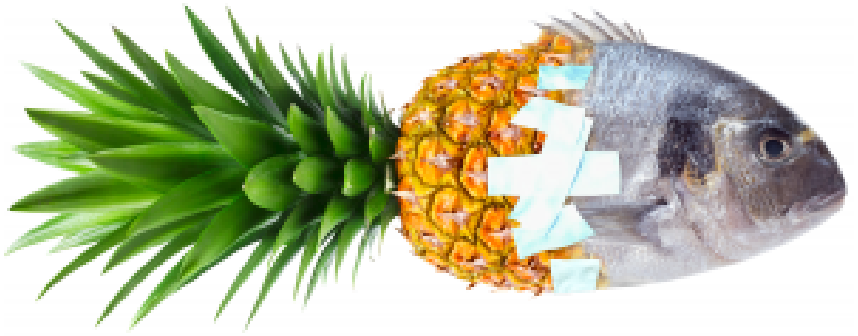
Food Studies: Matter, Meaning, Movement

FOOD STUDIES

Matter, Meaning, Movement



Edited by David Szanto, Amanda Di Battista, and Irena Knezevic

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INTRODUCTION

What is food? A thing we eat, a creator of cultures, an all-encompassing system? An object, a process, a way of understanding ourselves? A focus of transdisciplinary practice and study? A subject through which to altogether reimagine *'study'* and *'practice'*?

This book aims to help students address these and other questions, providing perspectives and insights about numerous themes, while also opening up possibilities for ongoing exploration. It is also intended as a pedagogical tool with which to probe and transcend disciplinary boundaries, so that the stuff and significance of food itself might become starting points for learning and conducting research.

In developing this book, we began with the fundamental assumption that food and food systems are *lively, intersubjective, and complex.* This means that they change in time, resisting universal definitions and explanations. It also means that, even as we study food, it changes us and our perceptions of it. And, finally, as dynamic and adaptive assemblages, food systems need to be understood through pluralistic means. While positivism, science, and causality are useful frameworks for some aspects of food studies, so are poetry, wonder, affect, and un-knowing.

The three Ms of our subtitle—matter, meaning, movement—are our way of underscoring the pluralistic nature of food. Food is stuff that we eat, but it is equally stuff that we use to symbolize other parts of human existence, as well as stuff that we load with discourse and ideas. Moreover, as evidenced by the ways in which we transport edible things around the globe, process and

transform them, and insert them into contexts from finance to fashion, food *moves*.

Even as we parse these elements of food, however, they remain intractably connected. Food is whole, always already entangled. Any examination of food's materiality raises questions about how it is meaningful. Tracing the movements of food—whether conceptually or concretely—implicates its ingredients, its packaging, and its waste. Food, divided, ceases to be food; by its nature, food resists being reduced to distinct variables.

As you use this book, perhaps a transformed sense of food, food culture, and food systems will emerge—along with a new sense of your own place and role within them. Perhaps a particular method or practice from one of the chapters will resonate with a poem or illustration, helping to illuminate a scrap of theory you have struggled to apprehend. Perhaps a perception of how agriculture and economics and identity are linked will start to form in your consciousness, motivating you to take part in activism or art-making. Perhaps you will be inspired to draft a contribution to the second, third, or multi-volume edition of this book, and you will become a future editor of *Food Studies*, or a teacher of new learners. And then, together, perhaps we will all acquire an understanding of food that becomes, over time, as lively, intersubjective, and complex as this wonderful subject itself.

HOW TO USE THIS BOOK

In putting out the call for submissions to this book, we prompted our contributors to think about the distinctions and interconnections among food matter, food meaning, and food movement. They responded to this prompt, and each chapter both highlights how these different elements are also inseparable. Some texts may foreground the symbolic, traditional importance of, say, Green Bean Casserole, while others demonstrate how fermentation can transform not just molecules but also the cultural and economic significance of a given food stuff.

We encourage you to note for yourself what elements come forward as you read and listen and look. Does a chapter about backyard chicken polices make you think about municipal governments, the architecture of hen houses, or maintaining neighbourly relationships? Do the sounds of Cuban ice cream street vendors make your mouth water? Do they raise questions about the history of sugar production? Do they make you want to travel?

We also asked our contributors to format their chapters in one of three ways: as a Case, a Creative, or a Perspective. Cases look at more ground-level examples of food system contexts, from food in the Polynesian country of Sāmoa to the practices of artisan cheesemakers in Vermont to the communications challenges facing migrant farm workers in Canada. Creatives come at food from more oblique angles, visualizing the sense of closeness one can have with pollinators, or using poetry to shout, cry, and laugh about food's emotional impacts. Perspectives pull the reader up to a broader view of things, sometimes of the invisible but pow-

erful effects of financialization, sometimes of how eating and identity can produce both a sense of belonging *and* problematic effects of isolation and othering.

Overall, the book is organized within a loose, thematic evolution. We start with subjects that are close to everyone's personal experience: food-making, the self, and the intimate meanings that food conveys. Subsequent chapters flow into questions about the relationships among humans, other living things, and the places and issues that food production and consumption implicate. Toward the latter part of the book, more challenging themes are presented, including the morals and ethics of meat, the complexities of financialization and law, and the intersecting futures of digital technology, people, and food. As much as we could, we created a certain logic in the transitions from one chapter to another—whether creative or more concrete—so as to help readers identify or build connections among them.

This structuring, however, is just one way to use *Food Studies*. As it is a digital publication, readers are encouraged to curate their own selections of chapters, and to jump from one theme to another. To this end, the Zotero-based search and filtering application on our website can help find the most pertinent entries for a given discussion or assignment.

Abbreviated chapter titles summarize the main focus of each, noting also the format (Case, Creative, or Perspective) that the chapter takes. The authors' own, more expansive titles then follow, deepening the framing they have used. Author biographies also appear at the top of each chapter, intentionally positioning themselves and their text, all in support of critical reading. Learning objectives follow, guiding students and teachers to attend to key elements of the text, whether more factual or more synthetic. (Creatives do not include learning objectives, largely to enable more subjective and open-ended reading of what follows.

We encourage teachers to use these chapters in both guided and unguided ways, and to propose to students ways they can think about what these pieces suggest.)

Most chapters include one or more highlighted glossary terms; clicking on a link will bring up our interpretation of that term, which is sometimes more generalized and sometimes more specific to food or to the chapter's content. It should be noted that these terms are neither definitive nor exhaustive; as with much knowledge related to food, word meanings are pluralistic. Many terms also cross chapters and show connectivity among themes.

Overall, we have attempted to keep references and citations to a minimum, both to support an accessible, generalized reading experience and to help readers grasp key aspects of the text without extensive distraction. Bibliographies and additional resources are nonetheless included, to give teachers and learners prompts for further exploration. Similarly, discussion questions and exercises follow most chapters, enabling the text to serve as a jumping off point for a broader classroom exploration, debate, and customization.

The Website

Our public-facing website, FoodStudiesTexbook.online, includes a Zotero-based search page, which is a helpful way to find pertinent chapters. (Much thanks to University of Ottawa School of Information Studies master student, Swati Sood, for developing the Zotero library.)

Searching for keywords will return all chapters tagged with that term. It also provides a useful way of seeing which chapters address similar themes, such as power, taste, agriculture, or emotionality. (The entire text of every chapter is also searchable within the HTML version of the book, using the Search bar in the upper-right corner.)

The website also offers links to the EPUB and PDF versions of the book, which can be downloaded and used in an offline context. The web-based version offers the most dynamic reading experience, but it also requires internet access, which we recognize is not universally available and accessible.

Food Studies is also available as a print-on-demand textbook, and copies can be purchased from Ingram Spark. While there is a price associated with printed copies, it is solely to cover the production cost; no profit is returned to the publishers, editors, or authors. Please contact us for more details.

What to do if you find an issue/typo/problem

As is increasingly standard for high-quality, openly accessible educational resources (and as required by our funding agreement), *Food Studies* is machine-readable and compliant with the Accessibility for Ontarians with Disabilities Act of 2005. All content is designed based on current Universal Design Standards, including alt-text for all graphics and proper text-to-background colour ratio.

If, however, you find an issue related to accessibility, or other content that is either in error or problematic in your view, we encourage you to get in touch with us to report the problem. This can also include such minor issues as typos, formatting problems, or broken links. While the book has been extensively reviewed and proofread, mistakes always happen!

SUBMISSIONS AND REVIEW

How did we solicit submissions?

In December 2020, we distributed a Call for Expressions of Interest (with guidelines and formatting prompts) to a wide range of scholarly association newsletters, listservs, and Facebook groups. Proposals came in from a broad range of food scholars and practitioners, ranging across North America, Europe and the U.K., Asia, and Oceania. Each was reviewed and discussed by the editors before providing feedback about possible ways to refine and structure an eventual contribution. Eventually, approximately 80 texts in all were received; 60 are included in this, the first edition of *Food Studies*.

How did we review and edit submissions?

Our editorial and peer review process aimed at creating chapters that would be both complementary to one another and accessible for our readers. All three editors provided initial feedback that was synthesized for each author in advance of the peer review. Following the principles of open publishing, the peer review process was also open—both authors and reviewers knew each other's identity, allowing both the text and the review to be interpreted through the lens of the author's/reviewer's positionality. While we used careful editor judgement in choosing reviewers for each text, we also asked reviewers to determine and declare whether any potential conflict might arise in conducting a review. As the reach of open publishing grows wider, we hope that this process can contribute both awareness of and appreci-

ation for an alternative to more conventional, anonymized peer review experiences.

Our sincere thanks go out to the large and generous community of reviewers who participated in this project: Peter Andrée, Patricia Ballamingie, Linda Booij, Anna Brisco, Kelly Bronson, Jillian Cavanaugh, Michael Classens, Logan Cochrane, Nathalie Cooke, Gillian Crowther, Jonathan Deutsch, Myriam Durocher, Lesley Frank, Shawna Holmes, Kathleen Irwin, Ryan Isakson, Ryan Katz-Rosene, Ali Kenefick, Anke Klitzing, Jordan LeBel, Charles Levkoe, Kristen Lowitt, Meghan Lynch, Janet McLaughlin, Catherine Mah, Tabitha Robin, Mary Anne Martin, Sarah Martin, Wanda Martin, Rod MacRae, Alexia Moyer, Erin Nelson, Elizabeth Neswald, Lenore Newman, Andrea Elena Noriega, Alissa Overend, Elaine Power, Cecilia Rocha, Caitlin Scott, Christian Scott, Rebecca Schiff, Yukari Seko, Laura Shine, Tammara Soma, Jennifer Sumner, Jennifer Whitaker, Ted Whittall, and Laine Young.

Following review, each piece was both edited and copyedited for clarity, meaning, and a degree of cross-volume consistency. Our pedagogical editor, Amanda Di Battista, worked diligently to refine learning outcomes, discussion questions, and exercises, and to create a glossary in which the descriptions of terms remain open and contextually meaningful, while neither definitive nor encyclopedic.

The Communication and Media Studies program at Carleton University provided seed funding for the Food and Media Hub initiative, where this book was initially conceived. Throughout the development process, we also received ongoing administrative support and instructional design advice from the mighty team at Carleton University's Teaching and Learning Services (TLS).

Sincere thanks to Valerie Critchley, Andrea Gorra, David Hornsby, Jaymie Koroluk, Patrick Lyons, Laura Ravelo Fuentes, Mathew Schatkowsky, and Dragana Polovina-Vukovic for their guidance and cheerleading.

In addition to the Creative chapters that were formally submitted, David Szanto also worked with a University of Ottawa fine arts student, Annika Walsh, to produce documentation of a number of her food-related artworks. As part of a directed-study internship during the Fall of 2021, Annika read through the chapters-in-progress and drew out themes and subjects that related to her own work. A variety of these pieces are included throughout *Food Studies,* building on the three Ms of matter, meaning, and movement.

Finally, as a check of both content and structure, the entire book was reviewed for readability and relevance by undergraduate students at Carleton University and the University of Ottawa. We are grateful for the feedback and insights of Rose Bélanger, Claire Chapman, Yi Shan Duan, Grace Ingraham, Hermine Landry, Lalla Maiga, Audréanne Minnis, Lahari Nanda, Tze Han (Ryan) Ooi, Clara Stéphenne, Jessica Swizaski, and Annika Walsh.

ADOPTING THIS BOOK

While this book is targeted at early undergraduate learners in introductory food studies courses, some chapters will also be relevant in upper-year classrooms and other post-secondary learning environments. As time goes on, we anticipate adding chapters to complement the current selection, expanding the book's relevance and reach within the many spheres that comprise food.

Whether you use one or several chapters in your course or studies, we ask you to formally register your use of the book using our adoption form. This helps in several ways. First, it will allow us to stay in contact with you, if new or revised editions of *Food Studies* are released. In the same way, you can maintain contact with us, to provide feedback on how the book is working for you, or to identify errors or omissions that need to be corrected in future editions. And, of course, knowing how many people are using the book—and where and in what contexts—is important feedback for us. It will help us keep making changes that address real needs, while also supporting future efforts to expand or evolve the project more broadly.

Eventually, we hope to build on this collection with future calls for contributions centred on Indigenous foodways, global/localization, critical theory, social ecology, agroecology, queer and feminist theory, and many other themes. While our contributors covered a wide range of terms—some suggested and some solicited—the range of food studies is always growing. We will be delighted if this volume spawns (potentially multi-lingual) future editions, remixes, and/or sub-volumes.

To that end, *Food Studies* is published under a Creative Commons CC BY-NC-SA license. With some exceptions noted in text (related to artistic material), the content in this book may be reused, remixed, repurposed, and maintained at will, provided that no commercial derivatives are created and that all future editions also carry the "share-alike" (-SA) license. Any republication of the content, however, must follow Creative Commons terms.

ACCESSIBILITY STATEMENT

In accordance with Carleton University, University of Ottawa, eCampusOntario, and the Accessibility for Ontarians with Disabilities Act (AODA), we have aimed to make this textbook accessible and available to everyone. To that end, *Food Studies* was audited for accessibility by a team from the Carleton University Teaching and Learning Services unit. Their report served as the basis for a number of refinements and corrections.

Accessibility features of the web version for this resource

The web version of *Food Studies* was designed with accessibility in mind. It has been optimized for people who use screen-reader technology, and all content can be navigated using a keyboard. To the best of our ability, and within the parameters of the Pressbooks publishing platform, links, headings, tables, and images have been designed to work with screen readers.

Other file formats available

In addition to the web version, this book is available in a number of file formats, including PDF, EPUB (for eReaders), HTML, and various editable files. You can also purchase print-on-demand copies from Ingram Spark. Please contact us for more details.

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Please include the following information:

- The location of the problem by providing a web address or page description
- A description of the problem
- The computer, software, browser, and any assistive technology you are using that can help us diagnose and solve your issue (e.g., Windows 10, Google Chrome (Version 65.0.3325.181), NVDA screen reader)

ABOUT THE EDITORS

David Szanto is a freelance academic working across a number of institutions and within several roles. He has taught food studies, gastronomy, and communications at universities in Australia, Canada, and Italy, in both undergraduate and graduate programs. A former book editor and marketing-communications professional, he has 15 years of experience in the corporate, media, and non-profit sectors. In addition to teaching, David works as a project manager, writer, and editor, and has extensive online and digital development experience. He served as Project Manager and Co-Editor of *Food Studies*, and is also the co-editor of the OER *Showing Theory to Know Theory: Understanding social sciences concepts through illustrative vignettes.*

Amanda Di Battista is the Project Coordinator at the Laurier Centre for Sustainable Food Systems and Director of Programs, Education, and Communications for the UNESCO Chair on Food, Biodiversity and Sustainability Studies, where she co-produces and hosts the food research podcast, *Handpicked: Stories from the Field*. She coedited *Sustainable Food System Assessment: Lessons from Global Practice* (Routledge 2020) and *The Goose: A Journal of Arts, Environment and Culture in Canada* (2016–2020). Amanda's research focuses on postsecondary environmental pedagogy and she has taught environmental studies at the undergraduate level. She served as Pedagogic Editor and Co-Editor of *Food Studies*.

Irena Knezevic is an associate professor in Communication and Media Studies at Carleton University in Ottawa, Canada, where she oversees the Food and Media Hub research initiative. She

is the lead editor of *Nourishing Communities: From Fractured Food Systems to Transformative Pathways* (Springer 2017) and her work has appeared in journals of food, cultural, and communication studies, health research, and political ecology. Irena has taught food studies at college, university, and postgraduate levels, in communication studies, cultural studies, community development, and nutrition programs. She served as Co-Editor of *Food Studies*.

ALI KENEFICK

A FEAST FOR THE EYES

Ali Kenefick *is a PhD candidate at Concordia University, where she examines the ways in which design tangles with modern meat consumption and interrogates the making of the industrial animal-agricultural complex. Drawing on a feminist design and research-creation approach, her work aims to reconcile the inherently divisive and oppressive assemblages that characterize meat production/consumption. Overall, Ali's focus is to expose these complicated relationships and divisions of power, while exploring opportunities for more equitable multispecies coexistence.*

ARTIST'S STATEMENT

In style, media, and theme, my work always concerns itself with complexity, layers, and entanglements. I am endlessly fascinated by the literal and figurative worlds hidden and distorted by our dominant reality: the political issues glossed over by attractive faces, words, and pictures; the subterranean mycorrhizal network of fungi; the spaces between the lines, the narratives behind the advertising, the bones under the skin; and so on. Therefore, as an artist/designer and food scholar, I become particularly excited by the politics, problems, and paradoxes attached to food, which are swept aside or simplified in favour of the status quo. These are often contentious and controversial issues, and they are often disguised or tucked away to avoid causing distress, disgust, or arousing suspicion among the public. In this way, the otherwise fascinating complexities of these issues—and the materials and entities tethered to them—are reduced into neat categories and tidy answers. Domesticated and tame, their rough edges are sanded down to reduce visibility and to avoid interrogation. I look upon these rough edges as potentials for generating friction in my work, that when exposed or rubbed against, they are capable of creating inquiry, intrigue, discomfort, concern, and curiosity.

I'm particularly attracted to the layers and narratives hidden under the outwardly simple and quotidian experience of buying and consuming food, and I encourage people, through my work, to scrutinize what they're eating. I want them to recognize the cracks in the veneer of everyday life and rub them against its contentious and controversial issues. In this way, they might see food differently. I want my audiences to be reminded that food is heavy with meaning, impossibly tangled with knots of humans, plants, other animals, minerals and water, and stitched tightly to our social and cultural histories across space and time.

I am most comfortable as an illustrator and graphic designer; my work is therefore always two-dimensional. It is typically a composite of analogue and digital techniques, starting with a piece in analogue and finishing with typography or colour adjustments onscreen. I tend to avoid working strictly digitally if I can. Working through the unpredictable effects of tools and materials native to traditional printmaking, typography, and illustration—their splatters, smudges, and textures—is an important part of my creative process. The use of visual contrast is a common feature in my work, as I like to use bright colours, luminescent whites, heavy blacks, hard edges, and blocky typography to create impact. I often employ cartoon styles so I can stretch and warp my subjects freely, creating exaggerated expressions, environments, and motion. I work with large canvasses and a painstaking amount of detail to create a sensation of overwhelm in my audiences. Essentially I want my audiences to be halted by the art's boldness, then to be drawn in, and to become lost in its detail and the figurative substance between the lines. Visually speaking, my work is seldom subtle. It is often dark, and it relies on devices of metaphor, symbolism, satire, and subversive humour to communicate meaning.

Figure 1: *"A Feast for the Eyes" (© Alexandra Kenefick).*

"A FEAST FOR THE EYES"

"A Feast for the Eyes" is a 75cm x 55cm illustration that uses black and white ink with dip pens on 80lb., grey, deckle-edge Strathmore paper. It is a large, confronting piece, rendered in the art style of cartoons from the 1920s and1930s called "Rubber Hose." The name refers to the bendy, tubular limbs of cartoon characters made famous by Disney and Fleischer Studios during the early 20th century, such as Felix the Cat, Betty Boop, and

Steamboat Willie (who later became Mickey Mouse). It is a style that draws its inspiration from surrealism and abstraction that, coupled with the characters' extravagant use of knives, explosives, and poisons to combat their antagonists, tends to evoke humour as much as perturb its audiences.

The piece uses a surreal art style to reflect a surreal theme. Generally speaking, "A Feast for the Eyes" reflects the messy ecology that comprises today's image-hungry consumer culture. I distort it further through speculation. Although this is a broad arena to play in, I have focused on consumer culture's obsession with the imagery of food—driven as it is by the glamourized visual appeal of food as projected through social media and television. Sometimes called "food porn," these images of food are made to be so sensually attractive—while disallowing touch, taste, or smell—that they arouse a similar desire and appetite that real food would otherwise elicit. Food porn images are designed to stimulate both literal hunger and a hunger for the things they symbolize or represent, like exoticism, wealth, or possibility. They aim to fuel vicarity while simultaneously stirring audiences with frustration at the inedibility of their subject. I find this a particularly intriguing and unsettling phenomenon. It is an obsession with the material qualities of food… without the material qualities of food.

In his book, *In Defence of Food: An Eater's Manifesto*, author Michael Pollan echoes this phenomenon with what he calls "The Cooking Paradox." Here Pollan reflects on what it means for our social fabrics as the practices of cooking and commensality jostle for dominance against the tweet-and-share of digital food. But of course, pixel-food could never realistically replace its material counterpart—could it? What if it did? Musing on this theme for "A Feast for the Eyes," I speculated what the world might be like if, so engrossed with digital food, we forgot to eat. We forgot to cook. We moved deeper and deeper into a life online and

onscreen, and left behind our responsibilities as mortal, physical animals. I had read somewhere about evolutionary theorists speculating on the physiological development of the human body as the internet and its offspring of digital devices became increasingly necessary for our daily existence. Some suggest that the human eye may grow aggressively and adaptat to low and blue light. Others speculate that some of our fingers will atrophy, even as we grow another thumb. Hunchbacks. Crooked necks. Grim, but inspirational stuff. What else might an increasingly online life mean for the human body and its material environment?

I started the work by imagining how a life that prioritizes visual consumption over the literal ingestion of food would transform the human body. The figures you see in the piece therefore bear vague resemblance to human animals in various stages of decay, their bodies adapting to the consumption of sound and pictures instead of macronutrients. Body parts litter the chunk of earth at the base of the image as they melt from their hosts. At the same time, eyes have taken on lives of their own and are featured everywhere, devouring images of food that fuel their growth, but do nothing to sustain the rest of their bodies. While I played liberally with the concept of physical decay, I asked what else would start to decompose, or become forgotten without our desire to cook or eat real food. Would someone remember to feed the dog? Would we invest time or money in kitchens, ovens, or dining tables? Would the responsibilities of the material world recede to the background of our consciousness as we become further engrossed in our virtual realities? In his book, *Ready Player One*, Ernest Cline does a skilful job imagining such a dystopia where our material world becomes an unliveable place, yet with the right AR headset, virtual reality is an easy and satisfying retreat. Like Cline, I made this piece as a commentary on the impossibility of forsaking the material world for the stuff of dreams: the meat of bodies still decays, the Earth still gets hotter, children

still need feeding, and the cracks in the veneer keep expanding while the images become increasingly attractive.

Figure 2: *The artist's sketchbook (© Alexandra Kenefick).*

CREATIVE PROCESS

A notable amount of research went into this piece before I started the art itself, as it is this research that would inform its style, size, medium, and other aesthetic considerations. As I mentioned, the grim speculation borne of imagining human bodies and a life too distracted to want anything to do with material food fuelled my decision to work with the arguably eerie "Rubber Hose" cartoon style.

