S. J. Ray (Eds.), *Disability Studies and the Environmental Humanities* (pp. 422-47). UNP - Nebraska. https://doi.org/10.2307/j.ctt1p6jht5.19

Haraway, D. (2004). Situated knowledges. In S. Harding, (Ed.). *The Feminist Standpoint Theory Reader* (pp. 81-102). Routledge.

Hay, T. (2021). *Inventing the thrifty gene: The science of settler colonialism*. University of Manitoba Press.

Hendrickson, M. (2020). COVID lays bare the brittleness of a concentrated and consolidated food system. *Agriculture and Human Values*, *37*(3), 578-580. https://doi.org/10.1007/s10460-020-10092-y

National Academies of Sciences, Engineering, and Medicine (2021). *The impact of COVID-19 on the careers of women in academic sciences, engineering, and medicine*. The National Academies Press. https://doi.org/1017226/26061.

Hogan, S. (2021, April 1). This is your brain on pandemic: What chronic stress is doing to us. *CBC News*. https://www.cbc.ca/news/health/pandemic-brain-stress-effect-lethargy-unproductive-1.5972055

hooks, b. (2000). *Feminist theory: From margin to center* (2nd ed.). South End Press.

Huang, J., Guo, B., Kim, Y. (2010). Food insecurity and disability: do economic resources matter? Social Science Research, *39*(1), 111–124. https://doi.org/10.1016/j.ssresearch.2009.07.002

Indigenous Circle. (2010). *First principles protocol for building cross cultural relationships*. Peoples' Food Policy Project.

Kafer, A. (2013). *Feminist, queer, crip*. Indiana University Press.

Kelly, E., Manning, D. T., Boye, S., Rice, C., Owen, D., Stonefish, S., & Stonefish, M. (2021). Elements of a counter-exhibition: Excavating and countering a Canadian history and legacy of eugenics. *Journal of the History of the Behavioral Sciences*, *57*(1), 12-33. https://doi.org/10.1002/jhbs.22081

Kimmerer, R. W. (2013). *Braiding sweetgrass* (First edition.). Milkweed Editions.

Kirkpatrick, S. I., & Tarasuk, V. (2009). Food insecurity and participation in community food programs among low-income Toronto families. *Canadian Journal of Public Health*, *100*(2), 135–139. https://doi.org/10.1007/BF03405523

Klein, N. (2007). *The shock doctrine: The rise of disaster capitalism* (1st ed.). AAKnopf Canada.

Lakshmi Piepzna-Samarasinha, L. (2019). *Care work: Dreaming disability justice*. Arsenal Pulp Press.

MacRae, R. (2011). A joined-up food policy for Canada. *Journal of Hunger & Environmental Nutrition*, *6*(4), 424–457. https://doi.org/10.1080/19320248.2011.627297

Maffly-Kipp, J., Eisenbeck, N., Carreno, D. F., & Hicks, J. (2021). Mental health inequalities increase as a function of COVID-19 pandemic severity levels. *Social Science & Medicine*, *285*, 114275. https://doi.org/10.1016/j.socscimed.2021.114275

McClintock, N. (2011). From industrial garden to food desert: Demarcated devaluation in the flatlands of Oakland, California. In J. Agyeman & A. Hope Alkon (Eds.), *Cultivating Food Justice* (pp 89-120). The MIT Press.

Meng, R., & Abdool, I. (2020, November 15). Canada's K-shaped recovery is deepening the lines between rich and poor. Here's how we can shift our economy toward a fair outcome for all. *Toronto Star*. https://www.thestar.com/business/opinion/2020/11/15/canadas-k-shaped-recovery-is-deepening-the-lines-between-rich-and-poor-heres-how-we-can-shift-our-economy-toward-a-fair-outcome-for-all.html

Mingus, M. (2010, January 22). Interdependency (excerpts from several talks). *Leaving Evidence*. https://leavingevidence.wordpress.com/2010/01/

Mingus, M. (2011, February 12). Changing the Framework: Disability Justice. *Leaving Evidence*. https://leavingevidence.wordpress.com/2011/02/12/changing-the-framework-disability-justice/

Mingus, M. (2017, April 12). Access Intimacy, Interdependence and Disability Justice. *Leaving Evidence*. https://leavingevidence.wordpress.com/2017/04/12/access-intimacy-interdependence-and-disability-justice/

Mintz, S. W. (1986). *Sweetness and power: The place of sugar in modern history*. Penguin Books.

Morrison, D. (2011). Indigenous food sovereignty: A model for social learning. In H. Wittman, A. Desmarais, & N. Wiebe (Eds.), *Food sovereignty in Canada: Creating just and sustainable food systems* (pp. 97–113). Fernwood Publishing.

Morrisson, D. (2020). Reflections and Realities: Expression of Food Sovereignty in the Fourth World. In P. Settee & S. Shukla (Eds.), *Indigenous Food Systems: Concepts, Cases, and Conversations*. Canadian Scholars. http://ebookcentral.proquest.com/lib/york/detail.action?docID=6282046

Mosby, I. (2013). Administering Colonial Science: Nutrition Research and Human Biomedical Experimentation in Aboriginal Communities and Residential Schools, 1942–1952. *Histoire Sociale*, *46*(91), 145–172. https://doi.org/10.1353/his.2013.0015

Moss, E. L., Stam, H. J., & Kattevilder, D. (2013). From suffrage to sterilization: Eugenics and the women's movement in 20th century Alberta. *Canadian Psychology = Psychologie Canadienne*, *54*(2), 105–114. https://doi.org/10.1037/a0032644

National Farmers Union. (2020). *Meat packing concentration makes Canada's food system vulnerable*. https://www.nfu.ca/policy/meat-packing-concentration-makes-canadas-food-system-vulnerable/

Noble, D. F. (2002). *Digital diploma mills: The automation of higher education*. Between the Lines.

Oliver, M. (1990). *The politics of disablement.* Springer.

Oliver, M. (2013). The social model of disability: Thirty years on. *Disability & Society*, *28*(7), 1024–1026. https://doi.org/10.1080/09687599.2013.818773

Patel, R. (2007). *Stuffed and starved: Markets, power and the hidden battle for the world food system* (1st Canadian ed.). HarperCollins.

Pictou, S. M. (2017). *Decolonizing Mi'kmaq memory of Treaty: L'sitkuk's learning with allies in struggle for food and lifeways* [Unpublished PhD Thesis]. Dalhousie University. https://DalSpace.library.dal.ca//handle/10222/72811

Pollan, M. (2006). *The omnivore's dilemma: A natural history of four meals*. Penguin Press.

Power, E. (2021). *Roundtable: "A decent and just social order": A transdisciplinary conversation on disability and food, Part 2 of 2*. Just Food: because it is never Just Food. Conference of the ASFS, AFHVS, CAFS & SAFN, NYC: The Culinary Institute of America & New York University.

Sarner, M. (2021, April 14). Brain fog: How trauma, uncertainty and isolation have affected our minds and memory. *The Guardian*. http://www.theguardian.com/lifeandstyle/2021/apr/14/brain-fog-how-trauma-uncertainty-and-isolation-have-affected-our-minds-and-memory

Schalk, S. (2017). Critical disability studies as methodology. *Lateral*, 6(1). https://doi.org/10.25158/L6.1.13

Schwartz, N., Buliung, R., & Wilson, K. (2019). Disability and food access and insecurity: A scoping review of the literature. *Health & Place*, *57*, 107–121. https://doi.org/10.1016/j.healthplace.2019.03.011

Settee, P., & Shukla, S. (2020). *Indigenous food systems: Concepts, cases, and conversations*. Canadian Scholars.

Shannon, J. (2014). Food deserts: Governing obesity in the neoliberal city. *Progress in Human Geography*, *38*(2), 248–266. https://doi.org/10.1177/0309132513484378

She, P., & Livermore, G. A. (2007). Material hardship, poverty, and disability among working-age adults. *Social Science Quarterly*, *88*(4), 970–989. https://doi.org/10.1111/j.1540-6237.2007.00513.x

Simpson, N. (2017). *Disabling justice?: The exclusion of people with disabilities from the food justice movement*. UNP - Nebraska.

St-Germain, A. A. F., & Tarasuk, V. (2017). High vulnerability to household food insecurity in a sample of Canadian renter households in government-subsidized housing. *Canadian Journal of Public Health*, *108*(2), e129–e134. https://doi.org/10.17269/CJPH.108.5879

Stiegman, M. (2012). Confessions of a reluctant food activist. In A. Choudry, J. Hanley, & E. Shragge (Eds.), *Organize: Building from the Local for Global Justice* (p. 266). Between the Lines.

Swift, J., & Power, E. (2021). *The case for basic income: Freedom, security, justice*. Between the Lines.

Toronto Foundation. (2020). *The Toronto Fallout Report: Half a year in the life of COVID-19*. https://torontofoundation.ca/wp-content/uploads/2020/11/Toronto-Fallout-Report-2020.pdf

Trejo, J. (2020). The burden of service for faculty of color to achieve diversity and inclusion: The minority tax. *Molecular Biology of the Cell*, *31*(25), 2752–2754. https://doi.org/10.1091/mbc.E20-08-0567

Truth and Reconciliation Commission of Canada (TRCC). (2015). *Honouring the truth, reconciling for the future: Summary of the final report of the truth and reconciliation commission of Canada*. Truth and Reconciliation Commission of Canada.

Vindegaard, N., & Benros, M. E. (2020). COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. *Brain, Behavior, and Immunity*, *89*, 531–542. https://doi.org/10.1016/j.bbi.2020.05.048

Wallace, K. (2021, May 11). They've been called hot spots. It's actually 'code' for social inequity. *Toronto Star*. https://www.thestar.com/news/gta/2021/05/11/theyve-been-called-hot-spots-its-actually-code-for-social-inequity.html

Wallace, R., Liebman, A., Fern, L., Chaves, O., & Wallace, R. (2020). COVID-19 and Circuits of Capital. *Monthly Review*. https://monthlyreview.org/2020/05/01/covid-19-and-circuits-of-capital/

Weiler, A., McLaughlin, J., Caxaj, S., & Cole, D. (2020, April 1). *Protecting the health and rights of migrant agricultural workers during the COVID-19 outbreak should be a priority*. Policy Note. https://www.policynote.ca/migrant-workers/

Wilkerson, A. (2021). *Roundtable: "A decent and just social order": A transdisciplinary conversation on disability and food, part 2 of 2*. Just Food: because it is never Just Food. Conference of the ASFS, AFHVS, CAFS & SAFN, NYC: The Culinary Institute of America & New York University.

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Perspective

Food, pandemics, and the Anthropocene: On the necessity of food and agricultural change

Marit Rosol[a*] and Christoph Rosol[b]

[a] University of Calgary
[b] Max Planck Institute for the History of Science

Abstract

The COVID-19 crisis demonstrates forcefully that human health, the well-being of animals, and planetary health must not be viewed in isolation—and that they all depend to a large extent on the ways in which we produce, process, trade, and consume food. In this perspective essay, we argue for the centrality of food and agriculture to the epoch of the Anthropocene and why profound changes are needed more than ever. We close with some reflections on how the disruptions associated with the current pandemic also offer the opportunity for the necessary ecological, economic, and social transformation of our agri-food systems—toward healthy humans, animals, and a healthy and biodiverse planet.

Keywords: Agri-food; COVID-19; Anthropocene; climate crisis; planetary health; one health

*Corresponding author: marit.rosol@ucalgary.ca
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Introduction

At the time of this paper's publication, we had already experienced over two years in a pandemic with far-reaching consequences for our health systems, our economies, and our daily lives. The last few years have shown us the vulnerability of the fabric of civilization in our globally networked contemporary world with its increasingly polarized societies. Despite the drastic changes wrought by the pandemic, we should not approach COVID-19 as a "Black Swan," an extremely rare event that seems to have descended upon us out of nowhere. On the contrary, the COVID-19 pandemic only makes systemic problems visible and tangible in a dramatic way. These systemic problems are based on the mutually reinforcing interactions between the rapid deterioration of the global environment and social, economic, and technological dynamics.

COVID-19 demonstrates forcefully that human health, the well-being of animals, and the global ecological crisis must not each be viewed in isolation, but rather as dependent to a large extent on the ways in which we produce, process, trade, and consume food. After establishing these connections in the following two sections, we argue for the centrality of food and agriculture in understanding the ecological precarity from which systemic threats such as the COVID-19 pandemic originate. We do so through the lens of the Anthropocene concept in section four ("The global agri-food system as driver and victim of the Anthropocene").

Anthropocene is the name for a proposed geological epoch that is spurred by the accelerating accumulation of human-industrial impacts on the global environment. It is characterized by a geologically abrupt shift in the climate system, alarmingly shrinking biodiversity, the introduction of novel materials and contaminants, and the imminent collapse of entire ecosystems—fundamental and sometimes irreversible changes of the Earth system that are of anthropogenic origin and hardly have a geological analogue in Earth's long history. We close with some reflections about how the disruptions associated with the current pandemic also offer an opportunity for the necessary ecological, economic, and social transformation of our agri-food systems—toward healthier humans and animals, and a thriving biodiverse planet.[1]

Pandemic, planetary health and our food system: Why food matters

What do we know about the relationship between the pandemic, planetary health, and our food system? Research has shown that a key driver for the increase in Emerging Infectious Diseases (EID) observed in recent decades is the increase in so-called zoonoses—that is, diseases transmitted between animals and humans (Akram-Lodhi, 2020; Cupertino et al., 2020; UNEP,

[1] This paper is in part based on Rosol & Rosol (2021).

2016). The main reason for the increase of such zoonoses is the persistent expansion of the contact zone between humans and animals, in turn caused by the rapid fragmentation and destruction of wildlife habitats.

In addition to land use change caused by urbanization and mining, this loss of habitat is being particularly driven by the destruction of forests for agricultural use—as can be observed, for example, in the Brazilian Amazon regions, where rainforests are deliberately set on fire to replace them with cattle pastures and croplands. As a result—and as seems to have happened at the wet market in Wuhan—wild animals, sometimes the last of their kind, come into direct contact with other species and ultimately with humans. Another favourable factor for the spread of zoonotic pathogens is the genetic homogeneity and spatial concentration that prevail in intensive livestock farming. Once a pathogen has been introduced, this form of factory farming is an ideal breeding ground for the spread of infectious diseases (Hollenbeck, 2016; Wallace, 2016; Weis, 2013).

The novel coronavirus has made visible these connections between human and animal health, and between planetary health and food systems in previously unknown ways and across the globe. However, it was neither the first nor the last dangerous pathogen that we will have to endure. In fact, thousands more previously unknown viruses are slumbering in the animal world, just waiting for the species barrier to be crossed. SARS-CoV-2 might not only indefinitely mutate, it may also be followed by SARS-CoV-3, threatening to overwhelm health and social systems again and putting the world into another economic and social coma.

However, understanding the cause of ongoing pandemics also provides the key to preventing the ones to come. New concepts in public health research such as “One Health” (Atlas & Maloy, 2014; WHO et al., 2019) or the demand for a “Planetary Health diet” (Willett et al., 2019; Whitmee et al., 2015) already consider the elementary relationship between animal, environmental, and human health.[2] These concepts rest on the premise that human health is directly related to biodiverse and largely uncontaminated ecosystems (Romanelli et al., 2015). If these are missing or permanently disturbed, it could jeopardize food security and the availability of water, lead to more deaths from extreme weather events and, as previously mentioned, result in more frequent contact with communicable diseases.

[2] One Health and Planetary Health are related concepts but with distinct origins and focus. One Health originates in veterinary medicine and mainly emphasizes the interconnection between human and animal health, while also acknowledging environmental health. A first One Health Initiative Task Force was set up by veterinary medicine in 2006 in response to the avian flu outbreak in the early-mid 2000s. The approach is now supported by both the World Health Organization and the FAO – the UN's Food and Agriculture Organization. The concept of Planetary Health originates in human medicine and environmental sciences and stresses the importance of intact and healthy natural systems for human health. It gained traction since the Rockefeller Foundation and The Lancet launched their Commission on Planetary Health in 2015.

Consistent climate and biodiversity protection is therefore also effective health protection. In other words, the most effective prophylaxis against pandemics of the kind we are currently experiencing globally is the consistent protection of natural diversity and the maintenance of spatial barriers between host animals and humans. The preservation of species-rich and thus resilient natural spaces for animals and plants, the stabilization of regional ecosystems and, ultimately, global climate protection are not just "nice-to-haves"—rather, such environmental efforts are essential to ensure livelihoods in the long term. More than that, there are indispensable and comparatively cheap measures to prevent further ruinous pandemics.

Food insecurity, social determinants of health, and multifunctionality of agriculture

As shown, our current industrial—or capitalist (Akram-Lodhi, 2020; Holt-Giménez, 2017)—agricultural and food systems must be seen as a major cause of the spread of new infectious diseases. In addition to the medical-biological relationship just described, the central influence of agriculture and food on human health extends much further. From a global perspective, most premature deaths are not caused by infectious diseases, but rather by hunger, malnutrition, and unhealthy diets. Worldwide, at least 900 million people are still undernourished. In addition, all so-called diseases of civilization—such as diabetes, cardiovascular diseases, high blood pressure, or weakened immune systems—are related to our diet (Afshin et al., 2019; Development Initiatives, 2020; Rockström et al., 2020; Willet et al., 2019).

COVID-19 is now exacerbating already existing food insecurity. The UN World Food Programme—which later in 2020 won the Nobel Peace Prize—had already predicted in the summer of that year that more people would die of hunger caused by the social and economic consequences of the pandemic than of the infectious disease itself (Oxfam, 2020; for a recent update see FAO, 2021). The pandemic also poses a threat to food security in highly developed countries, such as the USA, both directly, because of the absence of school meals during the lockdown, and indirectly, because of pandemic-induced income losses, particularly affecting women as well as low-income and racialized households (Kinsey et al., 2020; Akram-Lodhi, 2020).

The COVID-19 pandemic once again shows the crucial importance of social protection systems and functioning public welfare services—including a reliable public health sector—for effective health care. After all, in addition to biological and environmental factors, health is essentially determined by socio-economic factors (rather than by "lifestyle choices"), such as income, poverty, social status, and social inequality—the "social determinants of health." These socio-economic conditions are heavily influenced by government action and public policy—or by its absence, by government inaction (Marmot & Wilkinson, 2005; CSDH, 2008; Raphael, 2016).

The importance of socio-economic conditions also relates to the often-neglected multifunctionality of agriculture. In addition to its responsibility for intact ecosystems and for securing food and preserving cultural heritage, agriculture also provides livelihoods (IAASTD, 2009; Holt-Giménez, 2017, 2018). According to the International Labour Organization (ILO), in 2017, almost 30 percent of all employees were still working in agriculture alone (70 percent in the poorest countries), in addition to almost half a billion people in subsistence agriculture. The food sector as a whole continues to employ most people on the planet (Böhm et al., 2020, p. 198).

But in this sector in particular—from food production to processing, distribution, consumption, and waste management—fair wages and good working conditions are rare (Gottlieb & Joshi, 2013; Alkon & Guthman, 2017). It is no coincidence that the most serious COVID-19 outbreaks are found in the meat industry in Canada, the USA, or other countries like Germany (Garcés, 2020; Ramos et al., 2020; Parks et al., 2020). These are precarious forms of employment, substandard working conditions, limited workers' rights, especially for migrant workers who are often on temporary and restrictive work visas, and yet a limited number of powerful multinational companies such as Cargill dominate the food and agriculture sector (Akram-Lodhi 2020; Clapp et al., 2022; Haley et al., 2020; Hendrickson 2020). The COVID-19 outbreaks in the meat industry and among farm workers again underscore the importance of the social determinants of health, especially living and working conditions, which are very unequal in our capitalist societies.

The global agri-food system as driver and victim of the Anthropocene

Beyond the actual food sector, the central importance of agriculture and food is also shown in the assessment of leading sustainability scientists, who argue that without a far-reaching agricultural and food transformation, neither the sustainable development goals of the UN nor the goals of the Paris Climate Agreement will be met (Rockström et al., 2020, p. 3). These scientists refer to the increasingly visible direct connection between the current dominant agricultural and food system and the climate and biodiversity crisis. In a high-profile contribution to the discussion by Rockström et al. (2020), our agricultural and food system has been characterized as a central *driver* as well as the first *victim* of the Anthropocene.

What is the Anthropocene? The Anthropocene is the proposed geological epoch in which human activities exert a formative influence on the geochemical and biological composition of the various Earth spheres, such as the atmosphere, hydrosphere, or biosphere. According to current investigations in the geological community (Zalasiewicz et al., 2017), our planet is said to have entered this epoch during the middle of the last century, albeit anthropogenic changes to regional-scale environments date back millennia and are particularly tied to agricultural practices

developed in different parts of the world since the Neolithic Revolution. However, the rapid industrial and agro-industrial development of the late twentieth- and early twenty-first century has led to massive changes on a planetary level, which in their clarity and irreversibility are on par with earlier climatic or evolutionary changes or events in the history of the Earth that have marked the start of geological epochs and eons. Human industrial activities are thus actively pushing planetary conditions out of the Holocene—and therefore out of the last 11,700 years of relatively stable climatic and ecological conditions, from which our current civilization was able to develop gradually (Steffen, Richardson et al., 2015).

As a short form for the current ecological mega crisis, the Anthropocene is not an uncontested concept. We agree with some of the important critiques it has faced outside the geosciences itself, such as its totalizing tendencies that have obscured structural inequalities, capitalist relations of production, and the very unequal contribution of different human groups to global environmental change, potentially leading to depoliticizing the ecological crisis (Reisman & Fairbairn, 2021; Swyngedouw & Ernstson, 2018; Moore, 2017 and 2018). Nonetheless, we see the Anthropocene concept as instrumental in dimensioning and communicating the severe, interconnected, and often irreversible effects of human impacts on the entirety of the Earth system.

In view of this fundamental disruption of planetary conditions, the current COVID-19 pandemic marks only one symptom among many of the highly dynamic changes and elementary risks associated with the transition into the Anthropocene. The focus on the mid-twentieth century gives an indication of this dynamic that now threatens to overwhelm ecosystems and human societies. Earth system scientists speak of the "Great Acceleration": the exponential increase in many socio-economic and terrestrial system indicators of planetary change since around 1950. Most of these factors are directly related to agriculture, for example the increase in the use of fertilizers and freshwater, the rise in methane, nitrous oxide, and carbon dioxide emissions, the loss of tropical forests as a result of expanding croplands and pasture, the general deterioration in the biosphere on land and in marine ecosystems due to overfishing and shrimp aquaculture, and the expansion of marine dead zones due to the increasing nitrogen levels in coastal waters caused by overfertilization and intensive livestock farming. It is no coincidence that the accelerating use of the biosphere is co-original with the massive increases in agricultural production due to the Green Revolution, the rise of molecular genetics, the industrial use of antibiotics, but above all the general mechanization and industrialization of agriculture favoured by the availability of cheap crude oil—decisive developments that started after the end of World War II (Steffen, Broadgate et al., 2015).

For all these reasons, our agri-food system has been identified as a major *driver* of crossing the series of nine indicators that mark the previous area of stability of the Holocene, the so-called "planetary boundaries." The crucial role of agriculture is evident in all areas in which these limits have already been exceeded (such as the rapid loss of biodiversity and the fundamental change in the nitrogen and phosphorus cycles), and also in those areas in which such an overshoot is imminent unless decisive countermeasures are taken (greenhouse gas

emissions, freshwater consumption, changes in land use, and, in particular, deforestation) (Rockström et al., 2020; cf. also Crippa et al., 2021; B. M. Campbell et al., 2017; Clapp et al., 2018; Shattuck, 2017; Williams et al., 2015).

At the same time, more than other economic sectors, the agricultural sector especially is suffering directly from the consequences of climate and global change: from increased frequency and severity of extreme weather events, especially droughts and floods; from depleted and eroded soils; and from a rapid decline in biodiversity characterized by shrinking insect and bird populations, as pests and climate-migrating species overburden weakened ecosystems. These changes do not only affect the livelihoods of farmers, they also endanger global food security in the medium and long term. Agriculture has therefore been called a *victim* of the Anthropocene (Rockström et al., 2020; cf. also Willett et al., 2019).