This was an important aesthetic consideration because, like the innovation of the internet of the late 20th century, cartoons and film had similarly captured the hearts, eyes, and ears of those living during the 1920s and 30s—an important precursor to the distractions of our contemporary digital age. Since Rubber Hose had been traditionally drawn in black and white ink, and was projected in a grainy-grey film style, I chose to use pens, ink, pencils, and grey paper to echo the mood of the style of the era. I wanted a large canvas because I knew there was an endless number of things attached to my theme that could be discussed, but like a silent film, I needed it to speak volumes without any sound. With my research and rationale in place, I spent some time watching old Steamboat Willie and Felix the Cat clips online and gathering a collection of images of cartoon characters from the 1920s and 30s. With these in hand, I started practicing Rubber Hose characters in my sketchbook before I committed to the piece itself.

Once I felt I had a solid grasp of the style, I sourced the paper, inks, and nibs I needed for the piece. Looking to the dimensions of the paper as a guide for the general shape of the whole illustration, I started in my sketchbook with a mechanical pencil and and eraser, sketching large acorn shapes that I would then fill will figures (the overall shape of the illustration is like an inverted acorn). I started by identifying where the focal points of the piece

would be. In the centre, I knew I wanted a pair of large eyes to hook the viewer into the composition. At the top would be some kind of explosion to move their gaze upward, at the sides would be rounded and directional lines to assist their gaze around the periphery of the piece, and at the base would be a solid chunk of earth to provide some sense of stability as a foil to an otherwise hallucinogenic scene. I also knew I wanted the piece to feel as though it were continually looping and bending like the limbs of Rubber Hose characters. There were some specific figures I knew I wanted to draw, but most of it unfolded as I drew, responding to the shapes and spaces I made with my pencil. I made the version in my sketchbook exactly as I wanted to see it in its final, larger form.

Next, I had to move the draft on to the large paper canvas. I was in no mood to re-draw the entire composition, so I planned to project it at a larger size in order to trace it on the grey paper. I scanned the page of my sketchbook into my computer, attached the computer to a projector, and shone the image onto one of the walls in my apartment. I then carefully pinned the grey paper—careful not to poke holes in it—onto the wall, and using a pencil, lightly traced the image onto its final destination.

Figure 3: *Preliminary line art with dip pens (© Alexandra Kenefick).*

Once that was finished, I closed the computer and the projector, and moved the paper to a large desk where a handful of dip pen nibs, small acrylic paint brushes, India Ink, and acrylic white ink were waiting. The world of pen nibs is expansive, with each nib suited for a different purpose (graphic design, calligraphy, accounting…). Generally speaking, I gravitate toward using a combination of fine/medium fude and flex nibs in my work, which also held true for this piece. My first step was to outline everything with my nib-equipped dip pen (so called for having to dip it into the ink well), let the ink dry, and then erase the pencil underlay. Fortunately India ink dries almost instantaneously when used in the appropriate amount. Next I would start alternating between different nibs, using black ink, while applying different degrees of pressure on the pen in order to develop the weights of each line. In other words, some lines in the composition are thin, others are thick, and others are a bit of both.

This helps to give the composition added dimension, and in some areas, a sense of motion. I tend to work clockwise around the paper to avoid smudging my work.

Once the outlines of all my figures were made appropriately thick and thin, I decided which parts were to be flooded black, and which were destined to be white. The qualities of the two inks were important, particularly the white ink, which needed to have a high level of opacity and a low level of reactivity. Opacity refers to the translucence of the medium, and if too low, will cause streaking on grey paper. Reactivity occurs when two inks react with one another, causing unwanted bleeding or lifting. Sometimes low opacity and higher reactivity are suitable when you're looking to achieve a watercolour or hazy effect, but this composition needed crisp edges and graphic treatment. For these reasons, the white ink I selected had a slightly higher viscosity than the India ink I was using, which also meant it was not particularly suited to dip pens. At a higher viscosity, it tended the clog the pen, so where I needed white, I used fine acrylic brushes.

I had intentionally chosen a weight of paper designed for printmaking—thick and porous—that was ideal for absorbing large amounts of ink without allowing it to seep through or pool on the surface. Unfortunately, this paper was much thirstier and grainier than I had anticipated, and it pulled at the nibs of my finer-tipped pens causing spatter if I moved too quickly or pressed too hard. Overall, the piece took roughly 60 hours to complete from start to finish.

CLOSE-UPS

"Compost Scavengers"

At the base of the illustration is a tetrahedron of earth where bones and body parts litter its surface. Here too you can see

worms poking out of the sides, as well as several other animals scavenging around the decay. You might notice that, unlike the human figures in this piece, all of the nonhuman animals in this composition are fully composed and recognizable for their species, rather than in various states of decay. Essentially, unconcerned with virtual reality, the cycle of life and death for other animals continues on, with the materiality of food at its heart. Here we can see such animals taking advantage of human decay to feed themselves and their offspring. Humans may lose sight of how their actions effect their surrounding environment and the entities that inhabit it. They may lose the race for survival in the process. But the rest of the world is likely to keep on spinning.

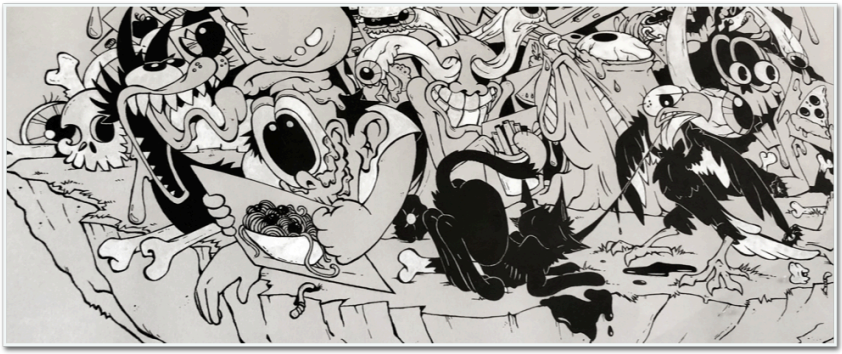

Figure 4: *Detailed close-up of A Feast for the Eyes, bottom section of image, "Compost Scavengers" (© Alexandra Kenefick).*

"The Empty Table"

In the upper left of the image, amid the frenzy of the composition is a remarkably static kitchen table and several empty chairs. Here I question whether our withdrawal from cooking and kitchens leaves the kitchen table increasingly useless and unoccupied. Much has been written on the importance of eating at the table together because much happens in this space. Children learn table manners, culinary knowledge is exchanged, stories are told, bonding occurs, bodies are nourished, and new tastes

are experienced among other important events. What does it mean for families, friends, and foes as we start to abandon traditional forms of eating together? Will digital commensality become increasingly important? Will we prefer to eat alone? Will these things cease to matter as they are replaced by new forms of communing?

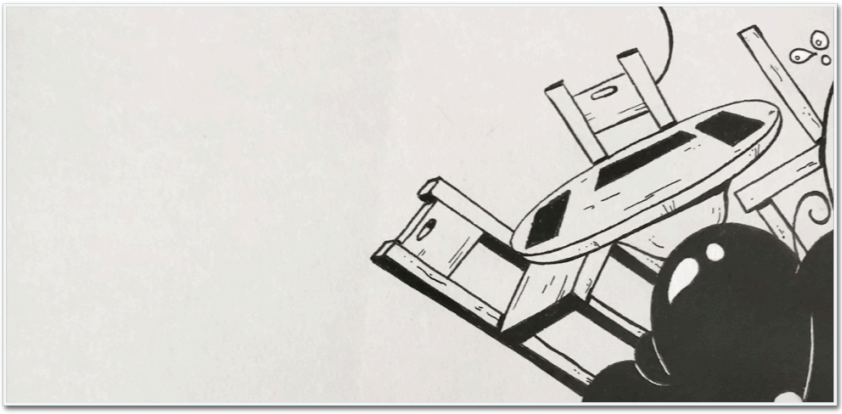

Figure 5: *Detailed close-up of A Feast for the Eyes, upper left section of image, "The Empty Table" (© Alexandra Kenefick).*

"Mother and Child"

On the far left edge of the illustration, near the centre, is a feminine figure holding a baby. The woman's torso is exposed as if to breastfeed the baby, however both mother and child are distracted by other things, neither focused on each other or the task at hand. Food has always been an important learning tool, and an important means of bonding mothers with their children. As we become more and more distracted by our virtual realities, what do we communicate and teach to our impressionable youth in the process? Is it likely that we will pass down our habits and teach new ones, or will forthcoming generations transcend them?

Figure 6. *Detailed close-up of A Feast for the Eyes, far left centre section of image, "Mother and Child" (© Alexandra Kenefick).*

Exercises

Exercises in Materiality: Food and Ink

The following exercise introduces you to the medium of ink, and working with the materiality of food as a tool for artistic expression and observation. The objective in this exercise is simply to explore and experiment with the tools provided—to play, be curious, and put your imagination in motion. There is no right or wrong way of completing the exercise—everyone will have a dif-

ferent result. Following is a list of the tools you'll need and several 'challenges' to help guide your explorations.

You will need:

- A variety of papers (e.g., printer paper, construction paper, printmaking paper, vellum, tissue paper, cardboard, card stock, handmade paper, papyrus, notebook paper)
- A small, open container for ink
- Black India ink
- An eyedropper (usually this comes as part of the bottle of India ink)
- A straw
- Straight dip pens and an assortment of nibs
- A variety of small, medium, and large paintbrushes suitable for inks, watercolour, or acrylic
- A variety of mushrooms, fruits, and vegetables (stems, roots, and leaves are encouraged!)
- A small kitchen knife for cutting the food
- A cutting board
- Newspaper (for covering your workspace and surrounding surfaces to keep them clean)

Challenge #1: Cubism and the Shapes of Food

Select a durable paper to use with your dip pens and India ink. Lay it on your workspace, prepare a variety of nibs for your pen, and pour some India ink into a small container.

Choose three foods, and set them on your workspace in front of you, just beyond your paper. You will be drawing these subjects, so make sure you can see them clearly.

Ready yourself to draw, choose a nib, and outfit your pen. It doesn't matter what kind of nib—choose whatever seems interesting.

Don't try to capture the food realistically on paper. Instead, carefully observe your chosen subjects. What basic shapes (circle, triangle, square) do you see? Some foods, like an orange, might be little more than a circle. Others, like pineapples, might be patterned with triangles. Most things are composites of many different shapes. How many can you see in your respective subjects?

Dip your pen into your ink. Be careful not to plunge the whole nib into the inkwell—the ink should come just above the vent (the little hole) in the nib. Give it a tap on the rim of your container to shake off any excess, and draw a circle (or whatever shapes you have noted). As you do, experiment with the pressure on your pen. See if you can achieve a line that changes from thick and thin. Do you see other shapes or details that you could add? Maybe some quick dots to replicate the texture of your food, or another circle or triangle to show where a stem was?

Try drawing the food again with a different nib. Experiment with making your lines thick and thin. How do these adjustments change the aesthetics of your drawing? Does the paper absorb the ink differently? Does the nib keep catching on the paper, or does it glide easily?

Continue observing and drawing the shapes that you see. Don't worry if your lines overlap and a cluster of grapes becomes a confusing bunch of circles. Remember, you're not trying to draw grapes. You're drawing the shapes of the grapes.

Try colouring some shapes solid black and see what kind of composition you create.

Challenge #2: Relief Printing with Food

Choose a mushroom, fruit, or vegetable with a particularly interesting texture. Ready your ink, brushes, and lay several different types of paper on your workspace.

Paint part of your chosen food's surface with ink using a soft, wide brush. You may choose to cut the food to expose a desired surface. Remember that the ink will cling to a dry surface, but it won't adhere well to a wet one. Therefore, painting the peels and rinds of foods is often a better choice than painting their insides. Make sure to coat your chosen surface until it is dark with ink, but not dripping.

Using the food like a stamp, gently press the inky surface on to different papers. See how different papers absorb the ink uniquely; some will reveal more detail than others.

Flip it around: Some papers, like tissue paper, are easily draped over objects. Try painting your food with ink again, then pressing the paper onto the food, then peeling it off to reveal the relief.

Try the same procedure with different foods, and stamp to your heart's content.

Challenge #3: Several Approaches to Making Ink Splatters

Choose a big piece of paper, and pour some ink into your container. This exercise could get messy, so make sure the surfaces around you are protected.

Tapping: Choose a paintbrush and dip it into your ink. Next lift your paint brush about a foot from your canvas, and sharply tap the paintbrush perpendicularly over either your finger or a pencil/pen. The ink will create an enjoyable splatter effect on the canvas below (and maybe your desk). Experiment at different heights to see how this changes the effect.

Blowing: Dip one end of your straw into the ink, then face the inky end at your canvas. Quickly blow through the other end of the straw. This technique sometimes takes a bit of practice.

Dropping: Suck up some ink using the eyedropper and position it about a foot over your canvas. Experiment with the pressure you use to squeeze the eyedropper in order to release the ink inside: a forceful squeeze will generate a greater splatter, whereas a gentle squeeze will result in slow, heavy droplets. Both effects are equally interesting!

Challenge #4: Pick and Mix

Now that you've got some interesting techniques and materials to work with, experiment with a composition that uses everything you've learned!

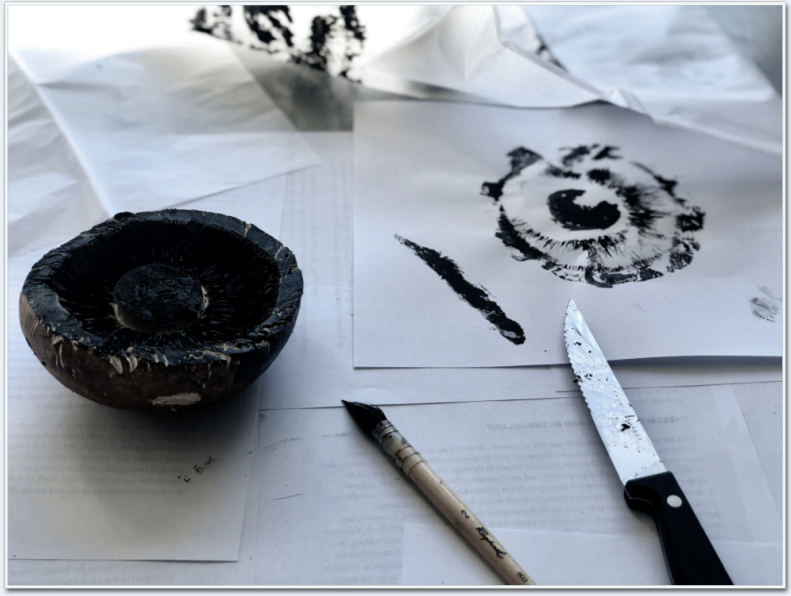

Figure 6: *Printmaking with portabello mushroom caps.*

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DAVID SZANTO

POETICS AND POLITICS

David Szanto *is a teacher, consultant, and artist taking an experimental approach to gastronomy and food systems. Past projects include meal performances about urban foodscapes, immersive sensory installations, and interventions involving food, microbes, humans, and digital technology. David has taught at several universities in Canada and Europe and has written extensively on food, art, and performance.*

HOT WRITING

Sometimes poetry can make a big impact with just a few words. A poet I once worked with called it a "hot" form of writing, meaning that each word has to do a lot—they have to be intense, loaded with meaning, and burn brightly. It also means that the

poet has to do a lot, picking words that carry the right amount of heat, and then treating them carefully so that they don't burn *too much*.

The first poem below was written when I was thinking about how guilty I feel when I eat an ordinary meal. "Ordinary" means that I don't go out of my way to buy local or seasonal food, that I do succumb to styrofoam, or that I overconsume and then end up wasting something. Because even though all those things are very important to me and my planet, I. sometimes. just. can't. The poem's title evokes my sense of throwing up my hands and saying "oh well, tomorrow I'll do better."

The second poem was my attempt to streamline 10,000 years or so of food systems evolution into a quick little ditty. It's meant to be read with an ironically arched eyebrow, acknowledging that an awful lot of stuff happened in between each of the stanzas. At the same time, when you compress time a bit, you sometimes see new patterns in past events, and then—maybe—imagine new ones for the future.

A lovely dinner nonetheless

Tawny dazzling bird
Spirals lies around my tongue
Battery chicken

Root of celery
French-drenched in creamy nap
Not very local

Shining Granny Smith
Juices glaze the hot browned crumb
Flesh reduced to mush

The Bio of Diversity

In the beginning
Elemental ev'rything
Primordial ooze

TenK BCE
Limiting controlling food
Domestication

In middle-aged Earth:
Let's all industrialize!
Variety wanes.

Soy corn rice and wheat
Break them down to molecules—
Rebuilt with branding

Phoenix trussed and cooked
But was it our goose instead?
Blackened bio-d.

Discussion Questions

- When is saying *less* more important (or more effective) than saying more?
- How can we express complex ideas about food with minimal (or no) language?
- What food words, to you, are 'hot'?

Exercises

Both of the poems above are written following a modified haiku style, a Japanese-heritage form of poetry that is written in three lines (the first with five syllables, the next with seven, and the final with five again). Word play and references to nature are often included, and the third line generally incorporates a twist that is meant to delight or surprise the reader, and make them think differently about the first two lines.

- Try writing a single haiku, about food, following this model. What is easy about it and what is hard? How did it make you think differently about your subject, and if you read it to someone else, does it make them think the same way? Do they have a different take on it that you did? Why?

You can also write compound haikus, like the ones above, to tell a more complex story or invoke structural patterns like dishes in a meal, the changing seasons and food cycles, or the different holidays you celebrate.

- Once you've had fun with haikus, try a longer form poem. What is different when the length changes?

- You can also tighten things up by writing a "six-word story," a form of flash fiction that tells a lot with very little. This means coming up with only the most important combination of words, often without proper grammar or syntax, to telegraph a feeling or a narrative into the reader's mind. Talk about "hot" writing…

KATE GARDNER BURT

CHALLENGING PERCEPTIONS OF FOOD CULTURE AND PERSONAL IDENTITY

***Kate Gardner Burt**, PhD, RDN is an Associate Professor and the Undergraduate Program Director of the Dietetics, Foods, and Nutrition Program at Lehman College, City University of New York. Dr. Burt teaches courses in cultural humility and cultural foodways and in professional practice. Her research aims to reduce racial and ethnic inequities food systems and explore how systemic racial bias and the normativity of whiteness impact the dietetics profession and dietary recommendations.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Use the Dimensions of Personal Identity model to describe how personal identities are shaped.
- Explain ways in which social norms have an impact on perceptions of food.
- Examine how different ways of knowing shape food culture.
- Use self-reflection and critical analysis to examine their own relationship with food and how that relationship effects their personal identity.

INTRODUCTION

What we eat—and don't eat—is influenced by who we are and where we live. Our individual food choices represent multiple layers of our identities, which are situated within our social and physical environment. What we eat is influenced, for example, by what foods are grown or sold in our geographic regions, by what foods our caregivers served when we were infants, and by the foods our friends and family ate while we were growing up. Our food choices are also influenced by our values, wealth, and social trends. The myriad layers of our own identities give unique meaning to food and, collectively, give rise to food culture. Therefore, understanding food culture requires an analysis of one's own perspective to explicate personal, community, and societal values, assumptions, norms, and biases. Ultimately, to understand food culture and develop **cultural humility**—the ability to work effectively with individuals whose identity is dif-

ferent from our own—we must develop self-awareness of our own perspectives as well as an awareness of others' perspectives.

Our perspectives are a manifestation of our upbringing, informed by our unique personal identities and experiences. Over time, they become a lens that has an impact on the way we view the world. As we grow, so too does our worldview. Our lenses are dynamic—they are shaped and reshaped as we gather information from new sources and understand information in new ways. Each individual's lens is a synthesis of their multi-layered personal identity. Personal identities are simultaneously historic and current; they are rooted in our cultural and familial pasts, but shaped by our personal and present conditions.

Our identities are developed (in part) from various sources of information that we receive consciously and subconsciously. Table 1 provides examples of different types of information received from different sources that shape personal identity.

Table 1: Examples of the type and source of information that shapes personal identity

Information Type	**Internal Information Sources**	**External Information Sources**
implicit	assumptions; biases; values; personality traits	social norms*; policies; practices; media messaging
explicit	choices; conscious thinking	familial norms*; news information; research findings

**Social and familial norms may be implicit or explicit categorically, or vary depending on the norm itself (e.g., some norms may be explicit while others may be implicit)*

As a result, identity is shaped in ways that we are and are not aware of. We unconsciously integrate information into our worldview—what we think of as 'the way the world works'. However, everyone's world works differently depending on their identity. A person living in India during the early 1800s has a

different worldview than a person born and raised in 21st-century Peru. When we add layers of identity to those contexts, understanding individuals' experiences becomes more complex, because identity is **intersectional** (that is, identities overlap and have an impact on each other). A cis-gendered, straight male, born to a high social caste in Mumbai (then Bombay), India in the 1800s has a different identity than a transgender female born into an Andean farming family in modern-day Peru.

Those individuals' experiences also differ because they exist in different social, political, geospatial, and historical contexts. The policies, systems, and structures operating in those contexts advantage (or privilege) some identities but not others. In other words, gender identity only matters because societies have, in general, given men more advantages than women. Deeper than that, cis-gendered men and cis-gendered women experience more privilege than their transgender peers. In contrast, other demographic identities, like eye color, face shape, handedness, and height are not used for social policy making, so they are still identities, albeit relatively innocuous ones. Ultimately, identities and the social structures in which an individual lives determine the way their world works and the information they come to know.

Epistemology is the study of knowledge— how we know what we know—and epistemological investigation helps us distinguish beliefs from opinions. As investigators, we try to be objective, but in reality, we are not unbiased observers. What we know—or what we think we know—is subject to interpretation, to *our* interpretation through the lens of our personal identities. We must therefore understand our personal identities in order to distinguish our perspective and how it has an impact on our perceptions. Since our knowledge of food is based on the ways we come to know things, it is up to each of us to better understand ourselves.

What is "knowing"?

What we know is influenced by our personal identities, and our identities become a lens through which we consume and process information. Information may fall into four categories[1]:

- **Facts** are evidence-based verifiable information, built upon objective reasoning and rooted in science.
- **Opinions**, or judgements based on facts, are formed in a genuine attempt to draw a conclusion from facts. It is possible to come to different conclusions using the same facts.
- **Beliefs** are convictions based on cultural or personal faith, morality, or values. In contrast to opinions, beliefs are not necessarily fact-based.
- **Prejudices** are opinions based on insufficient, faulty, or biased information, and can be disproved by facts. Hidden values and assumptions are embedded in prejudices but can be revealed with critical thinking. Bias and stereotypes are forms of prejudice and can be formed consciously or unconsciously.