Ways forward

Nonetheless, aside from being driver and victim, the agri-food sector also has much potential for providing solutions. Here, many innovative approaches and trail-blazing efforts to counteract these trends may already be found. In fact, the agri-food system has become a prominent site of individual and collective agency and a vibrant context for the imagination of more sustainable alternatives (cf. also Reisman & Fairbairn, 2021).

First of all, climate and environmentally compatible agriculture is not only possible, it may also play a crucial role in enhancing biodiversity and in efforts toward achieving net zero CO_2 through carbon sequestration in soils and plants (remember, agriculture for a long time was a *source* of biodiversity). More generally speaking, agroecology, as an integral agricultural approach, offers possibilities and instruments to improve environmental, animal, and human health decisively and to withstand, mitigate, or prevent future crises such as epidemics and climate crises (Altieri & Nicholls 2020). An important promoter of agroecology, food sovereignty, and political changes to trade and food regimes, La Via Campesina, which has around 200 million members comprised of mostly small farmers, is currently the largest social movement in the world (Anderson et al., 2019; Martínez-Torres & Rosset, 2010).

Second, especially in the food sector, new (and certainly old) economic approaches are being experimented with, which can be ground-breaking for a post-fossil society. These include, for example, food sharing initiatives and community supported agriculture (CSA) as well as agricultural, worker, restaurant, and consumer cooperatives. A socio-ecological transformation must inevitably also be based on changed forms of economic activity. It is no coincidence that the food sector is cited as a key field of learning and intervention in debates around post-growth, sufficiency, and alternative economies (Braun et al., 2018; Čajka & Novotný 2022; Gerber, 2020; Rosol, 2020; Rosol & Barbosa Jr., 2021; Schneidewind & Zahrnt, 2016).

An agricultural transition, however, is still in its infancy and its necessity seems little understood in public perception. The intrinsic connection between agriculture and the environment is still mostly ignored and short-term thinking dominates. In an economic sector characterized by small margins and unreliable earnings, environmental goals such as water, species, and climate protection are often perceived as threatening the livelihood of farmers. As a consequence, although agricultural production depends more than other sectors on healthy environments, farmers are easily pitted against environmentalists in political debates and mainstream media (van der Ploeg, 2020). Moreover, small advances in one area (for example, increasing demand for organically produced food in western industrialized nations) are wiped out by major setbacks in other areas (for example, deforestation in Asia, Africa, and South America).

The global threats and challenges, the urgency of our actions, but also the horizons of the possible have become clearly visible during the COVID-19 pandemic. Structural problems of the current agri-food systems as well as alternatives offered (C. Campbell, 2021) have received more attention. This increased attention, holding the potential for more lasting change, should now be mobilized. The COVID-19 pandemic as a monstrous—although certainly not a singular—incident underscores the need for a comprehensive socio-ecological transformation, which aims to halt the trend toward the deterioration of the foundations of life and health and to reverse it in the medium term—before catastrophic tipping points are reached.

We are still in the middle of the pandemic and the trauma of a disruption to social interaction has yet to be overcome. As known from many other crises, however, after a phase of acute escalation, social oblivion quickly sets in again, and, in this instance, is fostered by the "back to normal" attitude of western governments that accompanied the vaccine roll-out. It is important to break from this mental and political mechanism and act with foresight. The COVID-19 crisis is a fundamental crisis, and it will take years to overcome—time that we will not have again to implement the necessary transformations.

How agriculture and food should and could be transformed to make it sustainable and fair has long been studied and known. There are countless practical examples and scientific studies that range from very concrete recommendations—for example, specific farming methods—to more fundamental, systemic considerations (not least detailed already in the UN world agricultural report, IAASTD, 2009). The concepts and technologies have long existed—even if they could, of course, benefit immensely from increased investment in research and practical support of farmers—what we need now, is to implement them, to put them into practice.

The above approaches, like food sovereignty, agroecology, and alternative economic organizations of our food systems ensuring livelihoods, decent work, and liveable wages, offer a glimpse of what needs to be done. Also sought and supported by this journal, we observe an increasing interest to detail what a food systems transformation might look like as well as the barriers preventing or at least hindering such changes. However, the aim of this short perspective piece is not to attempt to fix what such a transition should precisely look like. This will invariably change through collective efforts to understand and change material conditions. We also recognize that discussion and actions toward transformative change are always situated

and partial, historically and geographically specific, and informed by particular experiences and social locations. Rather, we argue that the pandemic has once again demonstrated the centrality of food and agriculture in our current, crisis-laden transition into the Anthropocene and why profound changes are thus needed more than ever. Thus, the aim of this intervention is not to detail the "how" of the changes, but rather to stress the fundamental level at which the "why" occurs.

Overall, our social and economic response to this crisis must take both the current knowledge and the already extensively developed solutions seriously. Public money, which is now being spent, is wasted if it does not serve to create resilience and regeneration in the fragile human-earth system. The comprehensive government measures in response to the pandemic have shown us that it is entirely possible to act quickly and decisively, supported by the necessary public investments. Let us use this opportunity to set the necessary course for the long demanded agricultural and food transition.

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References

Afshin, A., Sur, P. J., Fay, K. A., Cornaby, L., Ferrara, G., Salama, J. S., . . . Murray, C. J. L. (2019). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet, 393*(10184), 1958-1972. doi:10.1016/S0140-6736(19)30041-8

Akram-Lodhi, A. H. (2020). Contemporary pathogens and the capitalist world food system. *Canadian Journal of Development Studies / Revue canadienne d'études du développement,* doi:10.1080/02255189.2020.1834361

Alkon, A. H., & Guthman, J. (Eds.). (2017). *The new food activism. Opposition, cooperation, and collective action*. Oakland: UC Press.

Altieri, M. A., & Nicholls, C. I. (2020). Agroecology and the reconstruction of a post-COVID-19 agriculture. *The Journal of Peasant Studies*, *47*(5), 881-898 doi:10.1080/03066150.2020.1782891

Anderson, C. R., Maughan, C., & Pimbert, M. P. (2019). Transformative agroecology learning in Europe: building consciousness, skills and collective capacity for food sovereignty. *Agriculture and Human Values, 36*(3), 531-547. doi:10.1007/s10460-018-9894-0

Atlas, R. M., & Maloy, S. R. (Eds.). (2014). *One health: people, animals, and the environment*. Washington, DC: ASM Press.

Böhm, S., Spierenburg, M., & Lang, T. (2020). Fruits of our labour: Work and organisation in the global food system. *Organization, 27*(2), 195-212. doi:10.1177/1350508419888901

Braun, B., Oßenbrügge, J., & Schulz, C. (2018). Environmental economic geography and environmental inequality: challenges and new research prospects. *Zeitschrift für Wirtschaftsgeographie, 62*(2), 120–134. doi.org/10.1515/zfw-2018-0001

Čajka, A., & Novotný, J. (2022). Let us expand this Western project by admitting diversity and enhancing rigor: A systematic review of empirical research on alternative economies. Ecological Economics, 196, 107416. doi.org/10.1016/j.ecolecon.2022.107416

Campbell, B. M., Beare, D. J., Bennett, E. M., Hall-Spencer, J. M., Ingram, J. S. I., Jaramillo, F., . . . Shindell, D. (2017). Agriculture production as a major driver of the Earth system exceeding planetary boundaries. *Ecology and Society, 22*(4). doi:10.5751/ES-09595-220408

Campbell, C. (2021). The impact of COVID-19 on local government stakeholders' perspectives on local food production. *Journal of Agriculture, Food Systems, and Community Development, 10*(2), 71–88. doi:10.5304/jafscd.2021.102.035

Clapp, J., Newell, P., & Brent, Z. W. (2018). The global political economy of climate change, agriculture and food systems. *The Journal of Peasant Studies, 45*(1), 80-88. doi:10.1080/03066150.2017.1381602

Clapp, J., Collins, A. M., & Stephens, P. (2022). How the legacies of the last global food crisis sowed the seeds for the next one. In M. Koç, J. Sumner, & A. Winson (Eds.), *Critical perspectives in food studies. 3rd edition* (pp. 271–268). Oxford Univ. Press.

Crippa, M., Solazzo, E., Guizzardi, D., Monforti-Ferrario, F., Tubiello, F. N., & Leip, A. (2021). Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food, 2*(3), 198-209. doi:10.1038/s43016-021-00225-9

CSDH. (2008). *Closing the gap in a generation. Health equity through action on the social determinants of health. Final Report of the Commission on the Social Determinants of Health*. World Health Organization. Geneva. Retrieved from: https://www.who.int/social_determinants/thecommission/finalreport/en/.

Cupertino, M., Resende, M., Mayer, N., Carvalho, L., & Siqueira-Batista, R. (2020). Emerging and re-emerging human infectious diseases: A systematic review of the role of wild animals with a focus on public health impact. *Asian Pacific Journal of Tropical Medicine, 13*(3), 99-106. doi:10.4103/1995-7645.277535

Development Initiatives. (2020). *2020 Global Nutrition Report. Action on equity to end malnutrition*. Development Initiatives Poverty Research. Bristol. Retrieved from: https://globalnutritionreport.org/reports/2020-global-nutrition-report/.

FAO. (2021). *The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all*. FAO, IFAD, UNICEF, WFP and WHO. Rome, Italy. Retrieved from: https://doi.org/10.4060/cb4474en.

Garcés, L. (2020). COVID-19 exposes animal agriculture's vulnerability. *Agriculture and human values, agriculture, food & COVID-19 rapid response opinion*. doi:10.1007/s10460-020-10099-5

Gerber, J.-F. (2020). Degrowth and critical agrarian studies. *The Journal of Peasant Studies, 47*(2), 235-264. doi:10.1080/03066150.2019.1695601

Gottlieb, R., & Joshi, A. (2013). *Food justice*. Cambridge, Mass.: MIT Press.

Haley, E., Caxaj, S., George, G., Hennebry, J., Martell, E., & McLaughlin, J. (2020). Migrant farmworkers face heightened vulnerabilities during COVID-19. *Journal of Agriculture, Food Systems, and Community Development, 9*(3), 35-39. doi:10.5304/jafscd.2020.093.016

Hendrickson, M. K. (2020). COVID lays bare the brittleness of a concentrated and consolidated food system. *Agriculture and Human Values, Agriculture, Food & COVID-19 Rapid Response Opinion*. doi:10.1007/s10460-020-10092-y

Hollenbeck, J. E. (2016). Interaction of the role of Concentrated Animal Feeding Operations (CAFOs) in Emerging Infectious Diseases (EIDS). *Infect Genet Evol, 38*, 44-46. doi:10.1016/j.meegid.2015.12.002

Holt-Giménez, E. (2017). *A Foodie's Guide to Capitalism: Understanding the Political Economy of What We Eat*. New York: Monthly Review Press.

Holt-Giménez, E. (2018). *Can We Feed the World Without Destroying It?* Cambridge, UK: Polity.

IAASTD. (2009). *Agriculture at a crossroads. The Global Report*. International Assessment of Agricultural Knowledge, Science and Technology for Development. Washington, DC. Retrieved from: http://www.fao.org/fileadmin/templates/est/Investment/Agriculture_at_a_Crossroads_Global_Report_IAASTD.pdf.

Kinsey, E. W., Kinsey, D., & Rundle, A. G. (2020). COVID-19 and food insecurity: An uneven patchwork of responses. *Journal of Urban Health, 97*(3), 332-335. doi:10.1007/s11524-020-00455-5

Marmot, M., & Wilkinson, R. G. (Eds.). (2005). *Social determinants of health*. Oxford: Oxford Univ. Press.

Martínez-Torres, M. E., & Rosset, P. M. (2010). La Vía Campesina: the birth and evolution of a transnational social movement. *The Journal of Peasant Studies, 37*(1), 149-175. doi:10.1080/03066150903498804

Moore, J. W. (2017). The Capitalocene, Part I: on the nature and origins of our ecological crisis. *The Journal of Peasant Studies, 44*(3), 594-630. doi:10.1080/03066150.2016.1235036

Moore, J. W. (2018). The Capitalocene Part II: Accumulation by appropriation and the centrality of unpaid work/energy. *The Journal of Peasant Studies, 45*(2), 237-279. doi:10.1080/03066150.2016.1272587

Oxfam. (2020). *The Hunger Virus: How COVID-19 is fueling hunger in a hungry world.* Retrieved 2022/03/21 from https://www.oxfam.org/en/research/hunger-virus-how-covid-19-fuelling-hunger-hungry-world.

Parks, C. A., Nugent, N. B., Fleischhacker, S. E., & Yaroch, A. L. (2020). Food system workers are the unexpected but under protected COVID heroes. *The Journal of Nutrition, 150*(8), 2006-2008. doi:10.1093/jn/nxaa173

Ramos, A. K., Lowe, A. E., Herstein, J. J., Schwedhelm, S., Dineen, K. K., & Lowe, J. J. (2020). Invisible no more: The impact of COVID-19 on essential food production workers. *Journal of Agromedicine, 25*(4), 378-382. doi:10.1080/1059924X.2020.1814925

Raphael, D. (2016). *Social determinants of health: Canadian perspectives* (3rd ed.). Toronto: Canadian Scholars' Press.

Reisman, E., & Fairbairn, M. (2021). Agri-food systems and the Anthropocene. *Annals of the American Association of Geographers, 111*(3), 687-697. doi:10.1080/24694452.2020.1828025

Rockström, J., Edenhofer, O., Gaertner, J., & DeClerck, F. (2020). Planet-proofing the global food system. *Nature Food, 1*(1), 3-5. doi:10.1038/s43016-019-0010-4

Romanelli, C., Cooper, D., Campbell-Lendrum, D., Maiero, M., Karesh, W. B., Hunter, D., & Golden, C. D. (2015). *Connecting Global Priorities: Biodiversity and Human Health. A State of Knowledge Review*. World Health Organization & Secretariat of the Convention on Biological Diversity Retrieved from: https://www.cbd.int/health/SOK-biodiversity-en.pdf.

Rosol, M. (2020). On the significance of alternative economic practices: Reconceptualizing alterity in alternative food networks. *Economic Geography, 96*(1), 52-76. doi:10.1080/00130095.2019.1701430

Rosol, M., & Barbosa Jr, R. (2021). Moving beyond direct marketing with new mediated models: evolution of or departure from alternative food networks? *Agriculture and Human Values*, *38*(4), 1021-1039. https://doi.org/10.1007/s10460-021-10210-4

Rosol, M., & Rosol, C. (2021). Welt im Fieber. Zur Notwendigkeit einer globalen Agrar- und Ernährungswende in Zeiten des Anthropozäns. In AgrarBündnis e. V. (Ed.), *Der Kritische Agrarbericht 2021* (pp. 8–12). ABL-Verlag.

Schneidewind, U., & Zahrnt, A. (2016). *The politics of sufficiency. Making it easier to live a good life*. Cambridge: Green Books.

Shattuck, A. (2017). *Food, Climate, and the Myths that Keep our Planet Hot*. Food First/Institute for Food and Development Policy. Oakland, CA. Retrieved from: https://foodfirst.org/wp-content/uploads/2017/07/Climate_V7.pdf.

Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O., & Ludwig, C. (2015). The trajectory of the Anthropocene: The Great Acceleration. *The Anthropocene Review, 2*(1), 81-98. doi:10.1177/2053019614564785

Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., . . . Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science, 347*(6223), 1259855. doi:10.1126/science.1259855

Swyngedouw, E., & Ernstson, H. (2018). Interrupting the Anthropo-obScene: Immuno-biopolitics and depoliticizing ontologies in the Anthropocene. *Theory, Culture & Society, 35*(6), 3-30. doi:10.1177/0263276418757314

UNEP. (2016). *UNEP Frontiers 2016 Report: Emerging Issues of Environmental Concerns*. United Nations Environment Programme. Nairobi. Retrieved from: https://www.unep.org/resources/frontiers-2016-emerging-issues-environmental-concern.

van der Ploeg, J. D. (2020). Farmers' upheaval, climate crisis and populism. *The Journal of Peasant Studies*, *47*(3), 589-605. https://doi.org/10.1080/03066150.2020.1725490

Wallace, R. (2016). *Big farms make big flu: Dispatches on infectious disease, agribusiness, and the nature of science*. New York: Monthly Review Press.

Weis, T. (2013). *The ecological hoofprint: The global burden of industrial livestock*. London/ New York: Zed Books.

Whitmee, S., Haines, A., Beyrer, C., Boltz, F., Capon, A. G., de Souza Dias, B. F., . . . Yach, D. (2015). Safeguarding human health in the Anthropocene epoch: Report of The Rockefeller Foundation-Lancet Commission on planetary health. *The Lancet, 386*(10007), 1973-2028. doi:10.1016/S0140-6736(15)60901-1

WHO, FAO, & OIE. (2019). *Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries*. World Health Organization, Food and Agriculture Organization of the United Nations, World Organisation of Animal Health. Geneva. Retrieved from: http://www.fao.org/3/ca2942en/ca2942en.pdf.

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., . . . Murray, C. J. L. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *Lancet, 393*(10170), 447-492. doi:10.1016/s0140-6736(18)31788-4

Williams, M., Zalasiewicz, J., Haff, P., Schwägerl, C., Barnosky, A. D., & Ellis, E. C. (2015). The Anthropocene biosphere. *The Anthropocene Review, 2*(3), 196-219. doi:10.1177/2053019615591020

Zalasiewicz, J., Waters, C.N., Summerhayes, C., Wolfe, A.P., Barnosky, A.D., . . . Williams, M. (2017). The working group on the Anthropocene: Summary of evidence and interim recommendations. *Anthropocene*, *19*, 55-60. doi:10.1016/j.ancene.2017.09.001

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Original Research Article

Cultivating critical and food justice dimensions of youth food programs: Lessons learned in the kitchen and the garden

Tina Moffat[a*], Sarah Oresnik[a], Amy Angelo[b], Hanine Chami[a], Krista D'aoust[b], Sarah Elshahat[a] and Yu Jia Guo

[a] McMaster University
[b] Neighbour to Neighbour Centre

Abstract

In this article we present accounts of two youth food programs operating at a Community Food Centre. One program, *Kids Club*, engages children, aged 6 to 12, in cooking and gardening activities; the other, *Cookin' Up Justice*, is directed to adolescents (13 to 18 years) and explores food justice concepts through experiential group cooking. A variety of ethnographic methods including participant-observation, semi-structured interviews, focus group and photovoice discussions done with youth participants and parents are used to document how the food programs incorporate innovative aspects of Critical Food Literacy and Food Justice. We address the successes, challenges, and opportunities in delivering youth food programs that incorporate both the "practical" and "political" dimensions of Food Literacy and Critical Food Literacy with particular attention to food politics that arise when working with racialized, newcomer participants living in a lower socioeconomic neighbourhood. We also discuss the challenges and opportunities in doing food programming with the adolescent demographic. We recommend that community food programs incorporate an analysis of the cultural, racialized, class, and gendered aspects of their staff and participants into the Critical Food Literacy and Food Justice dimensions of their programs to promote anti-racist and inclusive program design and facilitation.

Keywords: Food literacy; critical food literacy; food justice; youth; community food programs; food politics

*Corresponding author: moffatcs@mcmaster.ca
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Introduction

Food Literacy (FL) has become a commonly used term and concept in the realm of food, nutrition, dietetics, and education, particularly as it applies to youth, who have been described as a generation lacking knowledge and skills in the areas of food budgeting and preparation, making them more apt to rely on ultra-processed and convenience foods as they transition into adulthood (Colatruglio & Slater, 2014; Slater et al., 2018). FL is proposed to be a potential avenue for improving health equity and population health that moves away from a narrow focus on teaching nutrition to a more food-based approach (Colatruglio & Slater, 2014; Cullen et al., 2015).

Many review articles map out more precisely the definition of FL using concept diagrams and text definitions to encapsulate its multiple dimensions (Azevedo Perry et al., 2017; Colatruglio & Slater, 2014; Cullen et al., 2015; Truman et al., 2017a; Vidgen & Gallegos, 2014). A basic definition is: "A collection of interrelated knowledge, skills, and behaviors required to plan, manage, select, prepare, and eat foods to meet needs and determine food intake" (Vidgen & Gallegos, 2012, p. vii). Another more comprehensive definition is: "Food literacy is conceptualized as a set of food-related skills and knowledge that, if appropriately adopted, empower the individual to make informed choices about food and nutrition about the broader food environment, contributing to improved health" (Truman & Elliott, 2019, p. 17). FL definitions have been extended to incorporate concepts such as Community Food Security: "Food literacy is the ability of an individual to understand food in a way that they develop a positive relationship with it, including food skills and practices across the lifespan to navigate, engage, and participate within a complex food system. It's the ability to make decisions to support the achievement of personal health and a sustainable food system considering environmental, social, economic, cultural, and political components" (Cullen et al., 2015, p. 143).

More recently the term Critical Food Literacy (CFL) has been introduced. CFL goes beyond the acquisition of knowledge and skills, and the individual orientation to develop an "Understanding and awareness that allows people to perform actions related to food and think critically about their relationship to the broader food system" (Truman et al., 2017b, p. e213). Goldstein critiques FL as a "neoliberal consciousness paradigm" that privileges "individual responsibility and choice" (2016, p. 184). In contrast, Goldstein promotes CFL as a "critical consciousness paradigm" that encourages "active engagement and transformative learning in the food system and community and ecological health" (2016, p. 185).

We believe that Food Justice must also be considered in addition to and as part of CFL. A Food Justice lens is especially important when offering food education programs to equity deserving people who are living with food insecurity and who come to education programs with food traditions that may differ from those who facilitate them. An interpretation of CFL may be a narrow focus on promoting healthy population nutrition and ecological health. Cadieux and Slocum (2015) caution to avoid assuming that it is just a matter of buying local or organic food,

as many are unable to consume in this manner due to financial or other barriers. They point to four key components of Food Justice that span production to consumption and inform the transformation of the food system: "trauma/inequity, exchange, land, and labor" and they assert that food justice should be guided by "feminist, antiracist, and anti-colonial frameworks" (Slocum, 2015, p. e212). The insertion of Food Justice into the CFL framework thus enables programs to examine and make explicit structural inequities in the food system.

While FL, CFL, and Food Justice may seem like separate frameworks, Truman et al. (2017b) argue that we must consider multiple food literacies and promote ongoing dialogue. We agree that food education programs that incorporate CFL and Food Justice can still value teaching individual food skills that fall under the purview of FL. This may be even more crucial when delivering youth programs since many youth participants and their families want to learn these more practical skills even while engaging in broader understandings and activism around the food system and Food Justice. We concur with Classens and Sytsma (2020) who argue in their review of postsecondary student food literacy programs that the "practical" can be integrated with the "political". That said, incorporating CFL into a youth food program may be challenging, as the political is often sidelined by the practical, as described by Goldstein (2016) in their evaluation of a Food Leadership for Youth program serving teen girls at the STOP Community Food Centre in Toronto, Ontario.

Though mapping out the conceptual pieces of FL and CFL is fundamental work, few studies describe and document how food education programs for youth can be actualized on the ground, or in the kitchen or the garden, as it may be. These accounts are particularly needed to begin the hard work of incorporating CFL and Food Justice into food education programs. This is particularly true when working with youth for whom the more theoretical aspects of CFL may be challenging depending on their age and developmental stage. Several studies describe and evaluate youth FL programs that incorporate cooking into the nutrition education curricula delivered in both elementary and high schools (Amin et al., 2018; Brooks & Begley, 2014; Ruiz et al., 2021; Walters & Stacey, 2009). Some others document youth programs that operate outside of schools in community settings, some of which are targeted to "at-risk" or "vulnerable" youth (Brooks & Begley, 2014; Butcher et al., 2021; Thomas & Irwin, 2011). Several reviews of FL youth programs attempt to determine whether they improve dietary quality or increase cooking at home with measurements such as pre-and post-program indicators of culinary skills or knowledge about food and nutrition (Brooks & Begley, 2014; Vaitkeviciute et al., 2014). These reviews offer mixed results, but it is important to note that they do not measure what may be potential changes to future or lifelong eating patterns that would require long-term studies to document (Brooks & Begley, 2014). What is missing in the studies of youth food programs, with the exception of Goldstein's (2016) study described above, are case studies of programs that attempt to incorporate CFL frameworks into their pedagogical approaches. This may be because these programs are rare or because they haven't been studied much to date.