Information from each of these categories is used to form knowledge. For example, the Dietary Guidelines for Americans are translated to the general public using MyPlate, a visual method of portioning food, promoted as the healthiest way to eat (see Figure 1).[2]

1. Fowler & Aaron 2011.
2. MyPlate | U.S. Department of Agriculture 2021.

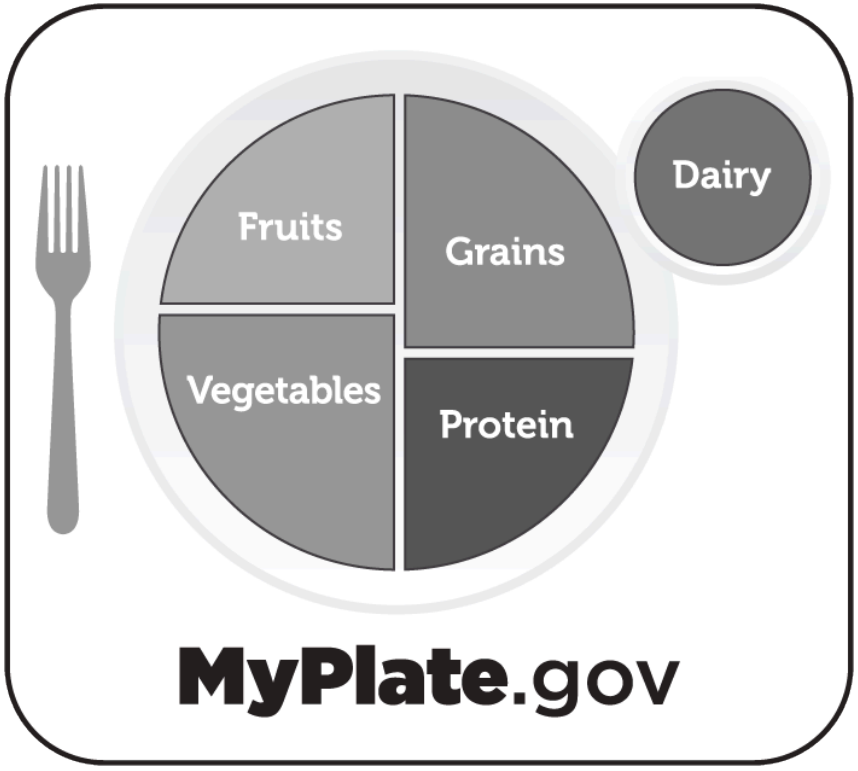

Figure 1: *United States Department of Agriculture's MyPlate*

MyPlate recommendations are based on all of the aforementioned categories of knowledge:

- Facts about nutrient composition (e.g., fruits and vegetables contain valuable nutrients).
- Opinions about how to best translate epidemiological research into practice (e.g., fruits and vegetables should comprise half of one's intake).
- Beliefs about what foods should be on the plate (e.g., dairy should be included at every meal).
- Prejudices in the form of social norms (e.g., using a Eurocentric nine-inch dinner plate is the best way to communicate this information to Americans, who are

predominantly white and of European descent).

Critical thinking is therefore necessary to understand nuances leading to a seemingly fact-based conclusion: To be healthy, eat according to MyPlate.

Each way of knowing is important to understand food culture, and it is important to be able to distinguish them. It is also important to understand that each way of knowing *informs* food culture. For instance, staple foods are usually based on foods that are indigenous to a region (i.e., facts). Using those foods, cultures develop recipes and patterns of eating that produce a pleasant flavor and aroma (i.e., beliefs, based on sense of smell and taste), which result in some benefit (i.e., opinions, based on relationships between food and health or food cookery), and that are rooted in prejudices or biased social stereotypes (i.e., some foods or food practices are condemned while others are valued).

In order to understand the meaning and value of food, it is necessary to understand how we have built knowledge about food and meaning. We must explore our personal identities through intentional self-reflection to understand how values, assumptions, and biases impact and shape our lens and perspective.[3]

How Personal Identity Shapes Knowledge

The Dimensions of Personal Identity model (Figure 2) can be used to see ourselves or others clearly because it breaks down how facets of our identities interact to shape who we are and what we know.[4]

3. Arredondo et al. 1996; Yeager & Bauer-Wu 2013; Hodge 2018.

4. Arredondo et al. 1996.

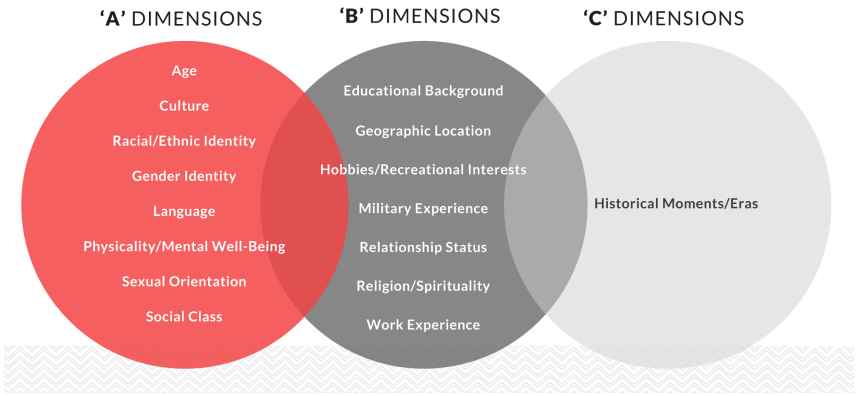

Figure 2: *Dimensions of Personal Identity*

There are three dimensions of personal identity:

- Dimension A: visible characteristics you are born with or into, making these characteristics "fixed" or unchangeable. They include age, gender identity, sexual orientation, race, culture, language, and social class. These characteristics are the basis for developing assumptions and biases, which can lead to stereotyping and prejudice.[5]

- Dimension B: characteristics that are not always visible. They include personal attributes such as geographic location, educational attainment, marital status, parental status, employment status, hobbies or personal interests, military experience, and religion. Often, individuals exert some control or choice about characteristics in Dimension B (e.g., military service is not always a choice but it can be in some cases).

- Dimension C: the historical, social, political, and cultural context that shape individuals and societies. These characteristics shed light on how our individual or cultural experiences differ by revealing norms, assumptions, and

5. Arredondo 2018.

values that influence personal identity.

The "choices" defining an individual's Dimension B attributes depend largely on Dimension C. The "choices" an individual has only exist within a narrow range of possibilities. For instance, women did not not always have the freedom to choose to be employed; having that choice depended on the era during which they lived. In essence, Dimension B represents the "consequences" of the A and C dimensions. The choices individuals make (B Dimension) are influenced by visible characteristics of Dimension A and the historical, political, and sociocultural context of Dimension C.

To better understand how our identities overlap, intersect, and have an impact on how we are perceived and treated by others, guided group activities like the Personal[6] and Social[7] Identity Wheels or self-guided programs like the Supporting Equitable Dietetics Education Self Study[8] can be used. These toolkits are designed to make relationships between identity, power, and marginalization explicit. In essence, they assert that certain identities are more or less visible at times in a social context. These tools can also reveal how the identities that are most important to an individual may not be view as most important by society at large. Ultimately, because identities have an impact on the experiences individuals have, understanding identity is a critical aspect of understanding worldview.

How Personal Identity Shapes Cultural Knowledge

Though the development of our personal identities is unique, many commonalities exist between individuals who share characteristics. Those commonalities, or collective identities, give

6. Personal Identity Wheel – Inclusive Teaching 2021.
7. Social Identity Wheel – Inclusive Teaching 2021.
8. Supporting Equitable Dietetics Education Self Study 2021.

rise to social groups. Shared collective identity through social groups, group norms, and values become the basis for cultural identity and knowledge. Though many social groups exist, groups with the most social power and status become dominant. (Often, it is the 'majority' group, though not always.) Dominant social groups tend to dictate cultural norms, values, and assumptions, which become interwoven into the structure of society. Ultimately, there becomes a collective perspective that dominates and dictates meaning within a culture. Members who identify with the dominant group typically benefit from the dominant group's policies and practices, while others do not—a condition called **privilege**.[9] Privilege is important to understanding one's relative position in society and how others, who don't identify with a dominant group, may have similar life circumstances but different experiences.

When we examine social identity using this framework, we see how the dominant group dictates norms and practices. For instance, the use of cutlery, chopsticks, or eating with one's hands differs regionally across the world, depending on the dominant group's norms and values. Western societies use cutlery because the dominant group is white European and, historically, white Europeans believe that using cutlery is more refined.[10] With this assertion, however, we see the biased, covert ways that social power is maintained: deeming other (non-European) practices as less refined subjugates the people who follow those practices. Understanding collective identity and dominant group norms is thus important to understanding the meaning of food.

Using Perspective to Make Meaning of Food

Critical analysis is used to understand individual and social phenomena. This section includes three questions that serve as

9. Burt 2020; Goldsmith 2012.
10. Goldsmith 2012.

examples of how to apply critical thinking to understanding the meaning of food.

1. How have some cuisines become known as 'ethnic' and others are known as 'expensive'?

What the average U.S. adult is willing to pay for a particular food item is not objectively calculated. If it were, the cost of ingredients and labor would directly correlate with the price of food. Instead, the price of food—particularly restaurant food—is based on something entirely subjective.

The amount of money one is willing to pay for food is directly related to the perception of the culture producing that food.[11] 'Expensive' food—or food that people are willing to pay a high price for—is generally produced by cultural groups that are highly regarded by U.S. adults. In contrast, 'ethnic' food is often attributed to cultures' whose prestige or reputation is not as well regarded. The dominant group of U.S. adults, who are white and of European descent, have constructed a social hierarchy based on beliefs and prejudices about others.

For instance, Chinese food is often deemed 'ethnic', whereas Italian food is considered expensive and elegant. Yet, both cuisines have dishes based on noodles, with a sauce, and chopped or minced ingredients. They are, on paper, very similar. The price difference between the foods is based on how each culture is perceived. Italian immigrants, once targets of discrimination, gained social capital and respect in the late 19th and early 20th centuries.[12] In contrast, Chinese immigrants were subject to an overtly racist immigration ban (the Chinese Exclusion Act) and other forms of stereotyping and discrimination.[13] The dominant

11. Ray 2016.

12. Burt n.d.

13. Rude 2016.

group of white U.S. adults perceived Italians to be of greater social rank, leading to a willingness to pay more for food that was perceived to be better.

2. What criteria are used to determine if a dish is "authentic"?

Whether or not a recipe or dish is culturally authentic is more commonly determined by consumers than it is by members of the culture the dish represents. Perceived authenticity is subjective and often an oversimplification of complex cultural underpinnings. Some might consider a dish authentic if it is based on indigenous ingredients and prepared in a way that has been done for many generations. Others might consider a dish authentic if it is frequently consumed in a particular place. These limited definitions fail to capture cultural nuances. The exact ingredients used, the preparation method, the proportion of different ingredients all vary across regions and even within neighborhoods.

Dominant group thinking defines what we know as authentic. The social context includes stereotypes and perceptions of other cultures, and it also includes other influences, like food marketing through **gastrodiplomacy**. Gastrodiplomacy is a coordinated effort by a nation to use food to promote their culture.[14] As a result, gastrodiplomacy campaigns communicate cultural attributes and values. Thailand, for instance, developed a cultural diplomacy program with a marketing strategy that requires overseas restaurants to be open for at least five days per week for a year, accept credit cards, have at least six Thai dishes on the menu, employ Thai chefs with Thai cooking training, and use materials and equipment from Thailand. It is clear that a goal of the Thai gastrodiplomacy program is to ensure that Thai restaurants abroad communicate similarities about Thai food to consumers. Dishes in restaurants represent only a sliver of authentic Thai cuisine: it is the cuisine that trained chefs prepare, whereas

14. Zhang 2015.

many other authentic examples are prepared in private households. There is not one single version of authentic pad Thai, despite what the gastrodiplomacy program communicates.

3. How does the socio-political environment have an impact on our perceived value of foods?

The perception of foods from specific cultures are not free from the dominant group's economic and political values. The use of food labels, for example, including how or why a particular food is labeled, varies across nations. In the U.S., food labeling about origin is based on capitalistic notions of ownership through the use of trademarks.[15] In other words, the name of a regional food is attributable and reserved only for the trademark owner; it does not indicate quality. Trademarks are restrictive and relatively expensive for small farmers, serving to carve out rights for businesses and restrict the market. An example of a trademarked name is "Idaho Potatoes."[16] An Idaho grower using a label that indicates that their potatoes are Idaho Potatoes, but who is not certified by the Idaho Potato Commission, may be subject to a lawsuit.

Geographic indication labels, common in Europe, are based on different values and qualities, such as terroir. Terroir is generally understood as the set of local attributes (including soil chemistry, climate, other environmental factors, and human practice) that impart a distinct set of flavors to the food produced in a given region. It is an indicator of quality, taste, and other desirable attributes. A geographic indication label is not owned by any person or entity, and in can be used by anyone in the region to which it applies, provided they follow certain practices and are certified by regulatory agencies.

15. Josling 2006.

16. Idaho Potato Commission 2021.

While consumers may be unaware of what a given label means, the value of a food product may be related to its commodification (for some people) or cultural pride (for others). Clarifying these differences and understanding how such values are embedded in food culture helps us understand the meaning of foods in various contexts and settings.

CONCLUSION

In order to understand the meaning of food, we need to understand our own lens—our personal, community, and societal values, assumptions, norms, and biases. Understanding that lens through critical analysis can enhance self-awareness and reflectively examine what is embedded in our own meanings of food. Conducting a self-analysis through the Dimensions of Personal Identity Model or other tools can be helpful in developing an understanding of our individual identity and values, how we are each shaped into the people we are, and our relative position in society (e.g., the degree to which we experience privilege or marginalization). It is important to understand our own biases, through critical reflection or implict bias assessments (many of which are freely available online).

Assessing our own identities and biases can help facilitate an understanding of other cultures' food because it helps differentiate among facts, beliefs, opinions, and prejudices. Understanding others' food culture from their perspective, rather than our own, not only helps in understanding the meaning of food for others, it makes each person more culturally humble and able to authentically engage in the world.

Discussion Questions

- Consider the Dimensions of Personal Identity model again. How does your identity shape the meaning of food for you?
- When a dominant social group dictates what "authentic food" looks like in another culture, what are the potential impacts and on whom?
- What is the relationship between cultural humility and empathy? Is either (or are both) required to understand diverse food cultures?

Additional Resources

- Harvard Implicit Association Tests
- How Privileged Are You? (Buzzfeed quiz.)

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CASE: JAPANESE FOOD IDENTITY

MAYA HEY

DOES EATING NATTO MAKE ONE JAPANESE?

Maya Hey *is a researcher, writer, and educator working at the intersection of food, feminist thought, and fermentation practices. She holds degrees in nutrition, gastronomy, and communication studies alongside work experience that spans farms, markets, kitchens, and chemistry labs.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Name an example of a food identity and explain how one comes to embody it.
- Compare the internal and external processes of identifying with a food practice.
- Consider and critique at least one aspect of the (sometimes problematic) relationship between race/ethnicity/culture and authenticity, with regards to food.

INTRODUCTION

Natto is a fermented food made with soybeans. Originating in Japan, it is often served as a topping to rice. Natto is one of the many ways that Japanese food culture preserves soybeans—an important source of protein—through the process of **fermentation**. Historically, fermenting soybeans ensured that people had access to vital nutrients long after the bean was harvested, producing such products as miso or shoyu (better known as soy sauce in the West). Unlike miso and shoyu, however, natto takes a shorter time to ferment (two to four days versus several months). Part of this difference is due to the fact that natto is fermented with a bacterial species called *Bacillus subtilis*, whereas the other soy-based ferments tend to use fungi (of the *Aspergillus* and *Rhizopus* species). Originally, the bacteria that transform natto came from dried rice stalks when farmers would try to preserve the bean, although nowadays the commonplace nature of natto in Japan means that most of it is mass produced in styrofoam packets.

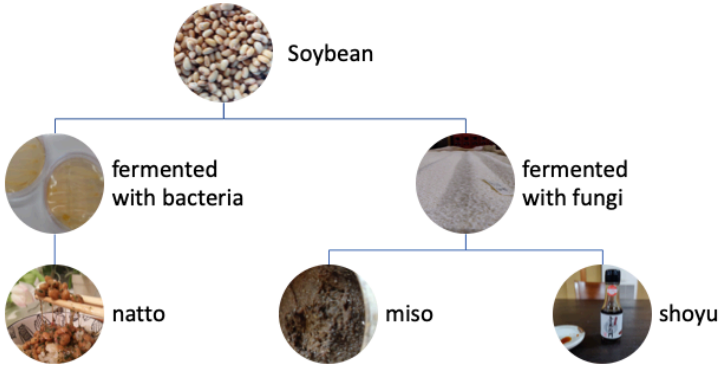

Figure 1: *One bean, fermented three ways. Whereas Japanese ferments like miso and shoyu have become common in the Western larder, natto remains less so, partly because of its texture. As a result, natto is an anomaly worth exploring in further detail. To what extent does natto connote Japanese-ness as a food and, taken further, connote Japanese food identity?*

Figure 2: *Historically, cooked soybeans would be placed inside bundles of dried rice stalks. The naturally occurring B. subtilis bacteria would transfer from the stalk to the bean and ferment the soybeans into natto.*

You might be thinking at this point, why is it that miso and shoyu are fairly internationalized while natto remains less known? Natto is unique in its texture and is often regarded with a mix-

ture of fascination and disgust. On the one hand, natto is hailed as a superfood and probiotic due to its health benefits, helping to combat conditions such as neurodegenerative diseases (e.g., Alzheimer's, Parkinson's), cardiovascular diseases (e.g., hypertension, stroke), and intestinal distress (e.g., colitis, irritable bowel syndrome). On the other hand, natto looks stringy and has a slippery feel on the tongue, which tends to be a rare experience for eaters (aside from eating vegetables like okra and molokhia). As with other novel experiences, what remains unknown or unfamiliar to the eater may simply be written off as 'weird' or 'suspect'.

What is peculiar about natto is that some folks in Japan do not enjoy its flavor, either. That is, natto is not universally loved by the Japanese people, yet it can be used as one of many yardsticks to measure someone's Japanese identity. Like many **food identities**, the repeated acts of consuming a food can bolster a person's sense of self: *I am who I am because I/we eat this food*. Or, on a collective scale: *We are the people who eat these foods; they are the people who eat those foods.* What we eat (or don't eat) can define who we are, but more than that, the practices we regularly perform with those foods can inform our food identities.

Of course, this is not unique to Japan or to natto. Many foods can define individual values and collective belief systems, whether in vegan diets, Kosher dietary laws, or national dishes. Identities, especially food identities, are not fixed because they are subject to contextual differences that change the ways that food identities are *practiced.* Food practices, in all places, with all sorts of foods, can both create and undermine identity.

As a person of Japanese heritage, I recognize that eating is part of a whole host of identity performances informing who I am. Of all of the things I eat that connote my Japanese-ness, I am particularly drawn to how natto leverages identity: to what extent

does natto connote Japanese-ness as a food or even connote Japanese-ness in food identities? The answers are not straightforward, partly because Japanese-ness is negotiated by a mixture of forces happening at the same time, some culturally rooted, some socially situated, others purely happenstance. I focus on natto because, as a ferment, it emerged out of necessity (i.e., food security), but as a contemporary food choice—and one that isn't celebrated universally—it is an anomaly worth exploring, to analyze the socio-cultural dynamics that it brings out. These practices include choosing natto (over other foods), preparing it, and consuming it.

GROUNDED OBSERVATION

In this text, I examine the ways in which consuming foods like natto can inform one's sense of self or subjectivity. Rather than generalize the current state of natto consumption, my approach to this chapter is based on a sample of one, myself. To accomplish this, I use some of the tools used in **autoethnography** because these methods allow me to study how and why natto gathers meaning on personal and societal scales. By keeping my observations grounded in the specific details that make up my lived experience, I can make claims without committing the error of speaking on behalf of others, or of reducing "natto" or "Japaneseness" to a set of criteria. Importantly, a subjective approach sees knowledge as always being partial—both in terms of being *part of a whole* as well as being *partial to* (or inherently biased towards) something. In this way, my observations are seen as *a* truth, instead of *the* universal truth. As many feminist thinkers argue, accounting for this partiality is critical to demonstrate how subjective knowledge is not lesser than objective knowledge, but is rather an attempt to convey (one type of) reality. I also draw on interviews and fieldwork during a multi-sited ethnography of fermented foods in Japan.

Figure 3: *The texture of natto is similar to the slipperiness of cut okra or molokhia. Natto also has a stringiness that increases the more it is handled and stirred.*

THE SLIPPERY MATERIALITY OF NATTO

Like many other food cultures, Japan boasts a legacy of fermented foods (besides the aforementioned miso, shoyu, and natto, there are a variety of pickles, sakes, and garums). Thus, fermentation is part of the cultural identity of Japan, making ferments like natto a unique opportunity to study how its preparation and consumption give meaning to the people who handle them.

Think about the fermented foods you might encounter: bread, kimchi, sauerkraut, wine, cheese, and yogurt. Most of these are acidic—as in *sour*dough bread, *sauer*kraut, fermented dairy from *soured* milk—because of the acid-producing bacteria that ferment them. The acid adds complexity in taste while also helping to preserve the fermented ingredient (e.g., most cheeses can last longer than a glass of milk). This is where natto differs, because it undergoes an *alkaline* fermentation process. Alkaline processes are the opposite of acidic ones, and many proteins and seeds in Asia and Africa are preserved in this manner (e.g., fresh poultry eggs are fermented into pidan, or "century eggs"). In alkaline fermentation, proteins are broken down into units of amino acids. And while this often leads to intense, unctuous flavors (umami), when left to ferment for too long, the broken chain of amino acids produce ammonia and can give off a putrid smell.

So even before one handles natto, the scent of it is already wafting through the air, usually in the form of a bleach-like or pungent odor (similar to old bloomy-rind cheeses, like Brie or Camembert). Some people mitigate the smell by adding other flavors to natto including alliums (e.g., green onions), seasonings (e.g., more shoyu), or other vegetables and herbs (e.g., radish, mitsuba). Others avoid natto entirely.

Another material reality of natto is its stringy texture, which some people characterize as sticky, gooey, and slimy. This stringiness is also an effect of the fermentation process, in which bacteria breakdown the soybeans to produce thin wisps of polyglutamic acid that have the weight and feel of a single strand of cotton candy or a spider's web. (It is in these strings that the bioactive compound, nattokinase, is located, which is known to improve one's heart health.) In fact, the act of stirring vigorously encourages the polyglutamic acid to come to room temperature and release glutamates, which help produce the sensation of umami or savory tastes in the human tongue.

Stirring the natto makes it easier to eat as well. Natto often comes in a square styrofoam container, similar in size to a deck of cards. The top opens up like a scanner lid, and on top of the natto beans lies a plastic liner with two sauce packets (one shoyu-based, one mustard). A common ritual for natto eaters like me is to carefully peel back the plastic liner so as not to take any of the beans with it. After adding one or both of the sauce packets, I grab a set of chopsticks in one hand, and with a firm grip, whir my hands around in a circle so that the natto strings start to wrap around itself. Since individual beans might be difficult to grasp with chopsticks, the stirring encourages the natto beans to clump together, making it easier to eat in bite-size portions.

CAN YOU STOMACH IT? GAUGING AUTHENTICITY AND FOREIGNNESS

The mucilaginous texture of natto—and one's ability to tolerate or enjoy it—grants a person membership inside Japanese culture, or so the belief goes, because it is considered to have a taste and texture that only a Japanese individual could enjoy. Here, I turn to my own experiences of eating natto as a Japanese *hafu*, a Japanese term used to describe half-Japanese people.

When I was growing up in Japan, I was often asked if I preferred bread or rice for breakfast, which, even in my young age, I knew was an indirect question about whether I identified more as Japanese (native) or Western (foreigner). In the context of late 20th-century modernization, bread at breakfast came to symbolize how Japan engaged with global food practices, and the rest of the Western world. When I would indicate my preference for rice, I would often be met with the follow-up question regarding my thoughts on natto—that is, whether or not I could stomach it. Because I had been eating it since my childhood, I considered it an ordinary rice topping, analogous to butter on bread. The reaction to my response was always one of approval and assurance, as if I had passed an unspoken test.

As I would eat the natto, I would twirl my chopsticks after each bite so as to cut off the stringiness of the natto beans. Seeing this, other Japanese would see this as a sign that I was in-the-know: I knew how to handle natto. To this Japanese audience, eating natto *validated* my Japanese identity.

How (Japanese) authenticity gets monitored and enforced can have consequences that range from solidarity to sinister gatekeeping, and much of it has to do with how we imagine degrees of cultural or ethnic identity. That I am part Japanese means that my identity fluctuates depending on the context. In Japan, I am often seen for my half-ness, which, by definition, means that I could never be whole or fully Japanese, so I am rendered an outsider—at least until practices like natto-eating grant me an exception. This follows a nationalistic rhetoric of always being 'not enough' to be let into a dominant culture, something that many mixed-race and multi-ethnic people experience. In a Western context, however, I am often seen only for my Japanese identity, and called upon to speak on behalf of "my people" as if I were their representative (e.g., "tell us why your people eat that slimy stuff"). This manifests into tokenism, exoticism, or being 'good

enough' to conveniently use a person's identity as the whole, usually for questionable purposes like racial profiling or commercial marketing. Context certainly matters, but perhaps more important than *what I am* in each setting is the fact that I consider my identity to be fluid, depending on place-based context and, to the extent that these places allow, the values that I practice.

These practices include what I eat and how. I enjoy natto both as a nostalgic taste and as a health food, but it is part of a greater constellation of other practices: how I slurp my noodles, how I bring a teacup to my lips, how I begin and end each meal with gratitude—some of which can be coded as 'Japanese' practices, some not. Alongside these food practices are others that one can also embody: language, dress, manners, and more. I choose to continue this range of practices because they ground me in a past that I share with my relatives and ancestors. By making a ritual out of these practices, I can continue to uphold these values as long as I carry these practices *in my body* and pass them on to generations after me.

CONCLUSION: HOW EMBODIMENT INFORMS FOOD IDENTITIES

How we embody a food can define us in both literal and figurative ways. **Embodiment** refers to the process of incorporating things into one's body, including foods and their practices. To embody a food means to ingest its molecules, which then become the building blocks of our physical being (e.g., soy proteins, nattokinase). Yet we embody the practices that accompany the food as well, especially as they help form a cultural identity with repetition (e.g., twirling chopsticks to cut off the stringiness of natto). For natto in particular, the materiality *requires a different set practices* compared to other fermented soybeans like miso and shoyu, slotting natto and its practices as a distinct food and ritual in Japan.

How we embody foods and their practices can lead to a sense of belonging to (or being foreign to) a given food culture. The sense of self that comes with eating natto is sometimes internally defined (e.g., I eat this because it reminds me of my family) or externally imposed (e.g., I won't eat this because people will think I am different). Given the fact that other food cultures also have alkaline ferments (e.g., cheonggukjang in Korea, thua nao in Thailand, dawa dawa in Nigeria), I wonder to what extent these places also use the embodiment of these foods as part of reinforcing a racial, ethnic, or national identity.

Eating natto may not inherently make one Japanese, not in the sense that it can confer citizenship or fulfill a checklist to becoming Japanese. Instead, natto distinguishes itself as a ferment (even in Japan) such that one's ability to prepare it, eat it, and enjoy it reinforces its singularity—a uniqueness that can be selectively called upon to include and exclude those who handle it. So whether natto *is* or *isn't* a Japanese food is secondary to the fact that some people use it to make sense of Japanese-ness in an increasingly globalized world.

At the same time, 'Japanese-ness' cannot be flattened into one experience—not by natto or any other foodstuff we call Japanese. While I am mostly writing from my own experience *in* Japan, it is also worth noting how Japanese-American, Japanese-Canadian, and Japanese-Brazilians cannot be collapsed into a singular Japanese category because they neither share the same histories nor were subject to the same political forces around migration, internment, and land ownership. A similar caution goes for nuancing the phrase "of Japanese descent," in that people who identify as nisei, sansei, and yonsei (terms for second-, third-, and fourth-generation, respectively) experience Japanese-ness differently, usually along the lines of language affordances, cultural adaptations, or lost connections from uprooted homes. Again,

identities are not fixed. It is from repeating practices that meaningful identities can form and inform who we are.

Repeatedly practicing the nuanced rituals associated with natto thus make up my layered process of identifying with Japanese food culture. To think that *I am who I am because I eat this food* works only if we dig deeper into how the Self comes to understand itself. Philosophers call this **subjectivity**, and it is perpetually shaped and reshaped by how we engage with the world around us as we try to make sense of it. This is why philosophers often write of subjectivity as being *produced*, because it is an active process of the Self becoming an individual.

To embody something, be it food or an identity, connects the physical with the figurative. Eating ferments like natto is just as much a social and cultural way of being as it is a political encapsulation of embodied difference. Natto can be a slimy food known by its stench and stringiness that prejudice can write off as being unsophisticated or gross, while at the same time, it can be a nostalgic or culture-specific food that eaters celebrate as a kind of belonging. What matters is that these processes are always and already ongoing, affected by and affecting how we make sense of the world around us. And, even as we do so, we are making sense of *who we are* as we exist in this world.

Discussion Questions

- How does embodying certain foods define one's identity? Name and explain a few examples of the food you embody and the meaning it provides to your identity.
- Consider the difference between self-identifica-

tion and external labels in food identity. Who has the ability to define themself? Who decides what is a food identity and how is it enforced?

- Many foods and identities are *essentialized* (reduced to a single aspect). What makes this a problematic way of thinking? What would be a more respectful approach to understanding differences in foods/identities?
- This text relies on aspects of storytelling to present subjective experience. What is the role of personal narrative as the basis for how we come to know what we know?

Additional Resources

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CREATIVE: FOOD PRACTICES PHOTO ESSAY

LYNN M. WALTERS

THROUGH THEIR EYES

***Lynn M. Walters**, PhD, Licensed Nutritionist (NM), is the founder of Cooking with Kids, Inc., a non-profit organization that educates and empowers children and families to make healthy food choices through hands-on learning with fresh, affordable foods from diverse cultures. She is co-editor of* Food as Communication: Communication as Food*, author of* Cooking at the Natural Cafe in Santa Fe*, and co-author of* The Cooking with Kids Cookbook*. She is interested in how the practices of growing food and cooking can support health equity and encourage positive behavior change at the individual, family, and community levels.*

Learning Outcomes

After reading and discussing this photo essay, students should be able to:

- Articulate a number of perspectives perceived by high school students on the influences on their food practices.
- Identify how food systems can help produce (and threaten) social equity.
- Describe the use of visual research methods in food studies.

INSIGHTS FROM A NEW MEXICO CLASSROOM ON FACTORS THAT INFLUENCE FOOD PRACTICES

In light of significant changes in **food practices** that began in the mid-twentieth century, many of which have led to unhealthy dietary patterns that have contributed to increased prevalence of overweight and correlated chronic diseases, it is important to understand factors that influence the ways young people eat. Increasing understanding about how family, culture, and **cooking** influence dietary habits can inform health communication and nutrition education interventions, as well as spur public policy strategies that promote healthy eating behavior.

New Mexico is a land of contrasts, with big skies, high mountains, sweeping deserts, and a deep and rich cultural history. Native Americans have lived in New Mexico for thousands of years. The Spanish colonized New Mexico in 1598, but it was not until 1912 that it became the 47th U.S. state. Hispanic/Latinx, Anglo, and Native American cultures are the three major population groups, with the largest percentage per capita of Hispanic/Latinx and the second largest percentage per capita of

Native Americans. Hispanic/Latinx in New Mexico are in themselves a diverse group, including those of Spanish heritage, along with Mexican and Central and South American immigrants. It is estimated that about one-third of residents speak Spanish. New Mexico is known for its Native American and Spanish Colonial art, and artists from across the world have long been drawn to the light and landscape. The state also consistently ranks at or near the bottom of the educational and economic ladders in the U.S., and has a high degree of **food insecurity**.

The foodways of New Mexico reflect the varied geography and climatic conditions of the state, as well as the deep agricultural traditions and cultural diversity of its peoples. Chile, corn, beans, squash, and piñon nuts all originated in the Americas. They are important food crops in New Mexico, and the basis for many traditional dishes. New Mexican cuisine is famous for its chile, grown in New Mexico for at least four hundred years. Chile develops its spicy and sweet flavors in the hot summer fields. The state question, "Red or Green?" refers to red or green chile.

This photo essay is the outcome of qualitative research conducted as a dissertation project at the University of New Mexico.[1] It presents the first-person perspectives and insights of 14 eleventh-grade New Mexico high school students on the influences on their **food practices**.[2] Students visually documented their food practices for five days, wrote a **photo-elicitation**

1. The study was reviewed and approved by the Institutional Review Board at the University of New Mexico. Written active or passive informed consent was obtained from all study participants and/or their parents, as required.
2. Students' photographs and quotations are identified by pseudonyms, along with demographic descriptors: F/M (female/male); HN (Hispanic/Latinx from New Mexico); HM (Hispanic/Latinx of Mexican descent); M1 (first generation Mexican immigrant); NA (Native American); A (Anglo).

essay, compared food memories with daily food practices, and participated in focus groups and follow-up interviews.[3]

CULTURAL HERITAGE OF FAMILY

Family and **culture** are inextricably intertwined, and cultural traditions are enacted, preserved, and evolve through family food practices. All of the students in the project expressed strong attachment to and valuing of the cultural culinary heritage of their families. Among students with close ties to Mexico, and those whose families have lived in New Mexico for generations, whether of Spanish and/or Native American heritage, it was more common to find a particularly strong view of the connection between culture and family than among the Anglo student participants.

The following photographs (see Figures 1 to 10) provide a glimpse into cultural practices enacted through family food traditions. The images primarily depict food traditions from Northern New Mexico and Mexico (the cultures of the majority of student participants), and are interspersed with Native American food traditions and others.

3. Walters, Lynn. 2015. "Through Their Own Eyes: Exploring New Mexico High School Students' Perceptions of the Influences on Their Food Practices." Communication ETDs, May. https://digitalrepository.unm.edu/cj_etds/6.

What foods do you associate with your family traditions?

Figure 1: *"My mom was making caldo de res… My parents didn't have money to buy good food like a hamburger, but they could buy potatoes for 10 cents or whatever they could find and they would put it all together." [Candelaria (FHM)]*

Figure 2: *"This plate means to me family…fajitas with rice, bell peppers, spinach, in a flour tortilla." [Candelaria (FHM)]*

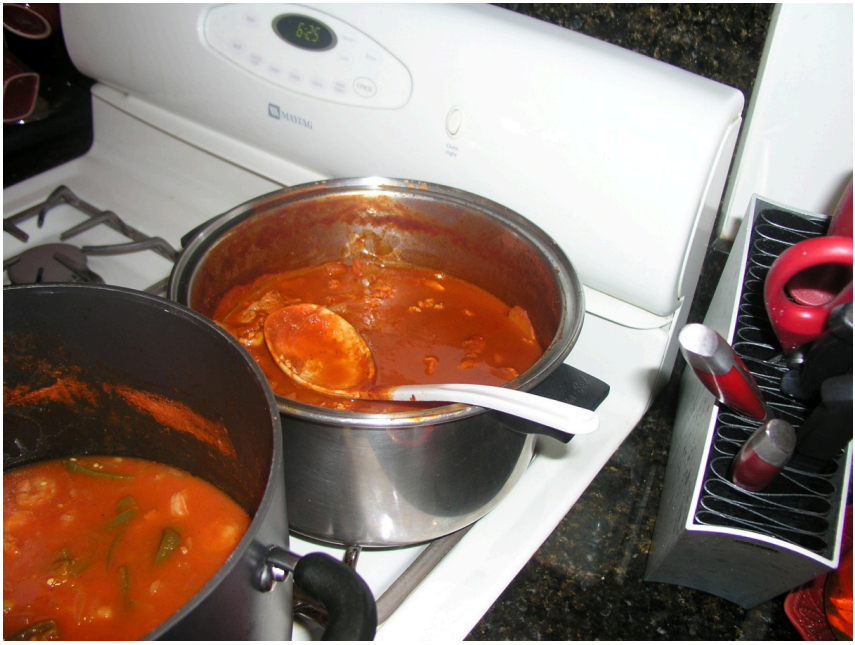

Figure 3: *"My mom made this kind of soup, with shrimp, jalapenos… with love." [Vicente (MHM)]*

Figure 4: *"Lentejas." [Candelaria (FHM)]*

Figure 5: *"My mom was frying tortillas…. Since corn tortillas usually break easily, we…dip them in oil and water; olive oil is fine. You just dip 'em in, soak them a little bit, then put them on the pan. They'll be softer and more flexible." [Santiago (MHM1)]*

Figure 6: *[Miguel (MHM)]*

Figure 7: *"My family is full of wonderful cooks…. My nana makes the best pies, cakes, and homemade ice cream. My father is the greatest at everything. He doesn't use measuring cups because he's that good. He also goes fishing with my uncles, who don't like to buy fish from the store." [Shasta (FNA)]*

"When I was growing up, my Nana would make a soup from acorn. She would pick acorns, grind them up, and pick the shells out. This process took the longest. Once she had the corn base taken care of, she then would make dumplings. All together the stew would consist of dumplings, "stew meat," and the acorns. The soup has a very bitter taste. It's something I had to get used to, just like coffee. Whenever I think of the soup, it reminds me of my Nana." [Shasta (FNA)]

Figure 8: *"When Good Friday comes, it brings my mother and I together. I'm always at school and playing sports…. She's always at work, comes home late, and tired." [Candelaria (FHM)]*

Figure 9: *"Capirotada." [Candelaria (FHM)]*

Figure 10: *"Pan-dulce is an important part of my Mexican culture. Café de olla is a special blend of coffee with cinnamon and cocoa bean. In my family it is used to spend time with each other, friends, relatives, or to close business agreements with partners. It is not eaten in times of sorrow because of the bright colors." [Lucas (MHM)]*

GENDER ROLES

Food practices were often gendered in the student narratives. Enactment of traditional gender roles, with women primarily responsible for household food, and men valued as professional chefs or in charge of the grill, was the norm in the majority of students' families (see Figures 11 to 15).

What role does gender play in who cooks in your family?

Figure 11: *[Miguel (MHM)]*

"My brother and my dad—they don't touch the kitchen—they think cooking is too complicated. My dad can't even warm up a tortilla." [Candelaria (FHM)]

Figure 12: *"In my culture, Hispanic culture, when there's people who come over to the house…we usually have…a parrillada… Once you start growing up—12, 13, 14—they teach you how to set up the coal, how to start it up, put the spices on the meat, then…. while the guys do the cooking on the grill…the girls begin the chopping…to make the salsa roja and guacamole." [Santiago (MHM1)]*

Figure 13: *"We fry the mojarra (fish) and then we cut little triangular tortillas and fry those as well. We put onions, jalapeños, garlic—we fry all that too." [Vicente (MHM)]*

Figure 14: *"The tradition is to sit with the entire family and enjoy. The pico de gallo, with the corn tortilla and a cup of Coca-Cola are all essential parts to the meal." [Vicente (MHM)]*

***Figure 15**: "My grandpa always sits in the same spot…. I think of him as the head of the*

family. I guess he is; he started it." [Miguel (MHM)]

WHERE FOOD COMES FROM

Congruent with the current food landscape, most students' families primarily purchased food from grocery stores and restaurants, including fast food outlets. Some also shopped at farmers' markets and natural grocers. Many of the students expressed an awareness of where food comes from, and that they valued the knowledge and expertise needed to grow food. Farming and/or gardening was part of family and cultural practices for almost half of the students, but it was generally not a major current food source (see Figures 16 to 20).

Do you know where the food came from that you ate for lunch today?

Figure 16: *[Miguel (MHM)]*

Figure 17: *"[At home] we have peaches, apricots, plums, and tomatoes; and my brother started growing tomatoes and chile with special lights inside." [Sofia (FHM1)]*

Figure 18: *"That's a cow. My family was getting ready to butcher it for a wedding…. My grandfather can slaughter a cow blind." [Shasta (FNA)]*

"I kind of bonded with the cow a little bit and so I was a little sad to see him get

shot in the head….You have to kill it, then you have to clean it, then you have to cut everything up, then you have to dry it so it's not all bloody. And you have to make sure that the dogs don't get it. I think I'm a bit traumatized because I wash the organs and I feel their warmth; I can't bring myself to eat it." [Shasta (FNA)]

Figure 19: *"This is the backyard of my grandparents' house. My grandpa grows chiles. A lot of the trees…they're dead… I don't know anything about planting fruits or vegetables." [Miguel (MHM)]*

"My grandpa has three pieces of land (*tierras*), or we call it in Mexico, *el llano*. He

grows beans, he grows sorghum for his cattle, and he grows corn. Lately, these past years there hasn't been much rain in Mexico. He grows a little bit of beans to eat and a little bit to sell." [Vicente (MHM)]

Figure 20: *"Peace time—sunny and warm outside, when my mom has just finished watering the garden. After cleaning the patio is the time to rest on the front porch, drinking Coca-Cola and eating sunflower seeds. We are having a nice family conversation about our future…thinking back on my and my parents' childhoods—the smell of wet dirt out in the breeze." [Sofia (FHM1)]*

FRICTION BETWEEN CULTURAL TRADITIONS AND DAILY FOOD PRACTICES

Most of the students articulated their awareness of the friction between traditional and daily food practices. Although all of the students were cognizant of this issue, the Hispanic/Latinx and Native American students described these contradictions most vividly (see Figures 21 and 22).

How do you decide what to eat each day?

"Today's food revolves around convenience, where food as a child was always something that we could all take our time with." [(Franco (MHN)] "At home my parents [are the influence] because

they cook…[if] we don't like the food in the cafeteria, what should we eat? McDonalds or this place or that place." [Santiago (MHM1)]

Figure 21: *[Emily (FA)]*

Figure 22: *[David (MHN)]*

COMMERCIAL INFLUENCE

Commercial influence, especially the rise of corporate control of the global food system, has been cited as a central cause of overweight and correlated chronic disease (see Figures 23 to 27).

Many traditional dishes include beans, grains, meats, and vegetables, all of which contain vital nutrients that contribute to a healthy diet. Where do you think messages come from that imply that traditional foods are not healthy?

Figure 23: *[Santiago (MHM1)]*

Figure 24: *[Emily (FA)]*

Figure 25: *[Emily (FA)]*

Figure 26: *[Arturo (MHM1)]*

"At my friends' house I could resort to eating junk." [John (MA)] "When I'm with my friends we're usually more tempted to go out and get something… When you cook you have to wash dishes." [Shasta (FNA)]

Figure 27: *[Miguel (MHM)]*

FOOD SECURITY/FOOD INSECURITY AND SHARING

Hunger and **food insecurity** are prevalent in the lives of many students in New Mexico. When several students candidly discussed the lack of food access that their families faced, none of the other students appeared surprised. Despite this, sharing food with extended family and neighbors is a common practice (see Figures 28 to 30).

Have you or your friends or family ever gone to bed hungry?

Figure 28: *"A community will come together and make sure that their families are fed—and make sacrifices. 'Cause it's really hard to cook at an open fire. Elders do it for family. Cooking is…getting the ingredients and then cooking it, whether it's a vigorous process or putting something in the microwave." [Shasta (FNA)]*

***Figure 29**: "After everything has been served, it was a little bit of leftovers that my mom had in one of the pots where we made the chicken fajitas. We don't throw food away, 'cause we think it's not right." [Candelaria (FHM)]*

***Figure 30:** "My grandma would make a dish for them and send it every day." [Miguel (MHM)]*

Several students reported that sometimes there was limited food available. John (MA) explained, "Our food stamps were shut

down the past month, and so I have just been eating…less and less; school lunch has been my main meal. We had some dried beans, but I didn't want to bother with [them]. I have been eating very little, but it seems like I always have enough to eat to get by." Isabella (FHM) said, "Obviously we're not broke because we still have our house, but it's like the deadline of our budget, and she [mom] says, 'We're having ramen tonight.' That's when you know we're at our limit."

FOOD PRACTICES AND HEALTH

Although multiple factors have an impact on a healthy diet—food access, food preferences, and culture—several students observed that cooking was a way to control the cost and quality of the food that they ate. In a world in which prepared and packaged foods are available on most street corners, food selection and cooking skills support healthy food practices (see Figures 31 to 33).

What does "healthy food" mean to you?

"I wanted to play basketball and I had to have a physical, and they told me that I was pre-diabetic…and my family had to change everything from what I was drinking to what I was eating. We used to have a lot of junk food…sweet bread and chips. Besides being a lot healthier, I feel much better, my self-esteem. I was 230 pounds and I was only 12. It was like a life-changing experience." [Candelaria (FHM)]

***Figure 31**: "My grandma on my mom's side has diabetes. My mom decided she was going to grow old soon and didn't want to be like that. We all feel more energized, more awake. It's kind of weird like the whole diet at my house changed completely." [Lucas (MHM)]*

***Figure 32:** [Emily (FA)]*

Figure 33: *"My friend holding an orange—she peeled it in one giant peel. I guess I'm not that healthy—'cause I was at her house and I don't eat fruits and things like that." [David (MHN)]*

COOKING AS A LIFE SKILL

Cooking may range from making toast to creating a four-course meal. Most of the cooking reported by students during the project was relatively simple, with the exception of the traditional dishes that students photographed and described. If one has basic foods, a sharp knife, a few pots and pans, running water, and a heat source, much is possible (see Figures 34 to 43).

How do you define "cooking"?

"We make soups…stuff that you can make fast. Since we're going to be college students, being able to make something with ease is important." [(Franco (MHN)] "My friends—everyone can cook a little bit. It's just a basic need. 'Cause if you can't cook, what are your options? Eat out—and that takes a lot of money. It's a life skill." [David (MHN)]

Figures 34/35: *"I am required to eat something fast and convenient… I made the burrito." [Franco (MHN)]*




Figures 36-41: *"These photos show a family working together to make a meal, me and my sisters… It's not frozen food that's heated up. We actually cooked breakfast…. "[When you cook] you appreciate the meal a lot more, the time and effort you put into it. I guess that's where the phrase, cooking with love, comes from." [John (MA)]*

Figure 42: *[Shasta (FNA)]*

"I go shopping and try to make a lot of it and freeze it and warm it up for the rest of the week 'cause I don't have time to be cooking every night. So I have just been making soup 'cause it's easy and fast—chicken soup, chicken curry, beef curry." [Shasta (FNA)]

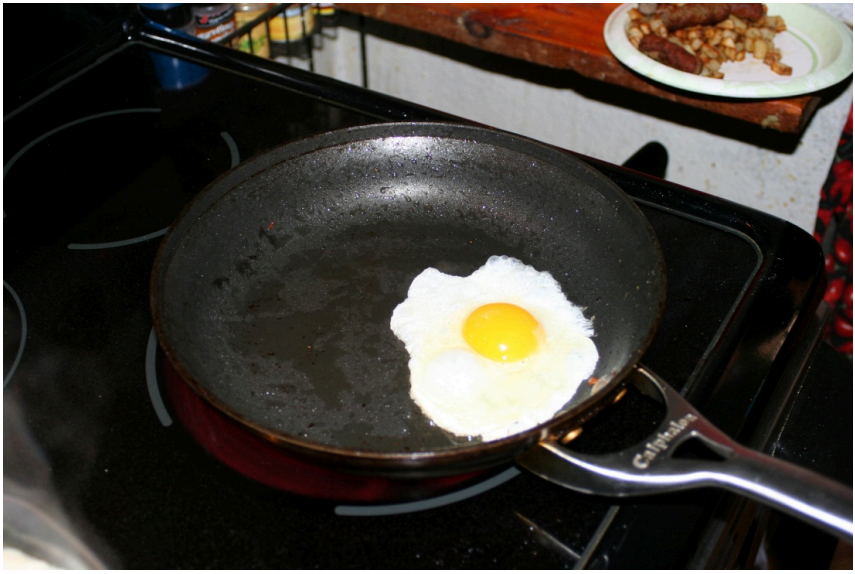

Figure 43: *[David (MHN)]*

"When I go to college next year, I don't want to be shopping at McDonalds. I want to buy my own food and cook it." [Lucas (MHM)]

HONORING FAMILY AND CULTURAL TRADITIONS

Many of the students expressed respect for the food practices of their elders, as well as the desire to preserve their cultural and family heritages by learning how to cook and share traditional foods (see Figures 44 to 47).