In this article, we describe and analyze participant feedback gathered from 2019 to 2020 from two youth-based food programs offered at the Hamilton Community Food Centre (HCFC)[1] in Hamilton, Ontario, Canada. The programs are *Kids Club*, for younger children (six to twelve years) and *Cookin' Up Justice*, for adolescents (thirteen to eighteen years). *Kids Club* has both cooking and gardening components whereas *Cookin' Up Justice* includes cooking only. The purpose of the study was to highlight the innovative programming components and education offered and to explore and document the youth participant and family experiences. In this article, we present the successes, challenges, and opportunities in delivering youth programs that incorporate both the "practical" and "political" dimensions of FL, CFL, and Food Justice. We describe how the program facilitators attempted to incorporate CFL and Food Justice into these food programs and how some aspects of these frameworks were reflected by youth participants' feedback and perspectives. We also highlight positive behavioural and attitude changes to food culture, cooking, and eating among participants. While changes in participants' diets were not the focus of this study, food/cooking-related behaviour and acquisition of knowledge and food skills were investigated with youth participants and their parents. The program challenges we raise in this article are those related to food politics arising from diversity in class, gender, culture, and food ethics among program facilitators and racialized newcomer participants living in a lower socioeconomic neighborhood. We highlight the need to address cultural diversity, racialization, and the positionality vis-à-vis gender, class, food ethics, and food traditions of participants and facilitators, when incorporating CFL and Food Justice into food education programs, and that this must be explicitly addressed in program design and facilitation. In addition, we explore the challenges and opportunities in working with an adolescent demographic.

Methods

For this youth food program study, we used a variety of ethnographic methods including participant observation, qualitative interviews, and focus groups to create an in-depth case study from multiple perspectives (Bernard & Gravlee, 2015). The study was initiated and co-created by the principal investigator (PI) and the director of the HCFC. The HCFC director wanted to take stock of their youth-centered programs and to consider creating new youth food programs in the future. The PI designed the study methods with input and in consultation with the HCFC director and staff members to ensure that they were useful in terms of the feedback required and feasibility concerning program logistics and participant engagement. The study methods were reviewed and given clearance by the McMaster Research Ethics Board (MREB #2344).

The PI and research assistants (RAs) engaged in participant observation by attending weekly sessions of both programs on a semi-regular basis for six months during which we

[1] The HCFC is a division of Neighbour-to-Neighbour (https://n2ncentre.com/).

frequently engaged by assisting as program helpers. We recorded detailed observations about how the programs operated and were facilitated and, along with discussions with facilitators, we were able to describe from an "outsider-insider" perspective how the programs were designed and facilitated to incorporate multiple paradigms of FL, CFL, and Food Justice.

Interviews and focus groups were facilitated by the PI and RAs with youth participants and their families to obtain direct feedback about their experiences. For the *Kids Club* we conducted interviews with fifteen child participants and ran one focus group with five parents of children attending *Kids Club*. The interviews with children were done using a "draw, write, and tell" method, an age-appropriate and arts-based method for eliciting child participants' experiences (Angell et al., 2015; Horstman et al., 2008). We asked children to draw and/or write on a piece of paper about their experiences at *Kids Club*, and we invited participants to talk about their drawing and/or writing in a one-on-one interview at a later session. Participants were also asked a series of questions about their experiences at *Kids Club* including some basic information about their age and the school they attended; how long they had been participating in *Kids Club*; their more and less favorite activities; the food they had prepared in the cooking portion of the program; what they learned from the program, including gardening and cooking skills, and whether they had brought any of this new knowledge home to share with their families; the feelings and emotions they experienced during *Kids Club* activities such as gardening, cooking, or nature walks; and finally what they thought could be improved in the program.

Kids Club parents were invited to attend a focus group discussion about their children's experiences in the program, what they thought their children enjoyed and what they didn't, what they learned, and generally what worked and what could be improved in the program. The five parents who participated in the focus group were also asked to fill out a confidential sociodemographic questionnaire to gather background information about their gender, age, occupation, income, education, household food security, country of origin, and length of time they had lived in Canada to aid in the analysis of the focus group discussion data. Household food insecurity status was determined using the six-item short-form food insecurity questionnaire (USDA, 2020). The focus group was run in English by the PI with bilingual research assistants present to interpret for those participants who preferred to speak Arabic. All recruitment materials, the sociodemographic survey, and the final study summary reports sent out to study participants were available in Arabic.

For *Cookin' Up Justice,* we elicited teen participants' perspectives using two methods. First, we conducted a focus group discussion with six participants to gauge what they liked and disliked about the program, the perceived impact of the program on their lives, and any suggestions for improvement. They also filled out a confidential sociodemographic questionnaire similar to the one described above for the parents of *Kids Club* participants. Second, we engaged in a photovoice activity with four, teen participants. Photovoice is an effective community-engagement research tool that has been successfully used in food-based research (Power, 2003) and works well with adolescent participants to record their own realities and to give researchers a

window into their food environments (Thomas & Irwin, 2013). They were instructed to take personally meaningful photos of foods or other food-related images at either the *Cookin' Up Justice* program or in their home, neighborhood, school, and/or community environments. Teen participants participated in two sessions with photovoice. In the first we gave out digital cameras to those who did not have a cell phone with a camera, and we introduced the activity aims and the rules of ethical conduct when taking photos. In the second session, participants were asked to choose their top six photos that best represented their views and present three of them to the group; for each of the three photos, they were asked to state where they took the photo, why they took it, and what it meant to them. This second session was audio-recorded and transcribed verbatim. Following this, a student research assistant compiled the photos and participants' anonymized quotes into a YouTube slideshow video for dissemination.

All interviews and focus groups were audio-recorded and transcribed verbatim. A coding framework was then developed by the PI and RAs based on the interview guide questions as well as major topics and issues that were noted while conducting and transcribing the interviews as described by Attride-Stirling (2001). To ensure consistency between the coding techniques of the two RAs, each RA coded the two focus groups separately and then reviewed similarities and differences between the coded results. It was determined that there was a high level of intercoder reliability and minor changes were made to the coding framework before proceeding to code the remaining interviews. The coded pieces of text were then analyzed by the PI and RAs to develop a thematic framework (Attride-Stirling, 2001).

Results

Description of the programs

The Hamilton Community Food Centre (HCFC)[1] is one of thirteen Community Food Centres across Canada funded by Community Food Centres Canada. The mission of the organization is "to grow, cook, share, and advocate for good food for all" and to "...create opportunities for community members, our partner organizations, and concerned individuals to join us in advocating for policies that reduce poverty, food insecurity, and poor health." (CFCC, 2018, para. 5). The HCFC is situated in a neighborhood that has a slightly higher proportion of immigrants, a higher proportion of residents that identify as a visible minority, and an average total household income that is $1,947 lower than the average household income for the City of Hamilton (City of Hamilton, 2019). The HCFC like other CFCs offers food programming for people of all ages, including programs that are fun and accessible community-building spaces for youth.

Kids Club is an after-school program offered at the HCFC that engages participants in cooking, gardening, and outdoor nature activities. From 2019 to 2020 the program consisted of

twenty children, two staff coordinators, and three adult volunteers. Most of the children and their families were racialized, with about half being recent immigrants from Arabic-speaking countries. Dishes to be prepared during the program by children were carefully curated by the program facilitators to be easily prepared by children in a group setting in a short amount of time and reflect a variety of cultural traditions; the food ingredients were fresh, vegetarian, mostly local and organic, and minimally processed. At the end of each session, children ate the food they had prepared together, and session facilitators, before eating, prompted children to reflect on what they were grateful for about the food they were about to eat. The program was designed to not only teach children about cooking and healthy eating but to engage them in exploring food aesthetics and its production. This was done through growing vegetables from seed and regularly visiting the Centre's vegetable garden, as well as activities that explore food origins and the sensory pleasures and cultural diversity of food and food ecology.

Cookin' Up Justice is also an experiential, hands-on program, offered in the evening from 2019 to 2020 to teens with approximately six to ten attendants on a regular weekly basis. *Cookin' Up Justice*, as indicated by the program name, is firmly rooted in Food Justice and CFL frameworks. The program also incorporates core aspects of FL, since weekly programming includes preparing a dish from scratch, which is then eaten by the group. Recipes were chosen by the HCFC facilitator based on participant interest and feedback to be cooked by the participants in the Centre's large commercial kitchen. Recipes were adjusted to meet time constraints, and the "good food principles" of Community Food Centres Canada. Program sessions were designed to make "good food" accessible to participants who may not have access in their everyday lives. Facilitators, during food preparation and eating the food afterward, used experiential learning through recipes and ingredients that prompted conversations about the food system, the environment, food justice, food culture, and ethics. Programming was intended to explore with teens the impacts of food systems and systemic food inequity, the environment, and a variety of cultural food traditions.

Interviews and focus groups: Kids club

The *Kids Club* focus group consisted of five parents, who were all mothers and had from two to three children attending the program. Four came to Canada within the past twelve years, one from Bangladesh, one from Iraq, one from Kuwait, and one from Pakistan; the fifth participant was born in Canada. Four of the five participants were, according to their responses to the six-item food security questionnaire, classified as experiencing moderate household food insecurity, and the fifth was categorized as food secure. According to interview responses from the fifteen children from the Kids Club who participated in the study, all of them attended one of two neighborhood schools, except for one who came from another area of the city. They were in grades one through five and had attended the Kids Club program for a few months to three years.

The results from the interviews with *Kids Club* participants and the parent focus group confirmed the valuable aspects of FL that were taught experientially through the *Kids Club* program. We divided findings into two thematic areas: "what they learned (new skills)" and "food-related behaviour change". Regarding what they learned, children and parents reported children acquiring new food preparation skills—most important of these from many of the children's perspectives was the ability to cut vegetables safely (using bear claw technique), as well as learning new recipes and using the oven and new cooking utensils. Children and parents also valued learning about gardening, particularly the ability to name vegetables and flowers that they had never been exposed to before, which extended to an appreciation of trying different foods and ways to prepare them. One child said: "I never knew some flowers were edible until we, I tried one." More broadly, children learned about food ecosystems including not only the plants but also the creatures (e.g., worms) that are part of the ecosystem. Not specifically connected to food, but an important part of building and sustaining food and ecosystems, were lessons about how to work cooperatively as a team. As well, many children and parents commented on how safe and included children felt at *Kids Club*. Both parents and children also observed ways the program changed food-related behaviour. Some parents noted that their children were now more enthusiastic about helping to prepare meals, even making suggestions about preparing food they had learned to make at *Kids Club*. Children were also more open to trying new foods, and one parent stated that their child asked them to give them some healthy food, like vegetables, to take to school.

Children were asked about the foods they prepared at the *Kids Club* program and which they liked or disliked. Answers varied according to individual children's tastes, but overall participants were positive about trying new foods and enjoyed preparing and eating a variety of foods from different cultural traditions, such as vegetarian sushi. In terms of dislikes, one of the points most frequently mentioned by children was the desire to prepare and eat "less healthy" food, for example, desserts with more sugar in them. Some parents also expressed their desire to be more included in the program, and they suggested that the program incorporate more traditional ethnic foods that are healthy and reflective of the group members' cultural backgrounds with the opportunity for them to contribute recipes.

Focus groups and photovoice activity: Cookin' up justice

The six focus group participants ranged in age from fifteen to seventeen years and all respondents identified with a binary gender: two women and four men. Two participants were born outside of Canada, the rest were born in Canada, and one identified as Indigenous. According to their responses to the six-item food security questionnaire, two of the six were living in food-secure households and four were living in marginally to severely food insecure households.

In the focus group discussion with teen participants, they listed learning the following skills: cutting, food and kitchen safety, dishwashing with a restaurant-style heat washer, incorporating different food items into recipes, and different cooking styles. They also reported improving social skills such as teamwork and leadership, socializing with peers, and learning to appreciate diversity as important lessons they took away from the program. *Cookin' Up Justice* uses community building and trust to make the program relatable and to increase the experiential platform of cooking and eating to explore CFL. Weekly recipes were used as vehicles for teaching and exploring food issues. In the case of the adolescent participants in *Cooking Up' Justice,* this was done through conversation to explore the concepts of food justice and systemic inequities. For example, one week the group made a vegan "cheesecake", which led to a discussion about the cost and the difficulty of making such a dessert when the ingredients are inaccessible to some people due to systemic barriers related to low-income. Focus group participants noted that they improved their awareness and knowledge of the benefits of using more organic foods and growing your own food, how foods are grown, the difference between local and imported foods, and animal versus plant-based foods.