How do you think that you will continue your family and cultural food traditions?

Figure 44: *"Tradition is that we cook together, eat together, and clean up together." [Shasta (FNA)]*

Vicente (MHM) observed, "It's not the *caldo de res*, the *pico de gallo*, the corn tortillas, the rice or the seasoning—it's the presence of the people around you that really make the dish worth the time." Candelaria (FHM) concurred, "We are united because we continue our traditions…. I plan to share these traditions with other people and my own children in the future."

Figure 45: *[Arturo (MHM1)]*

Figure 46: *[Arturo (MHM1)]*

Figure 47: *[Miguel (MHM)]*

Thank you to the students who generously shared their stories!

Discussion Questions

- How might increased access to a variety of foods, including fresh fruits, vegetables, and whole

grains, exert positive pressure to enact healthy food practices?

- How might cooking skills increase food access and counterbalance commercial practices of culinary imperialism?
- How have processed foods changed cooking and eating patterns?
- What role do you think that gender plays in who cooks? How has this changed (or not) over the past 100 years?
- What is healthy food? What is good food?

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L. SASHA GORA

TODAY'S SPECIAL: READING MENUS AS CULTURAL TEXTS

L. Sasha Gora *is a cultural historian and writer with a focus on food and contemporary art. She is an environmental humanities research fellow at the Center for the Humanities and Social Change at Ca' Foscari University of Venice, where she is researching culinary reactions to climate change. In 2020, she received a PhD from Ludwig Maximilian University of Munich and the Rachel Carson Center on the subject of Indigenous restaurants in Canada.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Analyze restaurant menus as cultural artifacts.
- Identify how menus represent culinary points of view and reveal cultural norms.
- Recognize the assumptions and expectations associated with restaurant menus.

INTRODUCTION

"The dirty comes with bacon and sausages," the tall chef explained. "And the clean is vegetarian—with hummus and salad." It was my first day as a weekend cook and he was walking me through the basics: "The Dirty Brunch" and "The Clean Brunch." I was the only woman in the kitchen, probably because my name had led him to believe otherwise. In addition to learning how to season potatoes and when to flip pancakes, I was taught that men tend to order "the dirty" and women "the clean." This begins to reveal the assumptions behind the names of dishes on even the shortest of menus.

A restaurant menu is about a lot more than food. Menus reveal more than the daily specials and how much a burger costs. Like other forms of print media, they are narrative devices. Menus tell stories. They **taxonomize** plants and animals as edible. They represent a restaurant's owners and cooks, its neighbourhood and region. They tell tales about class and race, about wealth and value, about immigration and identity, about culture and society. Menus "set forth our culinary options," writes sociologist Priscilla Ferguson, and they "evoke the meals that express food as a distinctive attribute of a given social order."[1] They are also archives. Menus document historic foodways—from lost ingre-

1. Ferguson 2005, 689.

dients to forgotten dishes—and transformations in taste. They are memories of appetites past. This makes them rich primary sources, and so a menu analysis is a compelling research method for food studies.

A SEAT AT THE TABLE

To study a menu, one must first consider its history. As historian Paul Freedman makes clear, even though many of us take restaurants for granted, "most prosperous, commercial societies in the past managed quite well without them."[2] From **taverns** and inns to market stalls and cookshops, eating out has taken a myriad of forms, but the term *restaurant* emerged in Paris around the 1760s. The first restaurants—also called a "restaurateur's room"—shared their name with the dish they served: consommé, a healthful soup.[3] Offerings expanded and the restaurant developed a particular protocol: a printed menu announced dishes, tables were separate instead of shared, and diners no longer had to eat at a single time. From at least the 1770s, Paris restaurants advertised their culinary options with a menu—or *carte*. Before this, a menu listed what was served as opposed to options from which to choose. These new menus granted diners the ability to order a meal of their own.

The first menus featured printed folio text enclosed by leather borders or wooden frames. The text was tiny, packed, and, at the beginning of the nineteenth century, resembled a newspaper. But styles changed, keeping pace with other literary productions and, by mid-century, because of their looks, menus now resembled novels. Although the text was French, it spoke a dialect of its

2. Freedman 2016, xxxix.

3. Spang 2000, 173. For earlier examples, like Pompei's street food and imperial China's dining options, see Rawson and Shore, 2019.

own, requiring what historian Rebecca Spang calls **menu literacy**.[4]

Restaurants straddle both public and private space. Historically, many have also upheld (or challenged) racial, gender, and socioeconomic segregation, policing who can dine where and with whom. Writing about nineteenth century Boston, for example, historian Kelly Erby acknowledges this exclusivity, clarifying that "not every restaurant welcomed women, African Americans, or immigrants."[5] The model of the restaurant as an exclusive dining venue, serving French food prepared largely by male European chefs, carried on into the first decades of the 20th century in North America. Then the rise of middle-class restaurants transformed dining out into a more egalitarian practice. Ever since, many different types of restaurants have continued to open, as well as close—from Cecilia Chang's the Mandarin (which in 1961 introduced San Francisco to northern rather than southern Chinese fare) to Harlem's soul food icon, Sylvia's Restaurant (opened in 1962 and still running), and from Mother Courage, New York City's first feminist restaurant (which opened in 1972) to the Eureka Continuum, Toronto's first Indigenous restaurant (opened in 2000).

But a restaurant is not a restaurant is not a restaurant. Some eateries bear the burden of wearing the label "ethnic"—by which the cuisines of some cultures are naturalized, while others are exoticized. What makes a restaurant "ethnic"?[6] Even though everyone has an ethnicity, the dominant culture never wears this label, which makes "ethnic" a relational marker and a politically charged label. This demonstrates how eating habits distinguish one culture from another. Food erects borders, constructs differ-

4. Ibid., 186.

5. Erby 2016, xix.

6. For "ethnic food" see Padoongpatt 2011 and Ray 2014.

ence, and administers value. It is central for making and negotiating identity. Menus trace these negotiations.

HOW TO SPEAK *MENU*

With this history in mind, how can you look beyond your own appetite in order to read menus as cultural texts? What stories does a menu tell about the cuisine it seeks to represent? What language does it use and what knowledge does it assume? Menus frame the relationships between chefs, servers, and diners. By setting forth options one can choose from, they establish expectations, holding the kitchen accountable to what the menu describes. This makes them contracts of sorts: printed agreements by which customers pay a fixed price for a dish the menu lists. Although a menu "textualizes the food," as Lily Cho points out, there is a gap between the food itself and its textual representation.[7] Nonetheless, menus use visuals and text to represent what a kitchen sells and serves. They are also ambassadors about larger cultural beliefs that expand beyond a single restaurant. For example, one menu might list dishes to share, which encourages eating out as a collective experience, and another might only have individual dishes, which reflects (especially at lunch time) a busy person's need to grab something on the go. One might offer some types of meat, like beef, but not other types, like seal. And like showing the option of a "Dirty" or a "Clean" brunch, menus can connect to gendered assumptions about appetites. All of these examples reveal how the food on offer relates to larger societal norms, who eats what, with whom, when, where, how, and who is expected to pay.

It is how menus represent choice (or the lack thereof) that makes them fascinating narrative devices and objects of study. A menu is an inventory of options and a timetable scheduling when a dish

7. Cho 2010, 52.

appears. Does a menu adhere to the appetizer/main/dessert regimen? Or does it abolish a hierarchy between dishes? How does this keep to—or challenge—a culture's culinary norms? Menus can work with or against time. They can shadow the seasons by serving asparagus in spring, an increasingly common practice sparked by **Slow Food** and the **locavore** movement. They can equally can also challenge the seasons, however, serving the same dishes come rain or shine.

To analyze a menu is to reframe how we look at everyday things, learning to approach them as cultural artifacts that represent specific times and places. A good place to start is with names. "The process of designing a restaurant," writes sociologist Krishnendu Ray, "can begin with the mere act of naming it."[8] Names like *Sylvia's*, for example, identify the restaurant with a single person, making it a more intimate affair.

Language is important. What language(s) does the menu use? Does it assume the knowledge of any specific terms? What does this knowledge reveal about the diner the menu targets? Le Pavilion, New York City's seminal French restaurant from 1941 to 1966, presented diners with a menu in French, listing the likes of "Coeur de Céleris au Buerre" and "Germiny aux Pailettes Dorées." This is an example of the **cultural capital** required to eat at an upscale restaurant at the time. Such a menu expected diners to be both fluent in French as well as in its cuisine's cooking techniques. Based on language, can you determine if a menu speaks to a working-, middle- or owning-class clientele? The very first menus were long, but styles have since changed. For high-end restaurants it was once fashionable to display a range of options while today, many, including Copenhagen's NOMA, present a single menu for all.

8. Ray 2014, 107.

Sociologists Wynne Wright and Elizabeth Ransom demonstrate how to connect reading menus in relation to social class. Understanding food "as a source of conspicuous consumption for the wealthy" (referring to Thorstein Veblen's *Theory of the Leisure Class*) and a means "for the socially mobile to acquire and display cultural capital" (referring to Pierre Bourdieu's *Distinction*), Wright and Ransom share restaurant menus in relation to class and examine how these menus code economic and social value.[9] Moving beyond a focus on class alone, a menu analysis should employ an intersectional and cultural approach. After all, a tidy division between ethnicity, race, class, and gender is not possible. A menu analysis should zoom both in and out, and ask broader questions about how a menu represents a specific form of eating—a cuisine—and who it includes and excludes. Like the word ethnic, *authentic* is a loaded term. Setting it aside, what can you read on a menu that reveals how a restaurant communicates cultural beliefs, norms, and negotiations between majority and minority cultures?

A MENU OF ONE'S OWN

What do these questions look like in action? For the course, "California Cooking: How the Golden State Changed the Way America Eats," students analyzed menus from either restaurants in California or ones elsewhere that market themselves as Californian. One looked at the politics of prices at In-N-Out Burger. Another addressed how a Mexican restaurant's bilingual menu—which includes dishes with names like "A Taste of History"—represents one family's experience of migration, as well as pressure to assimilate and Americanize. Another considered the menu of the Los Angeles outpost of a Tokyo-based ramen restaurant, and how the same practice in one culture—printing pho-

9. Wright and Ransom 2005, 310–11.

tographs—can carry different associations in another (cheap in a North American context but not so in Japan).

In a class about African American foodways, students selected menus from restaurants that serve Southern or soul food. One looked at a 1949 menu from a theater café, outlining the relationship between eating and entertaining, and, for African Americans, the "chitlin circuit."[10] Studying both historic and contemporary menus, and showing how they are artifacts representing the history of the Great Migration and eating as a means to go back "home," several students wrote about Sylvia's, zooming in on the relationship between food, community, and memory.

In a course surveying the global history of American food, students mapped how restaurants around the world construct and represent American culinary cultures. Many confronted clichés in order to think critically about the nation state, soft power, and cultural capital. One, for example, looked at the American chain TGI Fridays in Ecuador, focusing on the prevalence of meat in tandem with transformations in social class. The larger the middle class, the bigger the appetite for meat. Writing about an Istanbul restaurant that peddles Southern American food, another student considered the politics of naming dishes—from "fusion" to "Tex-Mex." Citing historian Donna Gabaccia's claim about the "American penchant to experiment with foods, to combine and mix the foods of many cultural traditions into blended gumbos or stews and to create 'smorgasbords'"[11] the essay ended by arguing that this restaurant might also one day include dishes of Turkish origins. One student looked at an American diner in Munich, Germany, and its use of English, an example of a menu

10. For the history of the "chitlin' circuit"—American music venues where African Americans could perform during the period of racial segregation—see Opie 2008.

11. Gabaccia 2000, 3.

that requires particular linguistic or culinary knowledge, just like New York City's Le Pavilion once did.

CONCLUSION: THE LAST COURSE

It is a challenge to not read menus too literally. Instead, a menu analysis requires both micro and macro thinking—to read between the lines, to read images and design. Restaurants mirror the ebbs and flows of social and political transformations. To follow suit, a menu analysis needs to move beyond a summary of dishes and ask: Why these dishes now? Why call bacon and sausages "dirty" and hummus and salad "clean"? By doing a close reading of a menu, you can learn about restaurant politics—from which animals and plants end up on plates to the construction of ethnicity and how eating salty before sweet fits into culturally specific social orders. To analyze a menu is, therefore, to analyze the culture and society that produces it.

Discussion Questions

- How does analyzing a restaurant menu as a primary source influence your understanding of what a menu is and does?
- Beyond menus, what are some other primary sources related to restaurants?
- What similarities and differences do you see between restaurant menus and other forms of culinary literature, like cookbooks?

Exercise

To analyze a menu it is not necessary to have visited the restaurant or to have eaten its food. Instead, one can do a close reading of a menu—its text, design, and images, or lack thereof—in a manner than is similar to studying other forms of print culture.

Here are some questions to ask.

- What is context of the menu? Is the menu contemporary or historic?
- How does the menu represent a particular cuisine? How inclusive is this representation? Does it take a regional or national approach? Does it stick to the country's culinary clichés or does it include any unexpected dishes? Are there any obvious omissions? Does it try to 'localize' any dishes from elsewhere?
- Is the menu coherent or eclectic? Do any of the dishes stick out?
- How prominent is meat?
- What role does language play? What knowledge is assumed (of foreign words, ingredients, or particular culinary techniques)?
- Does the menu include photographs or illustrations? If so, how do these images relate to the food? Do the images represent particular dishes, or are they more inspirational or atmospheric?
- Does the menu reflect a particular season? Or is this food 'seasonless'?
- How does the menu relate to the restaurant's geography? Does it list producers? Does it mention, for example, what kind of meat it uses, or the names of farmers?
- What role do prices play? Is there a range that might influence what a customer might order?
- How do the drinks complement (or clash with) the rest of

the menu?

- What kind of customer does the menu target?

Additional Resources

More and more libraries are sharing their menu holdings online. For example, in the United States, the New York Public Library has an extensive digital collection of historic restaurant menus. The Conrad N. Hilton Library at the Culinary Institute of America has over 4,000 historical menus, including international ones. The University of Washington also has a digital menu collection, as does the Los Angeles Public Library. Although not yet available online, McGill Library has an extensive collection.

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CREATIVE: TASTING 'AUTHENTICITY'

ANNIKA WALSH AND FIN-XUAN LEE

YOU SEE THROUGH 'AUTHENTICITY'

Annika Walsh *is a transdisciplinary artist who was born in Chuzhou, China and adopted at 11 months of age by her family in Canada. She works with a variety of ingredients, materials, and collaborators to form her conceptual pieces. Her practice ranges from exploration of cultural identity to participatory food performances, and everything in between. Striving to blur the lines and push the boundaries, Annika makes a habit of traversing many disciplines, including sculptural installation, performance, and media.*

fin-xuan lee *is a non-binary queer artist and second-generation settler who explores autobiographical foundations as relational tools, ones that may contribute to various creative expressions*

and that approach healing and acknowledgement processes. They are currently practicing on unceded, unsurrendered Algonquin, Anishinabek territory. They persist through reflecting and working with experiences that may offer growth, learning, and sharing. They are interested in art and art histories because they are inspired to facilitate engagements within various communities.

YOU SEE THROUGH 'AUTHENTICITY' (SEPT. – DEC. 2021)

Artists' Statement

As two Asian-Canadian artists, we are both interested in using rice paper in our work to explore and share personal histories, experiences of oppression, and empowerment. Our collaboration aims to raise questions surrounding these specific themes and materials.

Through collaboration and community focused installations, we invite viewers to confront their assumptions and, ultimately, the dominant narratives and ideologies that uphold harmful attitudes towards non-white individuals. As a material, rice paper echoes the flexibility and malleable forms that can translate into ideas of diversity beyond stereotypical perspectives.

This installation is a participatory extension of our first performance that took place in October 2021. In the performance, viewers were able to see ingredients being rolled up by us and were encouraged to reflect on their impulsive responses to what they were seeing. This process of observing and visually digesting mirrors the act of the automatic authenticity assessment that

occurs when viewing individuals. By bringing in different ingredients—some food, some non-food, such as hair, testosterone, make-up—we hoped to disrupt normative assumptions, filling the rice paper with ingredients and decisions of our own making rather than performing a prescribed form of cultural authenticity. This installation includes video documentation of our hands during the performance, as well as an interactive rolling station where participants are invited to roll their own authentic rolls and display them on a silver plate upon a tall plinth. The plate stacked with transparent rolls exhibits self-expressed authenticity within a community.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=656

***Images from the installation*, You See Through 'Authenticity'**

The artists, Annika Walsh and fin-xuan lee' *A plateful of 'authenticity'*

CASE: FOOD IN SĀMOA

GARRETT HILLYER

‘BACK TO THE FUTURE’ FOR SAMOAN FOOD

Garrett Hillyer *is a doctoral candidate in Pacific Islands history and a Foreign Language and Area Studies Fellow in Samoan*[1] *language at the University of Hawai‘i at Mānoa. His dissertation takes an ethnographic historical approach to Samoan food, exploring the role of food within the Fa‘asāmoa, or Samoan way of life, and how food shapes and is shaped by the Fa‘asāmoa over time.*

1. Note that in this text, the word "Samoan" is written without a macron over the a (ā). This follows Samoan linguist expertise, which notes that "Samoan" is not a Samoan word, but an English word, and English does not standardly use macrons. The Samoan word would either be "Gagana Sāmoa," or "Sāmoa," meaning "Samoan language" or "of Samoa," respectively.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify common contemporary dietary crises in Samoa and draw connections to food history in the region.
- Articulate the central role of food in Samoan culture (and other Indigenous Oceanian cultures, more broadly).
- Describe the complications of looking to food pasts to solve food problems in the present.

INTRODUCTION

Like many island nations and territories in Oceania, the two **polities** of Sāmoa (the Independent State of Sāmoa and the U.S. territory of American Samoa) are undergoing a serious health crisis. Problematic conditions linked to dietary habits are resulting in increased hospitalizations, surgeries, and even deaths. These conditions include type 2 diabetes, hypertension, and obesity, among others.

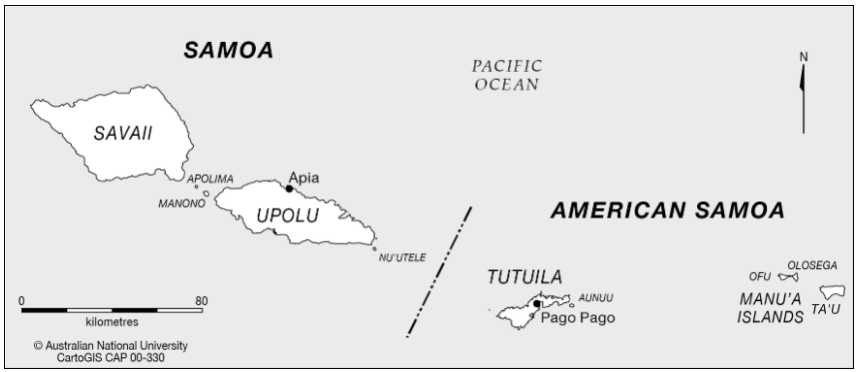

Figure 1: *The Samoan archipelago, with the Independent State of Sāmoa (or simply 'Sāmoa') to the west and American Sāmoa to the east. Map reproduced with the permission of CartoGIS Services, Scholarly Information Services, The Australian National University.*

During my time conducting food research throughout the archipelago, which included years of **participant observation**, I noticed that imported processed foods were heavily featured in contemporary daily diets. While living with a host family on the island of Manono in the Independent State of Sāmoa, not a day went by that we didn't eat hot dogs, instant ramen, white bread, or canned corned beef, which were generally accompanied by soda or other sugary drinks and juices. We also frequently ate ancestral foods, or foods produced, procured, and eaten long before outsider arrival in Sāmoa. These included foods like baked taro, breadfruit, and yams, or starchy varieties of bananas stewed in coconut cream, along with locally caught fish or locally raised chickens and pigs, and sometimes served with a glass of *vai tīpolo*, which is a juice derived from a local citrus fruit.

Figure 2: *Three Samoan meals during my time in Manono. [L-R] Breakfast of pancakes, koko alaisa (cocoa rice, or rice cooked with cocoa), and instant ramen; lunch of baked taro, fried chicken, fried turkey tails, and stewed chicken with bok choy; dinner of McDonald's hamburgers, chicken nuggets, and French fries. (photo: author)*

In either case, when we ate, we ate *a lot*. My host family was culturally obligated to take care of me, as a guest in their home, and this primarily centered on providing me with ample amounts of food. I once remarked to a friend in my village that I could barely finish my daily meals, to which he replied, "Good. That means your family is taking care of you." As a Samoan, he knew that my host family would be highly regarded by their neighbors for their ability to host and to provide. Even without guests in the home, though, Samoan families still tend to eat large meals for similar reasons, because providing for one's children or parents is also a sign of familial respect, care, and love. This provision primarily comes in the form of food. Ensuring that one's family has plenty to eat is an assurance that one is of service and utility to their family, and therefore in keeping with the *Fa'asāmoa*—the Samoan way of life.

Though my research was more concerned with charting changes over time in Samoan foodways than with contemporary dietary disease, the issue of health and wellness constantly came up when discussing my work with others. Whether talking with Samoan scholars at different universities and archival centers, or with my host family or my friends in the village, I tended to hear the same sentiment shared over and over again: If only Samoans ate the foods they *used to eat*, then dietary disease would go away entirely. However, the uncomfortable truth that some acknowl-

edged and many avoided remained: Newer, imported foods are just too tasty, too ingrained into Samoan diets, and too deeply embedded into Samoan culture itself to cut out entirely.

This chapter presents a historical overview of Samoan food and food culture, introducing readers to the roots of Sāmoa's contemporary health crisis. In so doing, it offers a window into a problem that is not unique to Sāmoa alone. However, while dietary disease is on the rise around the world, the unique place of food in many Indigenous Oceanian cultures as a means of conveying notions of respect, love, and wealth means that many Indigenous Oceanian peoples are eating more and more imported processed foods. In what follows, therefore, I also show how these new and imported foods are entangled with deeper notions of Samoan taste, making it all the more difficult to eliminate them from Samoan diets. Finally, I ask readers to consider whether a "back to the future" approach—that is, an approach in which Samoans return to eating ancestral foods completely—is really feasible.

FOOD IN SĀMOA'S DEEP PAST

When the **Lapita peoples** arrived in the Samoan archipelago around 3,500 years ago, they came prepared. Having long since mastered the domestication of animals like dogs, chickens, and pigs, the cultivation of crops like coconut, taro, and breadfruit, and the development of cooking techniques like the earth oven, Lapita peoples successfully colonized the Samoan archipelago as well as other island groups in Oceania.