The photovoice activity acted as a participatory research method to delve deeper into teen participants' understanding and unique views on food justice, and to provide the tools to help them understand their experiences. Multiple themes surfaced from the four photovoice participants' discussion of their photos. One main theme that arose was food affordability, or lack thereof, and how some foods are not accessible to all. For example, a photo of a Candy Cup container elicited this comment: "Why is that some food that is considered unhealthy is more accessible than what we consider healthy, like organic?" Another participant showed a photo of a meal in a "fancy" restaurant where her mom works and mentioned that not everyone could afford to eat at that restaurant. She then reflected on the fact that she herself has a part-time job at McDonald's and that more people can afford to eat out at a fast-food restaurant if they want a treat, but it's unhealthy. Related to this theme were expressions of gratitude for having enough food to be able to eat a variety of foods that provide good nutrition and can also be pleasing to the palate and the eye. One participant showed a photo of food items that had been laid for sushi prep during a session of *Cookin' Up Justice* and she remarked: "We used them, we used the food…so I took this picture because like, like we were using a lot of toppings for the sushi and I feel like, um, not a lot of people in the world can like use that many toppings…to like decorate or like you know, like freshen up your food. So, I feel like that's really important to add like more flavor to food."

She went on to say, "Like, when you think about all of the uh, all of things that you're supposed to have in a day, however much fat or sugar or like calcium or iron, you don't find all of those requirements in like one food. So being able to have access to all of those basics, yeah, privilege." This same participant pointed out how important it was for people to learn about vitamins and nutrition and felt we should have more cooking programs like those offered at the Hamilton Community Food Centre.

Others reflected on the cultural importance of food, which they pointed out is more than nutrition: “Venezuela is a Spanish country, and we usually make this one in Christmas. It’s like a traditional food and we call it pan de jamòn.” Another participant showed photos of green bins to bring up the issue of food waste. In commenting on food and the environment, she said: “I think it changes the way I think about, like all your choices that go into what you’re eating, and what you’re cooking…. How has that affected the environment, even though it’s just a small thing for you, it could have a big effect.”

In the focus group discussion teen participants expressed some of the things they wanted to change about the *Cookin’ Up Justice* program. This centred mostly on dissatisfaction with some of the food that was cooked at the program, mainly expressed by the four out of six participants who self-identified as males. Though most participants welcomed the opportunity to try cooking and eating vegan dishes, some expressed discontent with making too many vegan dishes, and wanted a balance between animal and plant-based dishes; as one participant commented, he wanted to make “homey foods,” which he felt should contain meat.

Other participants were concerned about the lack of consistent participation from week to week and the need to attract new teen participants to what they thought was a great program. This was also noted from researchers’ observations when coming to the program. There was a core group of four to five participants who attended most weeks, but many were coming in and out of the program, and the program facilitator and fellow participants never knew for sure who would show up from week to week. Focus group participants suggested advertising the program through the high schools as well as on social media to reach a larger audience of adolescents and using group chats to plan recipes and get students to commit to showing up more regularly. This latter idea was also tied to the suggestion for teen participants to be more involved in recipe planning to take on more ownership of the program.

Discussion

This study of two youth food programs serving a culturally diverse community living in households experiencing food security provides a detailed account of the successes, challenges, and opportunities in offering food programs that incorporate FL, CFL, and Food Justice frameworks. Our analysis of findings from participant observation and qualitative interviews and focus groups identified three broad themes that encapsulated the main results—integrating FL, CFL, and Food Justice, food politics into youth food programs, and the challenges and opportunities of working with an adolescent demographic.

Integrating FL, CFL, and food justice

The youth food programs at the Hamilton Community Food Centre incorporate both the practical and political aspects of FL and CFL frameworks, as recommended by Classens and Sytsma (2020). Both programs teach basic skills and knowledge about cooking, eating, and food that are the core components of FL that youth can use in their lives as they transition into adulthood. *Kids Club*, geared to a younger age group, does not incorporate the political (in the activist sense) from CFL, but its program design, which is comprised of both exploring cooking and gardening, introduces children to the "personal as political" aspects of food and eating situated in the larger ecological and environmental dimensions of food systems. In particular, the program's gardening activities enhance CFL components. Libman (2007) describes an educational gardening program offered by the Brooklyn Botanical Gardens that corresponds to what is promoted at *Kids Club* as well—agency in food choice, i.e., picking out raw foods from the garden to eat, using garden food to cook in creative ways, appreciating the hard work of growing food, and recognizing its freshness and connection to taste. The *Kids Club* program also emphasizes respect for the Earth, our bodies, and diverse cultural food preferences, reflecting critical aspects of FL that go beyond the narrow emphasis on healthy eating and "individualized prescriptions" to a recognition of our place within the social and cultural contexts of larger systems (Sumner, 2015, p. 135).

Cookin' Up Justice, created for adolescents, is designed to reflect the lived experiences of youth surviving food injustices. Rather than employing a didactic, instructor-based method of teaching, the program invites youth to discuss their experiences through the experiential act of cooking a dish together and how that can lead to a conversation about food systems and food justice. The approach and the objectives of the program align closely with the definition of CFL that incorporates food justice offered by Yamashita and Robinson (2015) as "the ability to examine one's assumptions, grapple with multiple perspectives and values that underlie the food system, understand the larger sociopolitical contexts that shape the food system, and take action toward creating just, sustainable food systems" (p. 269). The *Cookin' Up Justice* program is an example of how increasing access to high-quality food through Food Centre programming exposes systemic food inequities and may empower youth to take action towards creating more just and sustainable food systems.

Goldstein (2016), in their case study of a teen FL program offered by the Stop Community Food Centre, found that there was little evidence that teens were engaging actively with dimensions of CFL in this program, highlighting the challenge of incorporating CFL and Food Justice into more traditional FL food programs. Though we did not directly measure acquired critical food system knowledge or action among youth participants in *Cookin' Up Justice*, we did elicit teen participants' thoughtful and critical ideas about the food system and its inequities through teen participants' engagement in the photovoice activity. Whether or not these were a direct result of the *Cookin' Up Justice* cannot be proven, but it does speak to the potential for transformative learning among adolescents. Observation of the weekly program and the focus

group discussion indicated that exposure to CFL and Food Justice concepts were not explicit but rather were woven into the program in subtle ways based on the choice of food cooked each week and the way the facilitator led informal discussions. The program could consider addressing food activism and critical pedagogy in a more structured and transparent way, but it is clear from the teen participant's feedback that teens would want to have active and engaged input into program design and educational lessons rather than it being a top-down program design.

Food politics

Challenges and opportunities raised by some participants in both youth programs were the food and recipe choices used in the cooking activities. In designing the programs, the facilitators wished to communicate aspects of CFL through the choice of foods, e.g., ethically sourced, organic, local, fresh, and more plant-based food, with reduced sugar or with sugar alternatives such as maple syrup and honey. The values and preferences associated with the foods included in the programs, however, did not always match with those held by the participants. For the children in the *Kids Club* some mild dissent with the program's food choices was expressed by their desire to make baked goods or desserts with more sugar, and less "healthy" ingredients. What is considered "healthy" food is defined by national dietary guidelines that can be influenced by food industry conflicts of interest (Nestle, 2018). In addition, definitions of healthy food and food preferences are shaped by multiple identities ranging from socioeconomic class, gender, age, ethnicity, and political and philosophical perspectives (Bauman et al., 2019; Beardsworth et al., 2002; Cairns & Johnston, 2015; Cooke & Wardle, 2005; Counihan, 1999; Ristovski-Slijepcevic et al., 2008). Therefore, consideration of diversity in taste and preference among participants and facilitators must be taken into consideration during food program designs.

Diversity in conceptualizing healthy food and food ethics also intersected with gender. In the *Cookin' Up Justice* focus group there was a lively discussion among teen participants about program food choices that were specially voiced by those who identified as male. They were adamant that they wanted to cook dishes with animal-based ingredients. And though all were excited to taste and learn to cook plant-based dishes, animal-based ingredients were more familiar to their senses and palates. Food preferences and proscriptions in all societies, including Western ones, are gendered (Counihan, 1999). Though gendered food choices should not be essentialized and may be fluid, as is gender identity, gendered food choice trends can be identified. One of the salient gendered dimensions of dietary choices and preferences among people living in Western societies focuses on animal foods; these may be related to multiple gendered perspectives on food including healthy eating and nutrition, ethics, and body image (Beardsworth et al., 2002; Counihan, 1999). In keeping with the pedagogical approach of the program, discussion about the ethics of eating meat was raised by the facilitator at a weekly

session of *Cookin' Up Food* Justice. While eating a meal that did contain some dishes with meat at the session after the photovoice activity, the program facilitator invited everyone to speak about their dietary choices with regard to animal and plant foods, describing their families' food cultures and experiences with eating meat or not, and their personal dietary preferences and food ethics. This skillfully led discussion allowed everyone to explore and reflect on the issue personally as well as listen to others' perspectives, allowing for an opportunity to express diversity in an inclusive manner.

The issue of food culture and racialized identities was an important finding in this research given the composition of the *Kids Club* participants, who were predominantly newcomers from South Asia and Arabic-speaking countries. Culture is considered part of CFL but is not explicitly addressed in the literature regarding food programs—this is especially important when the program facilitators do not belong to the same cultural groups as the participants. Parents of *Kids Club* participants suggested that their children make some dishes in *Kids Club* from their own cultural food repertoires. This seemed to be part of a desire to feel more included in the program and to share their knowledge and skills with program facilitators and participants, as well as to demonstrate the nutritious elements of their traditional dishes. Community organizations with multicultural participants can facilitate and enhance social inclusion through organizational changes built into the design of the program (Forde et al., 2015). For non-profit organizations engaging in food justice through food programming, there is work to do in terms of understanding how dominant culture plays out in programs and services. This involves centering the voices of diverse and marginalized community members, staff, and volunteers through allyship. It's also key that program facilitators educate themselves on what food justice is and how systemic racism and colonial oppression are tools that continue to prevent access to good food (Slocum, 2006). This lens can inform collaborative work that enhances the importance of inclusive food practices—a continuous process of learning.

Working with adolescents

Brooks and Begley (2014) identify adolescents as a difficult group to motivate and engage. Indeed, one of our findings pertaining to *Cookin' Up Justice* was the challenge of consistently engaging adolescents in the weekly program. One of the participants who attended the program regularly was doing so as part of a co-op credit at their high school, and a few others were counting their participation in the program as part of their mandatory volunteer hours required to graduate from high school. Adolescents have many roles and responsibilities, and it is unrealistic to expect them to devote their leisure time to an educational food program. This may be even more acute in a lower-income neighbourhood, where many teens go to school full-time and hold down part-time employment. Building in school credit incentives as well as making the program relaxed and a fun social opportunity could incentivize teens to participate in greater numbers and more regularly. Obtaining secondary school credit for participation in community-based food

literacy programs was also advocated by youth participants in another Canadian teen food program called *Cook it Up!* studied by Thomas and Irwin (2013).

In terms of engagement, *Cookin' Up Justice* focus group participants suggested using social media to both advertise the program and facilitate better communication among existing participants. In a review of adolescent food literacy programs, the following innovative programming ideas to engage the adolescent target group are recommended: cooking competitions, the incorporation of learning about media in relation to food and health, and the use of technology including social media and computer programs (Brooks & Begley, 2014). Given the importance of including adolescents in food education programs, it is imperative that program facilitators continuously solicit feedback and ideas from participants in order to make the program relatable and keep them engaged.

Conclusion

FL and more recently CFL and Food Justice are recognized as important approaches to improve population health and transform our food system to make it more equitable and sustainable. Providing youth with opportunities to learn FL, CFL, and Food Justice is crucial in achieving these goals since they can provide lifelong lessons for youth who will become adults and will be cooking for themselves and potentially their families and will be instrumental in making changes to the food system. We have presented details about the innovative youth food programs that are offered at the HCFC that demonstrate the value of incorporating FL, CFL, and Food Justice into the pedagogical approaches and programming. However, incorporating both the practical and political frameworks into food programming is not without its challenges, and even the most thoughtfully designed youth food programs may run the risk of having the CFL and Food Justice elements overshadowed by more individually based and neoliberal FL objectives.