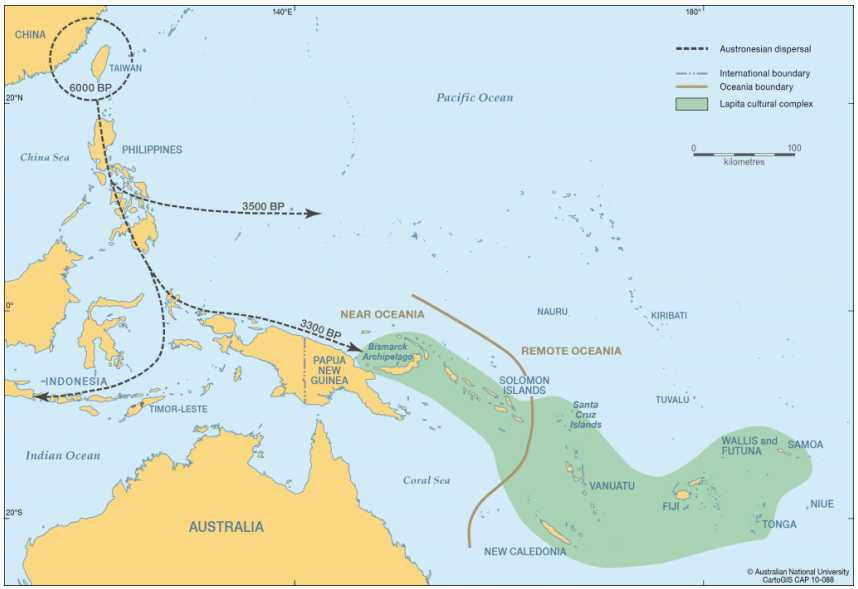

Figure 3: *The spread of the Lapita people, original settlers of many islands in Oceania, showing the Lapita Cultural Complex, or the development and spread of the Lapita culture. Map reproduced with the permission of CartoGIS Services, Scholarly Information Services, The Australian National University.*

As a distinct Samoan language and culture developed out of the first Lapita peoples, it eventually became predicated upon a *matai*, or chief, system. Daily life was paced by the will of *matai* who were obligated to look after the villages over which they held political influence. This meant, among other things, regulating the production and procurement of food. *Matai* delegated land for cultivation, organized and regulated the procurement of fish and shellfish, and deemed when it was appropriate to kill and prepare more specialized foods, such as chickens and pigs. In turn, non-*matai* village members were obligated to pay food tributes to their *matai* during important ceremonies and rituals, providing *matai* with prized food items like the heads of fish or loins of a pig.

As Sāmoa's population grew, Samoan society and the *matai* system became even more stratified, and several different rankings

developed. Some of these highly stratified rankings could be seen in food production, procurement, preparation, and service. For example, young men without *matai* titles were expected to carry out most of the day-to-day production and procurement of food, such as minding plantations and catching fish. They were also the primary cooks, as Samoan cooking with an *'umu*, or earth oven, is considered a laborious and dangerous job. Though some women held *matai* titles—and very high-ranking titles, at that—the vast majority of *matai* were men. As a result, women were primarily expected to raise families and maintain the cleanliness of villages and homes, although they also had specific food duties, such as procuring shellfish from shallow coastal waters. Age roles developed, too. Generally speaking, younger men and women were responsible for more laborious tasks while older people, titled or not, were taken care of by their children and grandchildren.

At regular intervals, peoples of all ranks came together for ceremonies and celebrations to mark significant moments in time, such as weddings, funerals, birthdays, and victories in war, and large feasting always accompanied these events. The strength and dignity of a village was often derived from their ability to host traveling parties from other villages. Likewise, the strength and dignity of villages represented by traveling parties, or guests, was often derived from their ability to present food gifts and tributes to their hosts in return. In this sense, food was integral in establishing relationships between peoples and groups.

As Samoan food culture developed, so too did Samoan tastes. Many oral traditions speak of *lolo*, or rich, fatty foods as being most prized. This is perhaps due to the fact that so much of Samoan food consisted of coconut cream, which is a rich, fatty substance that was often cooked with and/or served with baked taro, breadfruit, fish, and other staple foods. In fact, some of the elders I spoke with during my research told me that *this* is why

the heads of fish or the loins of a pig are gifted to the highest-ranking *matai*—because these pieces contain the most *lolo* flavor.

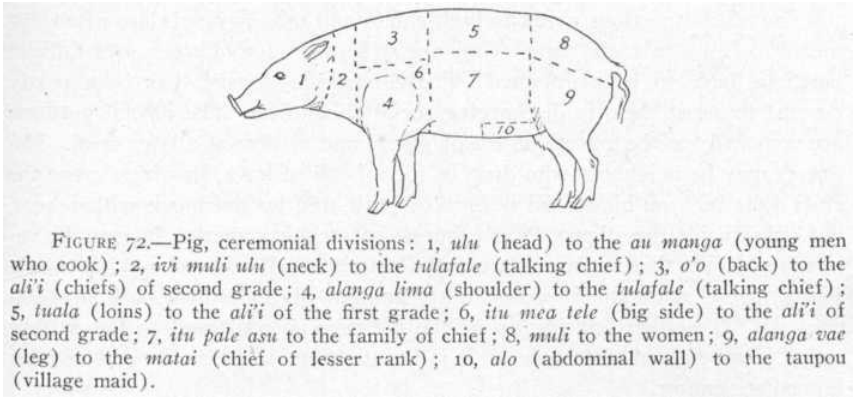

FIGURE 72.—Pig, ceremonial divisions: 1, *ulu* (head) to the *au manga* (young men who cook); 2, *ivi muli ulu* (neck) to the *tulafale* (talking chief); 3, *o'o* (back) to the *ali'i* (chiefs) of second grade; 4, *alanga lima* (shoulder) to the *tulafale* (talking chief); 5, *tuala* (loins) to the *ali'i* of the first grade; 6, *itu mea tele* (big side) to the *ali'i* of second grade; 7, *itu pale asu* to the family of chief; 8, *muli* to the women; 9, *alanga vae* (leg) to the *matai* (chief of lesser rank); 10, *alo* (abdominal wall) to the taupou (village maid).

Figure 4: *This image shows how pigs are to be divided and gifted to various members of a Samoan community, depending on their rank within that community. It is said that the loin of a pig is gifted to the highest-ranking matai due to its lolo, or rich and fatty flavor. Source: Te Rangi Hiroa (Sir Peter Buck), Samoan Material Culture, via the New Zealand Electronic Text Collection.*

This early period of Samoan food history was marked by intense labor. It is not easy to climb a coconut tree or to pull taro up from the root, not to mention moving the rocks necessary to form an *'umu*. Even a seemingly 'easy' task like picking shellfish off coastal rocks and coral still takes a significant amount of energy. This work—the work of food—regulated Samoan society for generations, but it also meant that peoples burned a significant number of calories to maintain steady diets.

FOOD IN SĀMOA'S RECENT PAST

Europeans first sighted Sāmoa in the mid-18th century, but contact between Europeans and Samoans was very limited until 1830, when missionaries from England began working to convert Samoans to Christianity. Around this same time, a global whaling industry boomed, which brought several *pālagi*, or non-Samoans, to Samoan shores, to refuel their ships, trade their

cargo, or to settle permanently and profit from Sāmoa's burgeoning economy. As the Samoan economy boomed, European and American colonial interests peaked as colonial agents sought to profit from industries like whaling and **copra**. By 1900, the Samoan archipelago was split into two halves, and without much voice given to Samoans themselves.

Though this history of colonialism goes much deeper, it is important to note here that these early *pālagi* brought with them something that would change Samoan food forever—canned goods. These included canned vegetables, fish (especially salmon), and beef, including the highly prized *pīsupo*, or corned beef, so named because in its early canned form it resembled cans of pea soup. Given their scarcity, and especially their *lolo* flavor, canned fish and meats became especially highly prized items in Samoan society. Where once a high-ranking *matai* might have expected a certain cut of pig or piece of fish as a food tribute from their village or a traveling party, they eventually grew to expect imported *pālagi* foods. Still, throughout the nineteenth century, limited supply of canned goods, a small overall population, and the fact that most Samoans remained largely within ancestral **subsistence** economies, all prevented an exponential growth of Sāmoa's *pālagi* food presence.

By the mid-20th century, however, a combination of factors changed this. Catastrophic natural disasters brought in food aid from countries like New Zealand, Australia, and the United States, including flour, yeast, rice, and sugar in great supply. This influx gave way to new foods like *pani popo* (literally "coconut bread"), or buns baked in coconut cream, and *koko alaisa* (literally "cocoa rice"), or rice cooked in hot cocoa. In addition, the world wars in the early-to-mid-20th century meant more people, industry, and cash in Sāmoa's economy, giving more Samoans exposure and access to *pālagi* foods. As with many island groups in Oceania, food items like SPAM became a bigger part of daily

diets, and with more Samoans able to afford more *pālagi* foods, Samoan tables began looking more and more *pālagi* by the minute, while also retaining many ancestral foods like taro, coconut, and breadfruit. While restaurants, bars, bakeries, dairies, and grocery stores had existed in Sāmoa since the mid-nineteenth century, they rapidly expanded through the mid- and late-20th century. Before long, both Samoan polities had several eateries and groceries selling **ultra-processed foods**. For example, the Independent State of Sāmoa boasts its own McDonald's fast food restaurant, while the less populated American Sāmoa claims *two*, along with other fast food establishments like Carl's Jr. and Pizza Hut.

Figure 5: *The McDonald's restaurant in Tāfuna, Tutuila (American Sāmoa), which is one of two 24-hour McDonald's locations in the island territory of only about 55,000 people. (photo: author)*

FOOD IN SĀMOA'S PRESENT AND FUTURE

While foods changed, Samoan cultural values surrounding food persisted. This is not to say that Samoan culture remained static, as it continued to change during the 20th century, just as it had prior to European arrival in the islands. Rather, the ties between food, gifting, ceremony, respect, and provision remained a central tenant of the *Fa'asāmoa*. As such, Samoans continued to place incredible value on providing prized *lolo* foods to family, friends, *matai*, and any other peoples with whom they wished to sustain positive relationships. At the same time, within families, providing one another with plenty to eat remained a crucial way to communicate love, respect, and care. Consider, too, that with ease of access comes a lack of activity. Where foods were once difficult to cultivate, catch, and cook, they are now readily available on grocery shelves, and with the transition of many from subsistence to **sedentary** lifestyles and work, less activity means fewer calories burned. Some food scholars have labeled this kind of change in food choices and activity levels as the "**nutrition transition**."

We also need to consider the interplay of food and colonialism. While this subject is too complex to go into here, it should be noted that power dynamics between smaller island nations like Sāmoa and larger nations like New Zealand, Australia, and the United States often involve some degree of **hegemony**. In regard to food, this can mean the exportation of unhealthy foods into Sāmoa without correlating funding for the medical problems that inevitably arise from eating such foods. For example, the Independent State of Sāmoa tried to implement various bans on imports, including a recent ban on turkey tails, but they received pushback from wealthier nations who threatened to restrict their induction into the World Trade Organization, not to mention significant local uproar from Samoan people who love turkey tails' *lolo* flavor. With limited political recourse or external public

health support, and widespread local demand for imported foods, both Samoan polities find themselves struggling to combat dietary disease. Craig Santos Perez, a **CHamoru** scholar and poet, calls this kind of power dynamic "**gastrocolonialism**," which he broadly defines as "structural force-feeding." According to Perez, gastrocolonialism not only erodes food cultural knowledge and increases dependency on imported foods, but it also leads to chronic diseases linked to poor diet. This is certainly true of Sāmoa.

In a recent documentary (which forms the foundation for an assignment at the end of this chapter), a Samoan doctor called type 2 diabetes a "tsunami in the Pacific." Indeed, several recent studies show that both Samoan polities and several other Oceanian territories and nations have some of the highest **per capita** cases of obesity, type 2 diabetes, and other diet-related conditions in the world. Later in the documentary, the same doctor states that when he was young, he ate mostly ancestral foods, whereas Samoan children today eat imported processed foods in bulk. Like many Samoans, the doctor's opinion is that a return to ancestral foods will mitigate dietary diseases in the region. However, is the answer that simple? Is removing imported foods from Samoan society and culture feasible?

Considering that imported processed foods have been an integral part of Samoan food culture for over a century, and that gifting and eating in bulk is intertwined with Samoan cultural norms, it becomes much harder to grapple with the possibility of ridding Samoan culture of imported foods. In fact, many Samoans dedicated to making these changes are adopting and adapting non-Samoan means of improving public health. For example, Zumba classes and CrossFit groups have become increasingly popular ways to stay active, and fruits and leafy green vegetables are being pushed by government and grassroots campaigns to try to convince Samoans to eat more healthfully. In this sense, the

notion of returning to Sāmoa's food past is complicated by the fact that innovative, contemporary public health practices are simultaneously promoted as the answer to the problems of Sāmoa's food present. On the other hand, some farmers are attempting to grow a kind of slow food movement in Sāmoa, predicated on revitalizing ancestral agricultural practices and diets. This suggests that perhaps looking to the past *can* provide a path to a healthy and sustainable food future. On the *other* other hand, what does a "back to the future" approach mean for Samoans who feel that eating imported foods is the mark of a thriving people? And who are activists—especially outsider activists—to tell Samoans that they cannot eat the same foods that have given so much meaning to cultural exchanges for so long?

This short text does not propose clear answers to the complicated questions it poses. Perhaps, however, readers will now be interested to further engage with food studies in Sāmoa, and Oceania more broadly, to address things like food adoption and adaptation, the relationship between food and health, the entanglement of food and colonialism, and the complications of eradicating imported foods from Indigenous Oceanian societies and cultures. The assignments following this chapter provide an opportunity to begin that engagement, and welcome all readers to begin discussing these serious issues with one another.

Discussion Questions

- Given what you learned in this chapter about Samoan food culture, what is the role of food in the cultures with which you are familiar? In what

ways is Samoan food culture distinct from and/or similar to these food cultures?

- What are some of the ways that dietary disease can be linked to food culture? How can food culture help prevent dietary disease?
- What is the link between colonialism and dietary disease?
- In its concluding section, this chapter asks if the answer to Sāmoa's (and Oceania's) dietary disease crisis is taking a "back to the future" approach? What might be learned from looking at diets from the past? What might be learned from contemporary public health practices?

Exercises

Exploring Food in Print

While it is not always possible to travel to Oceanic islands to speak directly with people to learn about the past and present of their food culture, much can be learned from materials housed in archives. Go to the National University of Australia's TROVE digital archives and browse through issues of *The Pacific Islands Monthly*. While it is important to remember that this magazine was written for a Euro-American audience, it contains advertisements and stories about food across Oceania. Click on the "Browse this collection" button, and then click on any of the thumbnails that appear, while also scrolling or using the drop-down menu to see more recent issues. Once you select an issue, use the search tool to

look for things like "food," "beef," "taro," "beer," "cookies," "diabetes," or any other food-related search term you can think of.

Write a description of what you found in the issue you selected, considering the following questions:

- What did you learn about food and food culture in Oceania?
- In the descriptions or stories about food that you read, what words or phrases stuck out for you?
- What did the images tell you about food culture in the region?
- How might the magazine's audience be affected by the choice of food stories and/or advertisements in the issue?

Exploring Food in Song

Listen to the popular Samoan song "Oka oka laʻu hani," and read the lyrics below as you listen. What kinds of foods does the song tell about, and how does the song use food symbolism? What might this tell you about changes in Samoan food culture that took place during the 20th century? (The song was written in the 1930s, and this version, performed by the Five Stars, is from the 1980s.)

Oka Oka la'u Hani	Oh oh my honey
o La'u hani faasilisili	My dearest honey
ou te faatusaina i se apa helapi	Who I compare to a can of Hellaby's [corned beef],
po'o se pisupo sili	Or the very best corned beef,
po'o se masikeke mai Fiti	Or some cookies/biscuits from Fiji,
po'o sina sapasui	Or the very best Chop Suey,
o ni tamato ma ni pi	With the tomatoes and peas
Afai lava ua tonu	If it's agreeable for you
ua tonu lou finagalo	With the will of your heart
ta faaipoipo	We'll get married
avane i le malo	In accordance with the law
e leaga o le ta'atua	For it's wrong to just play around
e tele ai o le tiapolo	There is a devil [That is an act of the devil]
pe fai sau pepe	And if you have a baby
o le pepe o le pō	It will be a baby of the night [a demon]
Tia, tia tofa	Dear, dear, goodbye
o le a ta tete'a	We are parting ways
e leai o se mamao	But the distance isn't too great
alaga i gauta	Shout inland
avanoa sau taimi	When you have the time
telefoni ane se itula	Telephone me at some hour
pe fai sau leta	Or write a letter
avane i se motokā	And send it to me by motorcar

Exploring Food in Film

Watch the documentary "Samoa Diabetes Epidemic: Part 4" from Attitude, and write a one- to two-page summary that reflects your understanding of Sāmoa's contemporary health crisis. Drawing on what you learned in this chapter and in the film, offer your thoughts on potential solutions to this dietary "tsunami in the Pacific."

Additional Resources

Teaching Oceania, a resource compiled by the University of Hawai'i at Mānoa's Center for Pacific Islands Studies (CPIS)

Laudan, R. 2013. "Modern Cuisines: The Globalization of Middling Cuisines, 1920–2000," in Laudan, *Cuisine and Empire: Cooking in World History*. Berkeley: University of California Press.

Sharma, J. 2012. "Food and Empire," in Jeffrey Pilcher, ed., *The Oxford Handbook of Food History*. Oxford, UK: Oxford University Press.

On "Gastrocolonialism," see: Craig Santos Perez, "*Facing Hawai'i's Future* – Book Review," *Kenyon Review* (July 2013).

EDEN KINKAID

PLACE-BASED DESIGNATIONS AND AGRI-FOOD CERTIFICATION IN A GLOBALIZED FOOD SYSTEM

Eden Kinkaid *is a PhD candidate in Geography in the School of Geography, Development, and Environment at the University of Arizona. Eden's research focuses on local and heritage food projects in Arizona and engages themes of place, neoliberalism, development, and certification. Eden also conducts research on the impacts of the coronavirus pandemic on the food system of southern Arizona.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain the emergence of place-based designations as a response to and product of the globalization of food systems.
- Discuss the rise of certification within contemporary trends in agri-food governance.
- Review the role of place-based designations in strategies of rural development.
- Identify critiques and shortcomings of place-based designations.

INTRODUCTION: GLOBALIZATION AND THE "PLACELESS" FOOD SYSTEM

What is the meaning of *place* in an increasingly globalized food system? Do the particular landscapes and cultures of food production continue to matter in a food system premised on uniformity, standardization, and "placelessness?"

Given the steady rise of **place-based designations** for food products around the world, it may be too soon to claim that place no longer matters in our global food system. Place-based designations, like the French *appellation d'origine contrôlée* (AOC; controlled designation of origin) system have long existed to authenticate that certain products originate from their traditional regions and are produced using traditional practices. These systems rely on the concept of ***terroir***—the idea that the specific qualities of a product are linked to the environmental and cultural characteristics of its region of production. Since the

1990s, internationally recognized place-based designations, like Geographical Indication (GI), have become part of global agricultural and food governance, or agri-food governance. These designations continue to be taken up with enthusiasm around the world as a way of inserting "place" back into the global food system.

This brief overview examines place-based designations with a focus on three key topics: the **globalization** of food systems, certification as a technique of agri-food governance, and the role of place-based designations in rural development. It then turns to a discussion of the critiques of place-based designations. While the term place-based designation covers a range of labels and certification projects, the focus here is on internationally recognized systems, like AOC and GI. While it is difficult to make any hard and final claims about the impacts of place-based designations, it is clear that they have illuminated place as a terrain of contestation in our food systems, making them an important topic for food scholarship.

THE GLOBALIZATION OF FOOD

The **industrialization and globalization of food systems** have transformed the places and landscapes where food is produced. These transformations have resulted in a "placeless" food system in which food products are standardized, anonymized, and disconnected from the landscapes, seasons, and sites of their production. Yet these processes of industrialization and globalization have not proceeded without resistance. Rather, consumers and broader social movements have resisted the globalization of agriculture by asserting the right to know where their food comes from and by honoring regional food and agricultural traditions.

It is in this context that we have seen the global expansion of place-based designations, through which a particular food product name—like Tequila or Camembert—can only legally refer to products produced within a historical region of production using traditional methods. These designations not only link foods to particular places but are premised on the idea that place is what gives particular foods their characteristic tastes and qualities (i.e., the concept of *terroir*). GIs strive to reinforce the traditions and meanings of place, but also serve to limit what producers from that place can do to innovate and transform their practices.

Figure 1: *A packaged Camembert de Normandie AOP Isigny Sainte-Mère (source: LAGRIC, CC BY-SA 3.0, via Wikimedia Commons)*

Given this connection to "tradition" and "place," GIs are thus seen as a counterpoint to the globalization of food. Along these lines, Trubek and Bowen describe place-based designations "as a source of resistance against the homogenizing effects of 'place-

less' food systems."[1] Similarly, Rangnekar argues that placed-based designations "offer opportunities to retrieve history, inscribe locality, and facilitate resistance against global agri-food."[2] For these scholars, connecting food with place is seen as a means of countering the processes and impacts of globalization.

AUTHENTIC FOODS: THE RISE OF CERTIFICATION

While place-based designations can be understood as a response to the globalization of agriculture, they are, like other forms of agri-food certification, also very much *a product of* the globalization of agriculture. The rise of certification systems for food products is part of the complex shifts that have occurred as the governance of food and agriculture has become globalized. To understand how **agri-food certification** has emerged and proliferated, we need to understand this broader context of **agri-food governance**: the institutions, rules, and regulations that shape the production and trade of food and agricultural products.

As the food system has become more globalized, new forms of governance have emerged to regulate the production and trade of food. Power to regulate food and agriculture have shifted away from states, and toward global governing bodies like the World Trade Organization. These institutions set standards for food quality and safety that shape the rules of international trade in food. As global governing bodies attempt to "harmonize" national standards to facilitate international trade, global standards have increasingly come to shape the production of food across the globe. Agri-food certifications are one such standard that has emerged to designate and authenticate specialty products that are produced in particular places (GI, AOC) or in par-

1. Trubek and Bowen 2008, 24.
2. Rangnekar 2011, 2044.

ticular ways (e.g., organic, fair trade). Because consumers cannot verify the origins or qualities of food produced around the globe, these standards serve to guarantee the quality of foods on the global market.

These processes of certification have also emerged in response to a demand for "high-quality" and "authentic" foods that have particular environmental, social, and cultural values embedded within them. The emergence of new forms of consumer preferences and education, ecogastronomy and other food-based lifestyles, and various food movements have bolstered the demand for "high-quality" and "authentic" foods. Because these foods carry a price premium, it is necessary to certify the claims they make that differentiate them from generic commodities. How can I be assured that my Camembert cheese is an authentic product of Normandy, rather than a case of false advertising? Here, certification systems like AOC and GI have emerged as a way to support the claims being made by food producers, while ensuring transparency, authenticity, and quality in globally traded food products. In this way, we can understand place-based designations as both a response to the impacts of a globalized food system and a product emerging from the context of global agri-food governance and trade.

CAPTURING VALUE: RURAL DEVELOPMENT AND AGRI-TOURISM

What are the benefits of place-based designations? In addition to authenticating the origin of a food product, place-based designations are promoted for their potential to protect rural cultures and bolster local and regional economies.[3] Because place-based designations add value to a product, they produce price premiums that are (ideally) captured by producers and thus support

3. Coombe et al. 2014.

agrarian livelihoods (although this is not always the case).[4] Beyond adding value to food products, place-based designations are often part of efforts to promote rural landscapes and heritage through forms of tourism focused on agriculture and rural life, like **agri-tourism**. In this sense, place-based designations support the marketing of both products and places; they highlight a region's unique agrarian and culinary heritage and help promote it as a tourist destination. For many regions around the world, agri-tourism and gastronomic tourism are seen as vehicles for rural development that can support, rather than erase, locally specific forms of food, farming, and culture.