When incorporating CFL and Food Justice dimensions into food programs, another challenge we identified is the negotiation of which foods to include in the cooking activities when there are diverse actors—both facilitators and participants—with a variety of tastes, cultural traditions, and ideas about what constitutes "healthy" food. The importance of food as a part of cultural, class, and gender identity must also be foregrounded in program design and food choices, particularly when working with culturally diverse and racialized participants. Given that food is so much more than just nourishment, and reflects various cultural, socioeconomic class, political, ethical, and social identities, it's not surprising that it was raised by participants as what we have called in our analysis "food politics." Rather than seeing food politics as a challenge or barrier, however, we suggest that they can be viewed as an educational opportunity to explore diversity, anti-racism, anti-oppression, social inequities, and Food Justice. We recommend intentional program design that is rooted in CFL and food justice principles so that participants'

feedback can be thoughtfully incorporated into staff perspectives and ideas into program design changes.

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References

Amin, S. A., Panzarella, C., Lehnerd, M., Cash, S. B., Economos, C. D., & Sacheck, J. M. (2018). Identifying food literacy educational opportunities for youth. *Health Education & Behavior*, *45*(6), 918–925. https://doi.org/10.1177/1090198118775485

Angell, C., Alexander, J., & Hunt, J. A. (2015). 'Draw, write and tell': A literature review and methodological development on the 'draw and write' research method. *Journal of Early Childhood Research*, *13*(1), 17-28. https://doi.org/10.1177/1476718X14538592

Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research 1*(3), 385-405. https://doi.org/10.1177/146879410100100307

Azevedo Perry, E., Thomas, H., Samra, H. R., Edmonstone, S., Davidson, L., Faulkner, A., Petermann, L., Manafo, E., & Kirkpatrick, S. (2017). Identifying attributes of food literacy: a scoping review. *Public Health Nutrition 20*(13), 2406-2415. https://doi.org/10.1017/s1368980017001276

Bauman, S., Szabo, M., & Johnston, J. (2019). Understanding the food preferences of people of low socioeconomic status. *Journal of Consumer Culture 19*(3), 316-339. https://doi.org/10.1177/1469540517717780

Beardsworth, A., Bryman, A., Keil, T., Goode, J., Haslam, C., & Lancashire, E. (2002). Women, men, and food: the significance of gender for nutritional attitudes and choices. *British Food Journal 104*(7), 470-491. https://doi.org/10.1108/00070700210418767

Bernard, H. R., & Gravlee, C. C. (2015) *Handbook of methods in cultural anthropology*. Rowman & Littlefield Publishers.

Brooks, N., & Begley, A. (2014). Adolescent food literacy programmes: A review of the literature. *Nutrition & Dietetics 71*(3), 158-171. https://doi.org/10.1111/1747-0080.12096

Butcher, L. M., Platts, J. R., Le, N., McIntosh, M. M., Celenza, C. A., & Foulkes-Taylor, F. (2021). Can addressing food literacy across the life cycle improve the health of vulnerable populations? A case study approach. *Health Promotion Journal of Australia*, *32*(S1), 5-16. https://doi.org/10.1002/hpja.414

Cadieux, K. V., & Slocum, R. (2015). What does it mean to do food justice? *Journal of Political Ecology 22*(1), 1-26. http://digitalcommons.hamline.edu/cla_faculty/3

Cairns, K., & Johnston, J. (2015). *Food and femininity*. Bloomsbury Academic.

City of Hamilton. (2019). *Ward 8 Profile.* https://spatialsolutions.maps.arcgis.com/apps/MapSeries/index.html?appid=8a1bdb4765cd4adcba03780a42732974

Classens, M., & Sytsma, E. (2020). Student food literacy, critical food systems pedagogy, and the responsibility of postsecondary institutions. *Canadian Food Studies 7*(1), 8-19. https://doi.org/10.15353/cfs-rcea.v7i1.370

Colatruglio, S., & Slater, J. (2014). Food literacy: bridging the gap between food, nutrition, and well-being. In F. Deer, T. Falkenberg, B. McMilan, & L. Sims (Eds.), *Sustainable well-being: Concepts, issues, and educational practices* (pp. 37-55). ESWB Press.

Community Food Centres Canada (CFCC). (2018). *Community food centres Canada: Good food is just the beginning*. https://cfccanada.ca/en/About-Us/Mission-and-Vision

Cooke, L. J., & Wardle, J. (2005). Age and gender differences in children's food preferences. *British Journal of Nutrition*, *93*(5), 741-746. doi:10.1079/BJN20051389

Counihan, C. M. (1999). The anthropology of food and body: Gender, meaning, and power. Routledge.

Cullen, T., Hatch, J., Martin, W., Higgins, J. W., & Sheppard, R. (2015). Food literacy: definition and framework for action. *Canadian Journal of Dietetic Practice and Research*, *76*(3), 140-145. https://doi.org/10.3148/cjdpr-2015-010

Forde, S. D., Lee, D. S., Mills, C., & Frisby, W. (2015). Moving towards social inclusion: Manager and staff perspectives on an award winning community sport and recreation program for immigrants. *Sport Management Review*, *18*(1), 126-138. https://doi.org/10.1016/j.smr.2014.02.002

Goldstein, S. (2016). Youth and food literacy: A case study of food education at the stop community food centre. In J. Sumner (Ed.), *Food and sustainability: Sites for resistance and change* (pp. 181-200). Palgrave Macmillan US.

Horstman, M., Aldiss, S., Richardson, A., & Gibson, F. (2008). Methodological issues when using the draw and write technique with children aged 6 to 12 years. *Qualitative health research*, *18*(7), 1001-1011. https://doi.org/10.1177%2F1049732308318230

Libman, K. (2007). Growing youth growing food: How vegetable gardening influences young people's food consciousness and eating habits. *Environmental Education and Communication 6*(1), 87-95. https://doi.org/10.1080/15330150701319388

Nestle, M. (2018). Perspective: Challenges and controversial issues in the dietary guidelines for Americans, 1980–2015. *Advances in Nutrition 9*(2), 148–150. https://doi.org/10.1093/advances/nmx022

Power, E. M. (2003). De-centering the text: exploring the potential for visual methods in the sociology of food. *Journal for the Study of Food and Society*, *6*(2), 9-20. https://doi.org/10.2752/152897903786769670

Ristovski-Slijepcevic, S., Chapman, G. E., & Beagan, B. L. (2008). Engaging with healthy eating discourse(s): Ways of knowing about food and health in three ethnocultural groups in Canada. *Appetite*, *50*(1), 167-178. https://doi.org/10.1016/j.appet.2007.07.001

Ruiz, L. D., Radtke, M. D., & Scherr, R. E. (2021). Development and pilot testing of a food literacy curriculum for high school-aged adolescents. *Nutrients*, *13*(5), 1532. https://doi.org/10.3390/nu13051532

Slater, J., Falkenberg, T., Rutherford, J., & Colatruglio, S. (2018). Food literacy competencies: A conceptual framework for youth transitioning to adulthood. *International Journal of Consumer Studies 42*(5), 547-556. https://doi.org/10.1111/ijcs.12471

Sumner, J. (2015). Reading the world: Food literacy and the potential for food system transformation. *Studies in the Education of Adults 47*(2), 128-141. https://doi.org/10.1080/02660830.2015.11661680

Thomas, H. M. C., & Irwin, J. D. (2011). Cook it up! A community-based cooking program for at-risk youth: Overview of a food literacy intervention. *BMC Research Notes 4*(495), 1-7. https://doi.org/10.1186/1756-0500-4-495

Thomas, H. M. C., & Irwin, J. D. (2013). Using photovoice with at-risk youth: In a community-based cooking program. *Canadian Journal of Dietetic Practice and Research*, *74*(1), 14-20. https://doi.org/10.3148/74.1.2013.14

Truman, E., Lane, D., & Elliott, C. (2017a). Defining food literacy: A scoping review. *Appetite 116*(1), 365-371. https://doi.org/10.1016/j.appet.2017.05.007

Truman, E., Raine, K., Mrklas, K., Prowse, R., Carruthers, R., Watson-Jarvis, K., Loewen, J., Gorham, M., Ricciardi, C., Tyminski, S., & Elliott, C. (2017b). Promoting children's

health: Toward a consensus statement on food literacy. *Canadian Journal of Public Health 108*(2), e211-e213. https://doi.org/10.17269/CJPH.108.5909

Truman, E., & Elliott, C. (2019). Barriers to food literacy: A conceptual model to explore factors inhibiting proficiency. *Journal of Nutrition Education Behavior 51*(1), 107-111. https://doi.org/10.1016/j.jneb.2018.08.008

US Department of Agriculture (USDA). (2020). *Six-Item Short Form of the Food Security Survey Module.* Survey Tools. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools/#six.

Vaitkeviciute, R., Ball, L. E., & Harris, N. (2014). The relationship between food literacy and dietary intake in adolescents: a systematic review. *Public Health Nutrition 18*(4), 649-658. https://doi.org/10.1017/s1368980014000962

Vidgen, H. A., & Gallegos, D. (2012). Defining food literacy, its components, development, and relationship to food intake: A case study of young people and disadvantage. Queensland University of Technology. https://eprints.qut.edu.au/216311/1/Food_literacy_and_young_people_report.pdf

Vidgen, H. A. & Gallegos, D. (2014). Defining food literacy and its components. *Appetite 76*(1), 50-59. https://doi.org/10.1016/j.appet.2014.01.010

Walters, L. M., & Stacey, J. E. (2009). Focus on food: Development of the cooking with kids experiential nutrition education curriculum. *Journal of Nutrition Education Behavior 41*(5), 371-373. https://doi.org/10.1016/j.jneb.2009.01.004

Yamashita, L., & Robinson, D. (2015). Making visible the people who feed us: Educating for critical food literacy through multicultural texts. *Journal of Agriculture, Food Systems, and Community Development 6*(2), 269-281. https://doi.org/10.5304/jafscd.2016.062.011

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Book Review

Diners, Dudes, and Diets: How Gender and Power Collide in Food Media and Culture

By Emily J. H. Contois
The University of North Carolina Press, 2020, 208 pages.

Reviewed by Janie Perron

À une ère où les études sur le genre abondent, plusieurs recherches en communication alimentaire sont fondées sur l'idée que la nourriture est révélatrice des stéréotypes de genre et de la distribution du pouvoir en société. Emily Contois, professeure adjointe en études sur les médias à l'Université de Tulsa, a produit un ouvrage à ce sujet qui pourrait plaire aux personnes intéressées à la recherche en communication ou au marketing dans une perspective critique, mais surtout aux spécialistes de la recherche en études culturelles sur l'alimentation. L'ouvrage *Diners, Dudes and Diets* offre à ces chercheuses et chercheurs une occasion d'approfondir leur compréhension du caractère genré de l'alimentation dans le contexte historique états-unien.

Dans son ouvrage, Contois veut illustrer la manière dont le genre est construit par le biais de simples objets de consommation comme les aliments. La chercheuse défend l'idée qu'afin d'accroître la vente de leurs produits, les industries contribuent à la construction des binarités entre les genres. Dans le livre, il est question de l'utilisation d'un personnage masculin qui permettrait de rejoindre les hommes dans le contexte du 21e siècle : celui du « *dude* ».

Le livre est divisé en quatre chapitres : le chapitre 1 explique les caractéristiques des aliments associés aux *dudes* et la façon dont les livres de cuisine masculins contemporains s'adressent aux hommes. Le chapitre 2, pour sa part, analyse le personnage controversé d'un chef cuisinier très populaire aux États-Unis qui incarne la figure du *dude* : Guy Fieri. Puis, le chapitre 3 expose la manière dont les marques masculinisent les produits comme les boissons gazeuses à zéro calorie et les yogourts, la consommation de ces aliments étant normalement associée aux femmes. Enfin, le chapitre 4 montre comment les programmes de perte de poids comme Weight Watchers réussissent à rejoindre les hommes malgré le stéréotype selon lequel les vrais hommes ne font pas de diètes (Contois, 2020, p. 89). Tout au long de l'ouvrage, l'autrice tient compte du

*Corresponding author: JAPER86@ulaval.ca
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contexte historique dans lequel le personnage du *dude* s'est construit. À la suite de la Grande Récession survenue en 2008, plusieurs hommes ont perdu leur emploi, ce qui les a obligés à consacrer plus de temps à leurs tâches domestiques et parentales, des obligations qui, autrefois, n'incombaient qu'aux femmes (Contois, 2020, p. 18 et p. 49). Ce contexte a poussé les hommes à renégocier leur masculinité et à revoir leur propre définition du genre masculin (p. 52). En abordant la période de la Grande Récession, l'autrice veut montrer comment le contexte socioéconomique a favorisé la formation de nouvelles normes de genre, et plus précisément de celles reliées à l'alimentation. L'image du *dude* offre une réponse au caractère instable des caractéristiques contemporaines du genre masculin. Sa popularisation par les agences de publicité comme une figure masculine qui assume des responsabilités traditionnellement associées aux femmes a permis de vendre aux hommes des produits qui, habituellement, étaient perçus comme féminins.