While the histories and meanings of development vary regionally around the world, place-based designations like Geographic Indication have been seen as potentially contributing to forms of rural and agricultural economic development in both the Global North and Global South. In the Global North, agri-tourism has come to play a significant role in rural economies as these regions have transitioned from production to consumption landscapes. The term "consumption landscape" describes how some rural landscapes have become less oriented toward commodity food production and have shifted to more diversified, consumption-based activities, including tourism and recreation.[5] In this context, agri-tourism has been seen as a strategy for rural development and farm diversification, through which rural areas can support social goods including the protection of agricultural landscapes and agrarian cultural heritage. In the Global South, place-based designations have similarly been seen as a way to promote biodiversity and cultural traditions, and, critically, as a means for increasing export revenues, launching a product into global circulation, and promoting tourism.[6] In both contexts, by

4. Bowen 2010.

5. Woods 2009, 172.

6. Bowen 2010.

marketing the landscapes, products, and places of food production, farmers and other stakeholders seek to capitalize on the agricultural heritage of regions while connecting them to new economic circuits. However, given the different histories and meaning of development in the Global North and Global South, it is important to attend to broader cultural, socio-economic, and historical contexts when evaluating the potentials of place-based designations in any given place.

IMPLICATIONS

As previously discussed, proponents of place-based designations argue that they can counter the impacts of globalization, support local food economies, contribute to rural development, protect cultural heritage, and provide various other cultural and environmental benefits. Yet others remain critical of how well place-based designation and other forms of agri-food certification can accomplish these ambitious goals. In what follows, two critiques of place-based designation are considered: (a) that it reproduces dominant modes of neoliberal governance, and (b) that it produces uneven development.

Neoliberalism and market solutions

One of the major critiques of place-based designation as a form of agri-food certification is that it can reproduce neoliberal ideologies and practices. What does this mean? **Neoliberalism** refers to a philosophy and practice of governance that emerged in the 1970s in Europe and the United States, and which remains dominant today across the globe. Premised on the primacy of the market as a regulator of social life,[7] neoliberal approaches emphasize **privatization, commodification,** and other forms of **marketization** as solutions to social and environmental prob-

7. Allen & Guthman 2006.

lems, entailing a shift in power from state to **non-state actors**.[8] According to neoliberal doctrine, social and environmental problems are best solved through **market-based solutions.** For example, in the case of air pollution, a neoliberal, market-based solution would entail "trading" the right to pollute by buying and selling "credits" (e.g., the right to pollute a given quantity) on the market. An example of a non-market-based approach would be enforcing emissions laws through state agencies.

Forms of agri-food certification, including place-based designations, are part of this trend in neoliberal governance. Instead of addressing the systemic problems of our food system through regulations, reform, or social movements, neoliberal approaches like food labelling leave it up to the market and consumers to make socially and environmentally conscious choices (by paying a price premium). From this perspective, solving the problems of our globalized industrial food system becomes the responsibility of consumers, rather than the responsibility of the food and agricultural industry or the state. According to critics like Guthman, certification does not actually challenge this system; rather, it merely allows privileged consumers to pay their way to consuming healthier, more ecological, more socially just, and more "authentic" food, all while leaving the system intact. Other scholars argue that food labels can spur on collective action and serve as a point of resistance to the logics of a globalized food system.[9] Understanding place-based designations and other forms of agri-food certification as both a symptom of and a response to neoliberal governance is key to evaluating its strengths and limitations as a strategy of agri-food governance and rural development.

8. Guthman 2007.

9. Harris 2010.

Uneven benefits

Other critics of place-based certification point to how these strategies can produce benefits that are unevenly shared. First, the narratives underwriting these place-based designations—narratives that rely on ideas of tradition, place, and heritage—can be constructed in ways that valorize certain producers and practices while excluding others. This occurs as various actors attempt to control narratives of place and tradition to suit their interests and ensure that they can claim the value produced by place-based designations. Second, the material benefits of place-based designations and other forms of agrifood certification, like price premiums, may flow to some more than others, and thus can reproduce unequal social relations.[10] For example, Rangnekar (2011) describes how attempts to secure a GI for a traditional Indian beverage, Feni, ended up benefiting bottlers and distributors at the expense of producers of the beverage, who may not even know about the designation and its value. In the case of the GI status of tequila in Mexico, Bowen similarly demonstrates how negotiations over the details of the designation, including quality standards, processing protocols, and dynamics between small producers, bottlers, and distributors have diluted the meaning of the GI designation. Bowen describes "influential actors have manipulated production standards and certification policies in ways that contradict the theoretical concept of a GI and negatively affect the overall quality of tequila."[11] Further, any kind of place-based designation relies on the demarcation of "traditional" regions and techniques of production, thus recognizing some producers as eligible for distinction while excluding others.

10. Rangnekar 2011.

11. Bowen 2010.

Figure 2: *Jose Cuervo agave plantation in Tequila, Jalisco. (source: T2O media México, CC BY-SA 4.0, via Wikimedia Commons)*

These problems are not unique to place-based designations but accompany any attempt to produce value through the distinction of labels and processes of certification. Guthman points to how all certification systems are built on exclusions; barriers to entry allow some to benefit from designations while excluding others.[12] Thus, rather than seeing place-based designations as a panacea to issues of rural development and the problems of a globalized food system, we need to approach these projects critically, with an awareness of both their potentials and limitations.

CONCLUSION

As this discussion suggests, place-based designations open up complex questions and practical challenges concerning food systems, globalization, agri-food governance, and rural change. This

12. Guthman 2007.

complexity means that there is no single verdict on the impacts or merits of place-based designations as a general approach, nor are there any uniform effects of such designations. Instead, how place-based designations affect particular places and landscapes depends upon how they are pursued; that is, by whom, for whom, and at what scale. This is because place-based designations, like any form of certification, are not simply a technical standard to be implemented, but a strategy of governance located within uneven socio-economic, cultural, and power relations. To understand their impacts, strengths, and limitations, we must pursue careful empirical research about particular certification projects in specific places. The general problems outlined here can aid us in approaching specific cases of place-based designations with a critical lens and within their larger historical context.

Discussion Questions

- What is terroir? How do claims to terroir differentiate a given food from other food products?
- How can place-based designations be understood as both responses to and products of the globalization of food systems?
- In what ways can place-based designations contribute to rural development?
- What are the major shortcomings or critiques of place-based designation as a form of rural development?

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NATALIE DOONAN

TOUCHING FOOD, VIRTUALLY TASTING

Natalie Doonan *is an artist, writer, and educator. Her research focuses on food, place, and the senses. Natalie's work has been shown in exhibitions and festivals across Canada and internationally. Her writing has appeared in professional and peer reviewed art and food culture publications. She serves as Assistant Professor in the Department of Communication at l'Université de Montréal.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain how creative *process* can be crucial to learning and discovery in food studies research.
- Identify the advantages of developing sensory perception of the environment, and also the reasons for maintaining distance.
- Express the possibilities and the pitfalls of extending taste and touch through new media.
- Create a work that communicates the ways in which a plant nourishes the world.

INTRODUCTION

What might it mean to walk or to eat artfully? How might approaching these seemingly mundane actions through the framework of art (or with aesthetic intention) transform the experience of everyday life? This text describes the development of a sensory tour that uses walking, tasting, touching, and viewing to transform environmental perception. Beginning from the premise that art can re-orient and even change perception, the project described below encourages its participants to re-imagine a public place.

Coney Island MTL is a tour of the St. Lawrence River in Verdun, Montreal. It takes the forms of both a website (featuring an interactive map with a series of 360-degree videos) and a series of walks in the waterfront park. Through a combination of embodied actions such as walking and tasting, and immersive experiences like viewing videos in a virtual reality (VR) headset, participants are invited to re-imagine this place from **more-than-human** perspectives. In what follows, attention is directed to the creation of the work, rather than the finished piece. This

is because the process itself raises questions about the limits of human perception and about the responsibilities of humans toward other species.

MAKING TOURS

In my performance and multimedia work, I create scripts based on the **narrative structure** of walking tours. My interest in this kind of script comes from past experiences in the tourism industry, especially as an art gallery tour guide. For many years, I have been interested in tours as a way of telling stories in and about place. Walking tours and taste tours are two of the most popular ways in which people are first introduced to places. Think about beer samplers featuring local microbrews or charcuterie plates with artisanal meats and cheeses meticulously presented on a brilliantly designed menu and sensuously described by the server. Consider the haunted pub crawl or the famous restaurant that requires reservations weeks in advance. These are carefully crafted stories about place, designed to appeal to consumers through all of their senses. Unlike these tours though, the one that I describe in this chapter is not made to encourage consumption in bars and restaurants. Instead, it lures participants to a more ambiguous space, a place of spectacular views, punctuated by weeds that thrive in contaminated earth.

HICCUPS AND ROADBLOCKS

Over the last decade I have presented more than twenty-five free, artist-led tours and tastings in and around Montreal.[1] These have included activities like dumpster diving and **foraging** for wild edible plants. This is always a tricky business, since foraging can be dangerous without proper training, and there are many food safety issues to consider. However, I encountered particular

1. See http://www.lesensorium.com/

roadblocks sometime around 2017, when I started to work in the waterfront park in Verdun, a Montreal borough that is located on the shores of the St. Lawrence River. The first hiccup came when I began proposing ideas for transforming the waterfront weeds into edible concoctions for public events. This was a problem for two reasons: first, the municipality prohibits consumption of any plants that grow in this park, since it is a human-made area literally constructed from garbage: backfill extracted during the construction of the Montreal metro in the 1960s. The concern is that plants growing in potentially toxic soil could be detrimental to human health. A related concern that is not specific to Verdun is that certain plants, whether or not they are growing in toxic soil, are noxious for humans. Milkweed is one relevant example, since the latex in its pods pose a threat to some people. On top of this, plants can easily be mis-identified and thus cause poisoning.

The second snag in my plans for taste tours along the river had to do with a specific plant that grows there: *Phragmites australis*, or common reed. This is a Eurasian perennial reed grass that has made its way to the banks of the St. Lawrence after hitching a ride on trade ships that travel through the St. Lawrence Seaway. The plant has been widely identified as a threat to biodiversity as it is hardy, spreads easily, and crowds out other plants, while also eliminating animal habitats. The common reed thrives in full sun and flourishes in the conditions created by a warming climate. Long, silky hairs sprouting from the top of six-foot-tall stems sway in the breeze, dispersing tiny seeds as they flow. The non-profit organization *Nature-Action Québec* has been engaged in what seems to be an uphill battle removing common reed stands on Verdun's waterfront. A biologist trained me to perform this removal operation, but it is very easy to propagate the seeds while doing so. Some biologists from *Nature-Action Québec* were thus understandably against my idea of sharing common reed decoctions with the public, fearing that this would encourage

people to cut the plants and increase their spread. Others thought it was a good idea to do this as part of a workshop that would teach people about the threats posed by the plants.

WHAT IS THE PLACE OF HUMANS HERE?

These complications surrounding human consumption of so-called wild plants offer rich opportunities for examining the negotiation of **self and other**. The construction of a dike along the waterfront in the early 20th century prevented seasonal flooding, thus allowing people to settle in Verdun. At the same time, the dike eradicated the habitat of other species, for example fish spawning grounds. Later, a park was created beside the St. Lawrence, bringing humans into closer contact with the river ecology. Through urban planning, the waterfront has been shaped and embellished using potentially toxic stuff (the backfill mentioned above), in order to encourage human connections with 'nature'. The risk posed by toxicity means that barriers must be maintained between this stuff and human bodies. It is paradoxical that the waterfront park was created to bring pedestrians and swimmers into a more intimate relationship with a river that itself is also perceived as a threat, and which must be held at a distance. What do these **more-than-human relations** tell us about **human subjectivity**? Should we get closer to nature, developing our awareness of plant, animal, and insect life, or is it preferable for us to maintain a respectful distance?

Foragers and dumpster divers observe a semi-official ethic of restraint. There are common rules of practice that have been developed within these communities to preserve the well-being of others, both human and non-human. For example, it is commonly agreed that you should never take more than you need, and always leave enough for other people, and in the case of

plants, for their continued thriving.[2] This ethic emphasizes the well-being of communities, rather than privileging individuals. Furthermore, it challenges consumers to consider food landscapes from more-than-human perspectives. Harvesting milkweed, for example, has an impact on pollinators that depend on this food source. This means that in harvesting milkweed, we may be privileging human tastes over more pressing ecological needs.

The notion of **interdependence** is gaining traction over stories that place humans at the top of the food chain, or in competition with other species (and with other humans too, for that matter). What relationships and responsibilities do humans have toward other species? Foraging and dumpster diving are practices that challenge the dissections that we try (and fail) to perform between ourselves and the world. Rather than approaching weeds or discarded food as waste or as trash, foragers and dumpster divers treat these as valuable sources of nourishment. In my proposal to serve decoctions of common reed, I intended to bring tasters into a more intimate contact with these plants, literally making plant and human one through the act of consumption. In my process of developing tours in Verdun, however, I eventually became aware of the fact that approaching an environment as an edible landscape can lead to outcomes that are beneficial to humans but detrimental to plants. Sometimes the best thing we can do for local ecologies is to leave them alone.

TASTING WITH THE EYES

Given the ethical issues surrounding feeding common reeds to people during taste tours in Verdun, I wondered how else the intimacy of tasting could be imparted. The waterfront park and its pedestrian paths were constructed to enable panoramic views

2. For more on the ethics of foraging and dumpster diving see: https://freegan.info/freegan-philosophy/.

featuring the St. Lawrence River. Condo developments on Nuns' Island, which is part of the borough, are likewise designed for all-encompassing views. This desire to take it all in—but from a distance—is what philosopher Michel de Certeau called a "God's eye view," which he contrasts with the intimate connection with the city experienced through walking in densely developed streets. De Certeau describes walkers as *artists,* who create poetry in the ways that they move through space. They "make use of spaces that cannot be seen; their knowledge of them is as blind as that of lovers in each other's arms. The paths that correspond in this intertwining, unrecognized poems in which each body is an element signed by many others, elude legibility. It is as though the practices organizing a bustling city were characterized by their blindness."[3] Unlike the all-seeing eye that apprehends the totality of the city at a distance, walkers experience places only in fragments, but close up and sensually.

Is it true that landscape as a comprehensive vision is incompatible with intimacy? Current research in the field of virtual reality (VR) is aiming to prove that panoramic experiences, even as mediated through a VR headset, can produce *sensations of presence*, and *illusions of embodiment*. In other words, these media can produce a felt sense of *being there*, embodied in a place. Some artists and researchers are trying to develop techniques for tasting in simulated environments to enhance the sense of embodiment.[4] This is a question that I have been exploring in recent work. I have been creating 360-degree stories about the relationships between humans, plants, and animals along the waterfront in Verdun. These stories are based on interviews and fieldwork there. The videos are accessible from an online map, and I have also been screening them during live tours through the park (see Figure 1).

3. De Certeau 1984, 93.

4. See https://www.marshmallowlaserfeast.com/ for an example.

Figure 1: *Waterfront tour for Anya Zilberstein's "Edible Environments" graduate course. July 12, 2019. (photo: author)*

FROM THE SAFETY OF A HEADSET

If video can, as philosopher Laura Marks argues, create a "tactile, or haptic visuality," extending the sense of touch through vision, can the same be true for taste? Food scholars Allison and Jessica Hayes-Conroy argue that "food is never ingested by itself," and that taste is rather a biosocial process. If this is true, then visuality can also be a significant factor in consuming foods and environments.[5]

5. Hayes-Conroy & Hayes-Conroy 2010.

Figure 2: *Screenshot from "Battlefield," in Coney Island MTL © 2022 Natalie Doonan. (image: author)*

The 360-degree videos in *Coney Island MTL* offer immersive views of the river ecology in Verdun. Each of the videos in the series adopts the point of view of a different animal, plant, or insect. In one video, the viewer is hovering in a milkweed patch, experiencing the environment from the position of a monarch (see Figure 2). Another video plunges the viewer underwater, offering the viewpoint of a fish (see Figure 3). These more-than-human perspectives have the effect of destabilizing human subjectivity and habitual ways of experiencing the world. In this era of climate catastrophe, it is crucial that we develop new ways of perceiving and imagining this shared world.

Figure 3: *Screenshot from "Torchy Wharf," in Coney Island MTL © 2022 Natalie Doonan. (image: author)*

Discussion Questions

- What do municipal restrictions on eating plants that grow in the waterfront park suggest about more-than-human relations and responsibilities in this place?
- What are some of the advantages of developing sensory perception of the environment (for instance, through taste), and in what circumstances is it more important to maintain distance from plants, animals, and insects that may be tempting to eat?
- What are some examples of technologies that allow us to touch and to taste otherwise imperceptible parts of the world? What are the possibilities and pitfalls of these tools?

Activity

Go outside and find a nearby plant. Create a work (photograph, drawing, video, poem, prose, etc.) that communicates the way(s) in which that plant nourishes the world.

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MARYLYNN STECKLEY

FOOD MEANINGS, IDENTITY AND STATUS: THE CASE OF HAITI, KRAFT DINNER, AND ZEN CRUNCH

Marylynn Steckley *was a Policy Analyst and Advocacy Coordinator in Haiti for over five years and is now a faculty member at Carleton University. Marylynn investigates the relationships between of class, food, and environmental health, she is intrigued by how food meanings, expectations, and symbols impact diets, relationships, and politics. Food is power but eating can also be emancipatory! Marylynn loves vegan fare, but peanut butter stuffed pretzels and chocolate cheesecake from time to time too.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify connections between food choices and food meanings, identities, and statuses.
- Demonstrate how food choices are constrained by food meanings, social structures and ideologies.
- Explain how food meanings, and food hierarchies are central to debates about food sovereignty.

INTRODUCTION: FOODIE OR FRAUD? IDENTITY, CLASS, AND FOOD MEANINGS

What do I eat? I'm a white, female professor in food systems. I know what you're thinking: Whole Foods, **fair trade**, organic. Foodie and scholar, Julie Guthman calls this "yuppie food"[1]. You have never seen me eat, but my job, my gender, and my skin colour tell a story about me. The inverse is also true. The foods I eat also tell a story about my identity. Here's an example.

I was out for an interview lunch for an academic job, and I needed to make a good impression. This was a foodie bunch. I ordered the "Zen Crunch," which included grilled bok choy, cashews, bean sprouts, shredded kale, and sesame-ginger vinaigrette. Why *that* dish? Certainly, taste played a role (it sounded delicious), but it also gave *just* the right impression—upwardly mobile, "woke" or enlightened, food conscious and appreciating, healthy, perhaps vegan or vegetarian (diets that have their own connotations of environmentalism, animal welfare, and beyond).

1. Guthman 2010.

Each of these are valued in foodie culture. But these foods don't reflect my roots.

I grew up in rural Ontario, and money was tight because I'm from a single-parent home. My mother worked in a factory (she was the only woman), and my sisters and I also helped her clean houses. My mum's food ethic was healthy and low cost; porridge was the breakfast of choice. But when she wasn't around, my sisters and I loved Kraft Dinner[2], Swedish Berries, and Cap'n Crunch. We would often grab these at the convenience store up the street when home alone.

My class background, and current class position are paradoxical, and my food preferences mirror this disjuncture. When I need to invoke my foodie identity, I know what choices will give the impression that I am educated and of a certain class: farmers markets, heirloom tomatoes, goji berries. But I also have a sort of "coming out" fantasy, in which I escape the pressure of performing a class that I don't feel I belong to. It goes like this: I walk into my food studies class with a covered tray of something tasty to share with my students. "Close your eyes, I have brought a treat." I imagine their thoughts: Vegan tahini chocolate chunk cookies? Himalayan kale chips with lime zest? "Open your eyes." In front of each student is a paper cup full of Kraft Dinner (KD), with a squirt of ketchup. My fantasy ends when the students look up at me, surprised and unsure. Just what I was hoping for!

Disrupting identity and **food meanings** makes me almost gleeful. It's like throwing off the shackles of **social hierarchies**. I do my best to make environmentally sound and socially just dietary choices, but I also grew up connecting with my sisters over fast food and sugary cereals. I'm careful not to order the Happy Meal equivalent during a lunch interview, but I'm sure my sister would make fun of me if I brought a vegan quinoa Buddha Bowl to a

2. Kraft Macaroni & Cheese is known as "Kraft Dinner" in Canada.

potluck. There are the foods I'm proud to eat in the company of foodies, and there are foods I would eat at home, but not in public. The symbolic significance of food—food meaning—is powerful.

On the surface, enjoying both Zen Crunch and KD might seem innocent, but our food choices have hefty environmental, social, and health consequences. Food shapes landscapes, community health, and bodies. Power really is in every bite. Organic foods are more environmentally friendly, fair trade foods are more socially justice, plant-based diets are more nutritionally sound. Maybe you see no problem with the disdain for the junk foods that I grew up on, especially when they include Kraft Dinner and Happy Meals. But what happens when people disdain other kinds of family or traditional foods—those with specific cultural significance? What happens if I turn my nose up at my aunt's Christmas pudding, or my mum's lasagna? That kind of disdain has a different feel: it leans towards food stigma. Familial and culturally significant foods harness emotions and relationships. Beyond cultural value, food meanings can also reflect hierarchies and social stratification. So what happens when the food of one group is considered more valuable than that of another?

In what follows, I explore food hierarchies in Haiti, where **peasant** farmers often disdain the very foods that they produce; where many black, Haitian, rural dwellers value imported "white foods" over local, nationally produced ones; and where food hierarchies often mirror social hierarchies.

HISTORICIZING FOOD, RACE, AND IDENTITY IN HAITI

Haiti—the pearl of the Antilles—is perhaps most famous for two things: it is the world's first Black republic, and it is the poorest country in the Western Hemisphere. For 300 years, kidnapped

Africans were shipped across the Atlantic to the island of Hispaniola, where they laboured on sugar plantations. Alongside the physical brutality of the plantation system, enslaved people were psychologically oppressed. Colonizers violently imposed race-based social hierarchies that cemented a perceived relationship between skin colour and status, entrenched ideas of Black inferiority, and fostered desires to assimilate to the white colonial culture.

In the late 18th century, the enslaved people of Hispaniola rose up, defeated Napoleon's army and declared independence. But Haiti's physical liberation from plantation agriculture did not mark the end of racial hierarchies. In Haiti, the biological fallibility of "race" continues to be overshadowed by pervasive perceptions that link race to social status.

French sociologist Pierre Bourdieu argues that history and memory have lasting impacts on **ideologies**, which, in turn, guide and constrain behaviour[3]. In the case of Haiti, histories of colonialism, violence and racism locked-in racist ideologies, which have become **hegemonic**. Caribbean scholar Franz Fanon tells us that many formerly colonized people experience the "epidermalization of inferiority"[4], which is when racist ideologies are internalized, and people of colour start to believe that that they are worth *less* because of their skin colour. The result is that individual choices and preferences uphold elite values, and habits. In the colonial period, for example, those perceived as "*milat*"[5] often

3. Bourdieu 1980, 1984.

4. Fanon 1963, 1967.

5. It is important to note that while the Kreyòl word *milat* translates directly to the English "mulatto," the word carries a different meaning in Haiti than in North America. In Haiti, it is a historically rooted term used to describe either a person born with one "Black" and one "white" parent (the latter usually being a colonizer) or a person born of two "mulatto" parents. It is also used to signify a person of lighter complexion and is generally associated with the urban

mimicked white habits and styles to improve their social standing. Today in Haiti, rural, Kreyòl- speaking peasants are often described using derogatory terms, and people with lighter skin are often more likely to have professional jobs, speak French, and tend to be prioritized in hospitals, banks, and government offices. So, what does this have to do with food?