Le personnage du *dude* renforce à la fois des aspects de la masculinité hégémonique tout en en rejetant d'autres (Contois, 2020, p. 78). L'autrice donne en exemple les fabricants de yogourts qui, lorsqu'ils s'adressent aux hommes, mettent l'accent sur des propriétés alimentaires associées au genre masculin (p. 77). Elle note aussi que dans leurs messages publicitaires, les marques « emphasize […] slacker, boyish qualities alongside some of the dude's allegiance to aspects of hegemonic masculinity » (p. 78). Contois explique cet aspect relâché du *dude* par le contexte de la Grande Récession. En effet, puisqu'il est plus difficile pour les hommes de trouver un emploi durant cette période, la figure du *dude* leur permet de retarder l'arrivée à l'âge adulte et de résister à la réussite professionnelle liée à la masculinité hégémonique (p. 7). Le *dude* incarne tout de même certaines caractéristiques masculines conventionnelles : il est blanc, hétérosexuel, cisgenre et appartient à la classe moyenne, ce qui lui permet de conserver son pouvoir et son statut hiérarchique dans la société occidentale.

Contois se réjouit du fait que, de nos jours, plusieurs marques adoptent la neutralité de genre dans leurs stratégies publicitaires ou l'inclusion, ce qui pourrait favoriser une distribution plus équitable du pouvoir entre les genres. Elle ne s'interroge toutefois pas sur le fait qu'une approche inclusive puisse constituer tout autant une entreprise opportuniste de développement de marché que celle du *dude*. Pour l'autrice, le passage à des approches publicitaires post-genre est devenu une nécessité. Contois est d'avis que les marques peuvent renforcer des identités trop conventionnelles et même régressives pour les personnes, d'où l'importance que les compagnies rejettent les stéréotypes dans leurs annonces publicitaires (2020, p. 126).

L'intérêt de l'ouvrage réside dans la décision de l'autrice d'analyser le personnage du *dude* dans son contexte historique en le comparant à d'autres figures masculines qui ont émergé au fil du temps. L'argumentation de l'autrice entourant les caractéristiques du *dude* est solide : en plus de l'exemple de Fieri, Contois explore d'autres représentations stéréotypées du *dude*, notamment celles présentes dans les livres de cuisine pour homme. Ces ouvrages reprennent certains aspects de la masculinité hégémonique (ex. : « *Cook like a man* » [p. 33]) tout en encourageant la résistance aux stéréotypes de genre (ex. : les hommes cuisinent eux aussi). Il en ressort une contribution originale dans le domaine de la communication alimentaire qui nous permet de mieux réfléchir à la manière dont les industries alimentaires récupèrent les transformations des normes

de genre pour conquérir de nouveaux publics. Conformément au souhait de la chercheuse, ce type d'étude sur les représentations médiatiques des aliments donne lieu à une remise en question du système patriarcal qui nous nuit à différents degrés (Contois, 2020, p. 17).

Comme le souligne elle-même l'autrice, l'ouvrage est loin de relever chaque exemple de produits alimentaires genrés. L'analyse d'autres aliments, voire de produits de consommation non comestibles, aurait pu contribuer à une meilleure compréhension de la façon dont les caractéristiques du personnage du *dude* sont mises en scène par les marques. Quoi qu'il en soit, l'objectif de l'autrice n'était pas d'arriver à une exemplification exhaustive de tous les produits genrés, mais plutôt de réfléchir à la manière dont les médias et l'industrie alimentaire utilisent les binarités au profit de leur viabilité économique, ce que Contois réussit avec brio.

Janie Perron est une étudiante au Département d'information et de communication de l'Université Laval. Elle est en deuxième année d'études à la maîtrise en communication publique avec mémoire. Son champ d'intérêt s'articule autour de la communication numérique aux femmes et par les femmes en matière d'alimentation. L'étudiante est membre du Centre NUTRISS – Nutrition, Santé et Société (entité membre de l'Institut sur la nutrition et les aliments fonctionnels).
C'est notamment une bourse du Centre NUTRISS qui a permis la rédaction de cette recension.

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Book Review

Facing catastrophe? Food politics and the ecological crisis

By Carl Boggs
Political Animal Press, 2020: 309 pages

Review by Amanda Shankland

Carl Boggs is a social science and film studies professor at the National University in Los Angeles. He has written several books on social theory, American politics and military policy. In his most recent work, *Facing Catastrophe*, Boggs takes aim at the environmental movement and calls for radical reform. The author argues that political change matching the extent of the ecological problems we face is urgently needed, and that "there can be no routine, painless 'greening' of a neo-liberal world order rooted in the incessant accumulation of wealth, power, and geopolitical advantage, and protected by the largest military apparatus in history (Boggs, 2020, p. xvii)." The book makes suggestions for reform that include redirecting military funds toward the environment, reducing the number of people living in cities, and transitioning to plant-based diets across the world.

Boggs faults environmental scholars, including Barry Commoner, Murray Bookchin, Joel Kovel, George Sessions, Bill McKibbin, Al Gore, and Naomi Klein, for being indifferent to the relationship of food and ecology, and their lack of attention to what he calls the "McDonalized society" (p. 20). Focused on the industrial meat complex, the book brings awareness of environmental concerns to a popular audience. A health case for meat-free diets is argued, focusing mainly on over-consumption of meat in the context of corporate America. Citing Colin Campbell (2005), Boggs explains that an increase in meat consumption by people in China led to a serious deterioration in the health of those researched.

Even though this book is directed toward a popular audience, it is problematic from my perspective as a food politics scholar. Boggs shows little awareness of the complexity of the *agri-food* system and the ways in which food impacts environments. Even though he is correct in pointing out the problematic nature of our corporate food complex, he places the blame squarely on meat. He agrees with Howard Lyman that "You can't be an environmentalist and eat animal

*Corresponding author: amandashankland11@gmail.com
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products, period" (p. 20). Boggs vilifies some of the most prominent agro-ecologists for their support of sustainable animal production. He targets Arne Naess's deep ecology for its defense of animals as food, "Naess argues that humans should be allowed to intervene in nature to satisfy vital needs, appearing more like a sympathizer of corporate power in a fast-food culture than principled defender of biospherical equality" (p. 218). From his perspective, the consumption of animals in any form is an assault on nature.

Boggs associates meat consumption with an ethos of human domination and destruction of nature; however, Boggs does not address the role of regenerative agriculture in sustaining arable land, nor does he discuss the use of animals to help foster regeneration. The book focuses on what animals consume but makes no mention of what they bring to the land in terms of a diversified ecology and retention of soil carbon. A lack of integrated and complex ecologies is a major problem. Removing animals from the land, which produce manure and help regenerate soil, has increased the reliance on synthetic fertilizers. In the book *Defending Beefm* Hahn Niman (2014) explains how natural cattle grazing adds manure and organic matter to the soil and encourages plants that help draw down carbon. There is a growing wealth of evidence to support her conclusion that, when done sustainably, grasslands can sequester significant amounts of carbon (Stanley et al., 2018; Rodgers & Wolf, 2020). Equally problematic, Boggs fails to recognize that removing livestock from developing countries would have devastating consequences for subsistence farmers, particularly women farmers. The cows, pigs, sheep, goats, and chickens that families keep on their farms provide some of the only substantial sources of protein and help farmers hedge against the impacts of drought and other climate related disasters by providing crucial dietary needs in times of crisis (Headey, 2018). Animals provide ecological benefits when reared sustainably and ensure that children do not grow up malnourished.

Boggs appears to have only a seminary knowledge of the thinkers he critiques, particularly his analysis of Murray Bookchin. Boggs contends that the non-hierarchal forms of cooperation and governance that Bookchin imagined are an impossible fantasy. He labels Bookchin's social ecology as utopian, and calls Bookchin's well developed theories of libertarian municipalism, "laughable" (p. 216). Boggs spends most of the book condemning speciesism and all hierarchies related to the domination of animals; however, he thinks Bookchin's rejection of hierarchal forms of organization, including in government, "suffers from a disabling utopianism" (p. 216). If domination is the root of the problem, then why is that not the case with regard to human social organization? From my perspective, Bookchin's vision of social ecology and the elimination of hierarchal governance models is indispensable in the battle to create equitable outcomes in the ecology movement.

Criticizing the environmental climate of the 1960's, Boggs writes, "Given its famous anti-authoritarianism, the American new left fetishized democratic localism inherited in part from anarchism, assimilating both its strengths and weaknesses" (p. 220). He claims these movements were weak and gained little "organizational and ideological durability" (p. 220). These statements undermine advances that took place during the period, and the legacy of

environmental action that stood in its wake. Further, the so-called *left* recognized the real danger of an environmental movement that did not confront authoritarian tendencies. The threat of ecological authoritarianism is discussed in great detail in the works of writers like Bookchin. This danger is more present today than at any time in history. Social equity and justice are critical to a responsible ecological movement. The solutions that Boggs presents seem paradoxically bottom-down. He believes that liberal democracy has exhausted its capacity to deal with the climate crisis and suggests that a Hobbesian-style sovereign may be the only viable solution (p. 272). The author's lack of confidence in the public's capacity to create change, his blanket denial of meat as a viable food choice, and his Malthusian condemnations of over-population offer a prescription for authoritarian-style solutions.

Facing Crisis may appeal to a popular audience and provides some valuable critiques of the current ecological crisis and the role of agriculture in that crisis. However, the discussion of agriculture focuses on domesticated animals and meat consumption as the primary concerns, ignoring other systemic factors that contribute to the current crisis. Boggs also refers to people on the left as if they were a unified force in the ecological movement, "as liberals and progressives continue to be mired in multiculturalism and identity politics, the ruling interests are perfectly happy to further consolidate their boundless wealth and power" (p. 65). In truth, there is a great diversity of opinion within so-called liberal or progressive environmental literature. For this reason, the book is somewhat reductionist and polarizing, which limits its value in terms of educating students about the environmental crises we face as a society.

Amanda Shankland is a PhD Candidate in the Department of Political Science at Carleton University. Her dissertation work looks at water governance in agricultural communities in rural New South Wales, Australia. Her areas of research expertise include social ecology, agroecology, food security, climate change, water management and rural development. She is currently a contract professor in the Department of Political Studies at the University of Ottawa.

References

Campbell. T. C. (2005). *The China study: the most comprehensive study of nutrition ever conducted and the startling implications for diet, weight loss, and long-term health*. BenBella: Books.

Niman, N. H. (2014*). Defending beef: The ecological and nutritional case for meat, 2nd Edition*. Chelsea Green Publishing.

Heady, D. (2018). Animal-sourced foods are vital to combatting malnutrition and stunting in the developing world [International Food Policy Research Institute]. https://www.ifpri.org/blog/animal-sourced-foods-are-vital-combating-malnutrition-and-stunting-developing-world

Rodgers, D., & Wolf, R. (2020). *Sacred cow: The case for (better) meat: Why well-raised meat is good for you and good for the planet*. BenBella Books.

Stanley, P., Rowntree, J., Beede, D., DeLonge, M., & Hamm, M. (2018). Impacts of soil carbon sequestration on life cycle greenhouse gas emissions in Midwestern USA beef finishing systems. *Agricultural Systems*, *162*, 249-258. https://doi.org/10.1016/j.agsy.2018.02.003.

Soussana, J. F., Tallec, T., & Blanfort, V. (2010). Mitigating the greenhouse gas balance of ruminant production systems through carbon sequestration in grasslands. *Animal, 4*(3), 334-350. http://doi.org/10.1017/S1751731109990784.

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