EXPLORING FOOD MEANINGS AND HIERARCHIES IN PORT-AU-PRINCE, AND DEZAM

When I first set out to research the struggles of the Haitian peasantry, I had just completed a three-year term as a Food Advocacy Coordinator in the country's capital, Port-au-Prince. I was privileged to have been in a position where I learned from leaders of organizations who were deeply engaged in food justice and food sovereignty movements. That learning led me to a pursue nearly three years of **critical ethnographic** research in Dezam, Haiti in the Artibonite valley. During this time, I conducted over 300 qualitative food frequency, dietary recall, and food and agricultural behaviour surveys with peasant farmers, and over 40 key informant interviews with government officials, and leaders of peasant organizations.

bourgeoisie class. This is illustrated by the Haitian proverb: "Nèg rich se milat, milat pòv se nèg," which means "A rich negro is a mulatto, a poor mulatto is a negro." This suggests that skin colour and class are not only intricately connected, they are also malleable. In Haiti, lighter skin can signify a higher class, and lighter phenotypes may make people overlook other attributes that signify poverty. At the same time, when one has wealth and dark skin, one might be labelled "blan." I remember a day in Dezam, when a dark-skinned Haitian pulled up to a street vendor near me in a fancy SUV, and an onlooker said, "Gade yon blan," or "Look at the white guy." In Haiti, colour and class are connected in complex ways.

FOOD MEANINGS

Food Shame

Some of the those I interviewed became mentors, and taught me about how the colonial plantation economy, recurrent foreign interventions in Haitian politics, and the country's parasitic merchant elite and predatory state have together impoverished the masses, undermined democracy, and denied the rural citizenry access to most basic services, from potable water to electricity to decent education and healthcare. One of my most important mentors was Ari Nikola, the director of *Kore Pwodiksyon Lokal* (Support Local Production). Ari said:

> To understand Haiti, you first must recognize that for 300 years we were forced to believe that we were inferior, and these ideas have not gone away. Although we haven't been physically enslaved for over 300 years, these ideas persist—the reference point of what is good is what is white, what is Western. The enduring mentality of enslaved people today is the consequence of slavery. To understand Haiti, you need to understand this history.

Ari and I often shared meals—*pitimi* (sorghum/millet), *mayi moulen* (cornmeal), *patat* (sweet potato), *joumou* (pumpkin)—foods rarely served at roadside restaurants, or at the office of non-governmental organizations, which unfailingly served white rice. In my effort to learn, I asked the office kitchen cook if we could prepare *pitimi* together. She laughed, "No!" she told me, "*pitimi* is peasant food." Similarly, a friend told me a story about his partner and her love for *joumou*, another "peasant" food. One day he came home to find her in the backroom eating *joumou*; she was hiding, and embarrassed to have him find her.

Over time, I learned that many "peasant" foods are viewed with disdain, and that prestigious foods are often associated with foreigners and the elite. I started to log these and got a sense of

Haiti's food hierarchies. Prestigious foods are refined, packaged, and "foreign." For example, white beans, white sugar, and white crackers are considered superior to black beans, brown sugar, and dark molasses buns (*bon bon siwo,* which are an alternative snack to white crackers, or *bon bon sèl*). Similarly, *pitimi, joumou,* and *patat* are disparaged and associated with the poor, Black peasantry. One interviewee called these *manje mizerab* ("miserable food"). My surveys also showed that spaghetti, meat, and rice are associated with white people, the urban elite, and the wealthy. To illustrate the centrality of rice in Haitian dietary aspirations, one community organization leader described a local study that he conducted to a get a sense of the significance of local desires to eat rice, and the prestige that rice carries. Researchers went to the mountain tops (mountain people are notoriously looked down on in Dezam) and conducted dietary surveys. They found that people *were* eating yams, even though they said that they didn't, and that they only eat rice." In other words, these survey participants wanted to claim a higher status by saying that they ate rice.

Food Pride

In Haiti, food meanings and hierarchies are influenced by racist ideologies. But equally importantly is the historical fortitude of social movements and the long legacy of peasant resistance. While my research indicates that dietary aspirations tend to be geared towards the consumption practices of the elite, some countervailing food values do exist. For example, many Haitians believe local chicken is more nutritious and tastes better than imported chicken, that local rice is superior to *diri miyami* (imported rice), and that local fresh juice is more prestigious that imported soft drinks or *sweetie* (which is like Kool-Aid). And although pumpkin is disparaged, *soup joumou* (pumpkin soup), which in the colonial era was reserved only for *blan* colonizers, is an important symbol of Haitian pride and independence. It is said that following the revolution and the advent of Haitian inde-

pendence, Haitians of all class groups came to celebrate emancipation by feasting with *soup joumou* every Independence Day. These examples speak to a countermovement in food, a food justice sentiment that challenges the status quo. Indeed, pro-peasant food values exist in Haiti, and are gaining strength.

Ari Nikola continues to lead a food justice movement. He promotes local food across the country at festivals, and community gatherings, and has local food advocacy commercials, like this one, "Manman Doudou"[6] on national television.

Implications and Future Pathways: Prospects for Food Sovereignty in Haiti

While it would be impossible to quantify the influence of food meaning on total food consumption (or to calculate the threat that aspiration for elite foods poses to peasant producers), there is striking symbolic alignment between peasant and elite values with respect to food preferences. Prestigious foods continue to be associated with white, elite, and foreign groups, and 'Black', peasant food continues to be met with disdain. This indicates an enduring ideological control that the Haitian elite and foreigners exert over the Haitian peasantry, and presents an important obstacle to **food sovereignty**. Food sovereignty emphasizes that power relations are embedded in food systems[7] and conceptualizes overcoming food system inequality by supporting democratic decision-making over food, ecologically integrated agricultural systems, and local food-provisioning networks[8]. The vision is to create food systems that are ecologically, nutritionally, *and* culturally enriching.

6. Manman Doudou is a term of endearment, which literally translates as "sweet/kind mother."
7. Bernstein 2014.
8. Patel 2009; Walford & McCarthy 2016; Wittman 2015.

Negative attitudes towards the peasantry and towards peasant foods raise serious questions about the role of food meanings in limiting the pro-peasant goals associated with food sovereignty. Historically rooted race-based social hierarchies influence food meanings and preferences. It is not a stretch to imagine that ensuing food choices affect the land, create demand for imported food, and limit support for local food, peasant farmers, and food justice. At the same time, Ari Nikola's messages—value local food, support the peasantry, have pride in what you produce—is a core mantra among peasant leaders, who agree that food is fundamental to Haiti's development prospects, and that any meaningful pro-peasant change to Haiti's food systems must involve the re-valorization of traditional diets.

CONCLUSION: FOOD MEANINGS MATTER

In Haiti and beyond, social hierarchies affect food meanings, and in turn food meanings affect food preferences and choices. Our food choices have real impacts on the ground, environmentally and socially. My hope is that the case of Haiti sheds light on how *ideas* of food—food meaning—can impede healthy, ecologically rooted food systems. As Ari says, food justice initiatives must address systemic inequality, including race-based social hierarchies, and the "epidermalization of inferiority."

Beyond Haiti, the truth is that I love a good vegan Buddha Bowl. The environmental burden of foods pulls at my heart strings (and my pocketbook). But I also love chips. Mostly, I try to do right by my health and the environment, but sometimes I don't. Regardless, shaming and exclusion do not move us toward food sovereignty, in Haiti, Canada, or elsewhere.

Exercises

Mind Mapping Personal Food Choices

List five foods that you would be proud to share with a new acquaintance or colleague, and five foods that you would be embarrassed or hesitant to share. Reflect on your personal history with these foods. Then, in a mind-map diagram, write the characteristics, qualities, or social perceptions that you associate with these foods.

Scenario—What does this food say about me?

You're a first-year university student and you have just arrived on campus. The first person you meet is really nice, has many friends, and seems effortlessly cool. They ask you to join them for lunch at a craft beer pub a block away. On the walk over, they tell you about the activities they enjoy. You sit down to your table. You like them—and you're more and more interested in them liking you. What do you order? You find yourself wondering: What will a bacon cheeseburger say about me? What will a "Vegan Aztec Grain Bowl" say? Write a description of the food that you order and explain in a paragraph why you made this choice.

Reflecting on Racism, Food Preference, and Meaning

Listen to the podcast "Erasing Black Barbecue" and, reflecting on what you heard in the podcast and what you read in this chapter, consider the following:

- Franz Fanon argues that the "epidermalization of inferiority" happens when people of colour come to believe, or internalize, racist myths that associate skin colour with worth. In Haiti, ideologies of racism have become **hegemonic**, influencing food meanings and food preferences. How does racism influence food meanings and food hierarchies in the North American context?

Additional Resources

Podcast: The Racist Sandwich. E 58, "Erasing Black Barbecue."

Kore Pwodiksyon Lokal ("Support Local Production") TV commercial #1

Kore Pwodiksyon Lokal ("Support Local Production") TV commercial, "Manman Doudou"

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PERSPECTIVE: GASTRONOMY

STAN BLACKLEY AND DONALD REID

GASTRONOMY

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clopaedic knowledge of food and drink in Scotland. He is one of the leaders of the Slow Food Movement in Scotland.

Stan and Donald are the co-Programme Leaders for the MSc Gastronomy programme at Queen Margaret University (QMU) in Edinburgh, Scotland. Established in 2013, the programme remains the only course of its kind in the UK.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe how gastronomy involves an informed and critical view of where food comes from, how it is produced, and the many, varied impacts that it has.
- Articulate the historical origins of the term gastronomy and the trajectory along which the term and concept has evolved.
- Name ways in which gastronomy can be applied to practices around and with food, in ways that begin to tackle the environmental and social issues inherent to food systems.

INTRODUCTION

To define *gastronomy*, it is helpful to note two key anchor points. The first is etymology, which suggests—from a literal translation of the Ancient Greek—that gastronomy is the knowledge (*nomos*) of the stomach (*gastros*). While the term can be found in Ancient

Greek texts, it was neither prominent nor common until 1801, when it was adopted by a French poet, Joseph Berchoux, and subsequently by two prominent French food writers from the early 19th century, Alexandre Balthazar Laurent Grimod de la Reynière and Jean-Anthelme Brillat-Savarin. The former is acknowledged as the first truly influential critic in the world of restaurants, and the latter—the second anchor point—was the man who coined the aphorism, "Tell me what you eat: I will tell you what you are." [1]

Brillat-Savarin was a lawyer, politician, philosopher, and self-declared expert and enthusiast on the subject of food. His 1826 book, *La Physiologie du goût* ("The Physiology of Taste") set out to establish a foundation for gastronomy. He defined gastronomy as "the intelligent knowledge of whatever concerns man's nourishment" and suggested that gastronomic knowledge was important for all "who hunt, supply, or prepare whatever can be made into food."[2] Importantly, he indicated that such knowledge was to be gained from disciplines as broad-ranging as physics, chemistry, cooking, commerce and political economy. "Gastronomy rules all life", he wrote. "It has to do with all classes of society"; it considers **taste** "in its pleasures and its pains", and how food and drink affects "the moral of man, on his imagination, his mind, his judgment, his courage and his perceptions."[3] To him, it was worth understanding all about food, because food is universal: "The pleasures of the table belong to all times and all ages, to every country and every day; they go hand in hand with all our other pleasures, outlast them, and remain to console us for their loss." [4]

1. This is the origin of the more commonly known and often misapplied simplification, *"You are what you eat."*
2. Brillat-Savarin 1994, 54.
3. Ibid.
4. Brillat-Savarin 1994, 15.

In considering how gastronomy has become popularly understood in the two centuries that have passed since Brillat-Savarin wrote *La Physiologie du goût*, it is important to reflect on how the term gastronomy became synonymous with the country of France. In *Sociologies de l'alimentation* ("The Sociology of Food"), Jean-Pierre Poulain defines gastronomy as the attachment of an **aesthetic** value to the act of eating, something he traces back to the French royal court, aristocracy, and French Catholic theology during the 17th century. By the late 18th century, even as the French bourgeoisie was rejecting the hierarchies of the church and aristocracy, the culture around food retained its cultural capital. Far from being rejected as a mark of the *ancien régime*, Enlightenment thinking and revolutionary politics in France actually embraced gastronomy—the arts of the table—as "a celebration of all that was worldly"[5].

It was, after all, in Paris in the decades preceding the 1789 French Revolution that restaurants were 'invented' and took on their modern form.[6] Of equal significance, by the early 19th century, restaurant criticism had also been invented, with critics operating as intermediaries between the new eating places and their bourgeois clientele. Critics were important for legitimizing the restaurant as a place for refined eating, and in doing so, they raised the esteem of the chef, the people who dined there, and the cuisine itself. From this early stage, it was clear that gastronomy went beyond the food being served. "The gastronome is more than a gourmet – he is also a theorist and propagandist about culinary taste," suggests Stephen Mennell[7], arguing that there was democratic value in the way **gastronomes** disseminated knowledge of elite standards beyond the elite. To this day, the mutual dependency between restaurants, chefs, and critics

5. Poulain 2002, 195.

6. Spang 2020.

7. Mennell 1996, 267.

survives, most famously in the (French-based) Michelin guide books and star ratings.

GASTRONOMY EVOLVES

For the 19th and most of the 20th century, the most revered and prestigious gastronomes were envoys of French cuisine, just as the chefs—the high priests of gastronomy such as Antonin Carême and Auguste Escoffier—were French. New ideas evolved within France, most famously when *nouvelle cuisine* upset the established orthodoxies in the 1970s (again led by a combination of French chefs and guidebook writers), but France remained the locus of gastronomic identity across Western Europe and North America. The 'Gastronomic Meal of the French' appears in UNESCO's list of Intangible Cultural Heritage, cited as a practice that "emphasizes togetherness, the pleasure of taste, and the balance between human beings and the products of nature."[8] It goes on to note that gastronomes, who "possess deep knowledge of the tradition and preserve its memory," are expected to "watch over the living practice of the rites." UNESCO's focus is on the meal itself, though most French nationals (and others besides) would assume their valorization applies more generally to a uniquely French approach to food.

But why should the term gastronomy be restricted to French culinary approaches, or limited to the aesthetics of food and eating? Neither etymology nor Brillat-Savarin's original definition demand such narrow viewpoints. Indeed, it was Brillat-Savarin's expansive conceptualisation that resonated with Carlo Petrini, the Italian founder of the Slow Food Movement,[9] as he sought to reclaim the value and integrity of food in the face of an increas-

8. UNESCO 2010

9. Petrini's involvement in food dates from his earlier career in journalism and local food activism, largely starting in the 1970s. It was in the 1980s that his efforts grew into the movement now known as Slow Food.

ingly industrialized, globalized, and homogenized food system. Slow Food identified itself as a reaction against the 'fast' modern world, one characterised by speed and in which the human relationship with the earth has become unsustainable—what Petrini called a "technocratic dictatorship"[10] of profit prevailing over politics, and economics over culture.

Frustrated by the 'old' French model, Petrini argued that gastronomy had wandered far from its original conception and too narrow a focus had left it open to misinterpretation, misunderstanding, and marginalization. The challenges of nourishment are, after all, fundamentally human and little different to those of our ancestors. Whether in hunter-gatherer societies, Ancient Greece, or post-revolutionary Paris, people seek to choose and consume food to the satisfaction of the stomach and the senses, a combination of nutritional needs and food's ability to deliver pleasure.

Petrini set in motion a re-evaluation of gastronomic science in modern frames of sustainability. It was no longer sufficient to concern ourselves with our own palates and pleasure, the point where Brillat-Savarin's legacy seems to have become stuck in the general consciousness. Rather, Petrini argues that in a globalized world gastronomy must be global as well, and that modern gastronomes are required to take a holistic, critical, and connected view of where their food comes from, how it is produced, and the impact it has on both society and the environment. He writes: "Under the frenetic impulse of technocratic and reductionist thought we have fallen into the temptation of neglecting the totality of the processes and inter-relations that enable us to eat every day, considering only the result, the food that we swallow."[11]

10. Petrini 2001.

11. Petrini 2015, 38.

In his book, *Slow Food Nation,* Petrini offers his own translation of Brillat-Savarin's definition of gastronomy as "the reasoned knowledge of everything that concerns man as he eats"[12], arguing:

> To reduce gastronomy to "eating well" is a twofold error: first, because this definition implicitly accepts the common belief that the history of nutrition—economy and subsistence—and the history of gastronomy—culture and pleasure—are distinct subjects; and secondly, because it only covers a small, and perhaps the least noble, part of the complex system of "roots" which underlie our food.[13]

The implication of this is that the modern gastronome or **gastronomer** (a variant adopted by some as less encumbered with implications of gourmet elitism) recognises the ways in which food choices and practices connect to the well-being of the earth and the shared destiny of all that inhabit it. The old, narrow and awkward connotations of French and 'culinary' gastronomy are thus further distanced by conceptualising contemporary gastronomy as **eco-gastronomy**—an ecological-philosophical vision of food—the "thinking-feeling-doing" of modern gastronomy.[14] This approach acknowledges that any choice or practice of food has to take into account the ecological and human dimensions of both the food itself and the systems and processes that provide it. With globalization, hunger, public health, labour, and climate change so prominent in our contemporary consciousness, no coherent philosophy of food today can ignore these issues.

Critics of Petrini—or more accurately of the Slow Food Movement under his charismatic leadership—point not just to

12. Petrini 2005, 55.
13. Petrini 2005, 41.
14. Szanto 2015, n.p.

gourmet and Euro-centric elitism in the attitudes of its followers in certain territories, but also to conservative, protectionist attitudes to heritage, tradition, and authenticity in its core philosophy.[15] It is true that different aspects of Slow Food's cultural, political, and practical messages have taken hold in different parts of the world, leading to a somewhat confused understanding of the most effective thrust of its principles. That said, the value in re-interpreting gastronomy as concerning itself with matters beyond culinary aesthetics, and the incorporation of social and ecological considerations to questions of food, largely stand outside the areas of dispute.

COMPLEXIFYING GASTRONOMY

Boiled down, Slow Food recognises that, while an assessment of whether food is 'good' principally from a taste perspective is important, it is also insufficient. 'Good' must be informed by knowledge that includes whether food is also 'clean', in terms of ecological sustainability, and 'Fair', in its dealings with humans and animals.[16] This approach wraps together pleasure with politics, palate with purpose, and practice with principles. By this thinking, food cannot satisfy nor nourish unless the totality and interwoven complexity of these impacts of food are acknowledged, better understood, and addressed. This chimes with thinking that had previously been posited by French anthropologist Claude Lévi-Strauss, who stated that, in order to be "good to eat" (*bon à manger*), food must be first of all be "good to think" (*bon à penser*),[17] indicating that food must nourish people's values, beliefs, and traditions to be considered suitable for their stomachs.

15. Chrzan 2004; Laudan 2004.

16. Petrini 2015.

17. Lévi-Strauss 1962.

This is the work, now, of gastronomy. Thus reformulated—or 'liberated' as Carlo Petrini put it[18]—gastronomy, eco-gastronomy or '**neo-gastronomy**',[19] has a greater sense of purpose in the world and a wider scope to influence not just food, but the world from which it comes. Such thinking about modern gastronomy shifts its focus decisively (though not completely), beyond chefs, cooking, and eating to recognise and celebrate the contributions of farmers, growers, fishers, producers, processors, sellers, caterers, and the countless others engaged with food, who have valuable specialist skills and make crucial contributions to the food landscape. The gastronomer argues for a role alongside such specialists, offering the skills of the **generalist**, as someone who can appreciate the many different perspectives of these diverse participants, hold a centre ground, and reflect the complex, multidimensional, **polysemic**, diverse nature of food itself.

Modern gastronomers appreciate food in a multi-faceted way, first, as a lens through which to examine the world around them; second, as a tool through which complex issues and concepts can be made tangible and communicated more simply; and third, as a means through which to challenge injustices and change the world for the better. They recognise that food has wide-ranging influences and impacts and is more than just a simple satisfier of basic needs, but is, instead, something that fundamentally influences and shapes every part of the world around us: identities, relationships, communities, societies, cultures, economies, environments, and more.

Modern gastronomers recognize that food can be a cause or driver of many of the world's most pressing problems, such as hunger, dietary-related ill-health, and ecological destruction, but that it can also, therefore, be part of the solution to these prob-

18. Petrini 2015

19. Slow Food 2021.

lems. If we 'get food right' then positive responses to these other problems will follow.

The perspective of modern gastronomy is that attitudes to and understanding of food have to move beyond personal preferences and concerns towards an appreciation of food as a potent, political tool. In this sense, everyone's relationship with food incorporates economic, political, social, and environmental consequences, meaning that food choices and practices can influence the food system and help reshape it for the better. This broader view of food's importance also demands that the subject of food, along with its study and the thinking around it, is given greater respect, especially in the traditionally male-dominated areas of science and academia where food has been invisible or, if considered at all, viewed as base, frivolous, or simply 'women's work'.[20].

GASTRONOMY AND LEARNING

In terms of the teaching of this modern version of gastronomy, its **multidisciplinary** and generalist stance can struggle for recognition where reductionist approaches dominate within science and academia. However, various forms of food studies have emerged over the last three decades, and there are a growing number of educational institutions offering programmes oriented towards neo-gastronomy, most prominently at the University of Gastronomic Sciences (UNISG)[21] in Pollenzo, Italy, but also in institutions as geographically diverse as Montreal and Boston in Canada and the U.S., Auckland in New Zealand, and Edinburgh in Scotland. Innovative and groundbreaking as these all are, it is worth noting that the concept of an academy for gastronomy was actually proposed by Jean Anthelme Brillat-Savarin in 1826.

20. Belasco 2008

21. UNISG is widely recognised as the 'Slow Food University', having been founded by and built around the ethos of Carlo Petrini.

In such programmes, and in a growing number of other forward-thinking institutions around the world, food is used to unpack and explain economics and ecology, culture and communication, politics and philosophy, a wide range of social and life sciences, and much more. Graduates in gastronomy understand that food touches and influences everything in this world and connects seemingly disparate parts of our lives. They emerge as practiced generalists who recognise different viewpoints, understand and embrace food's complexity, are wary of reductionist responses, and expect food matters to be multidimensional and interconnected. In *Food: the Key Concepts*, Warren Belasco asserts that "to study food often requires us to cross disciplinary boundaries and to ask inconvenient questions," pointing out that "to help us sort out the issues and gain some needed perspective, we need generalists – people with a decent grounding in science and poetry, agriculture and philosophy, who are not afraid to question assumptions, values and methods."[22]

This approach equips graduate gastronomers to bring a fresh, even emancipated vision to established food-related work places or to conceptualise new roles that use food to bring benefits to an unexpectedly wide range of activities and interests. That people's most pressing concerns—from health and well-being to the functioning of society or matters of sustainability—are deeply entwined with our relationship with food and the practice of feeding ourselves, makes the study and development of gastronomy, and gastronomers themselves, both important and necessary.

That is not to say that gastronomers give up appreciating food. Humans all eat and drink because of the compelling biological necessity to do so, but we also eat to learn, to belong, to appreciate, to understand, to share, to express ourselves, to practice who

22. Belasco 2008, 6–7

we are, to make ourselves better people, and to enjoy the social and physiological processes and all that it entails. The appeal of food and its importance are not mutually exclusive, and are indeed intertwined, a point made by Carlo Petrini who declared that "a gastronome who is not an environmentalist is surely stupid, but an environmentalist who is not a gastronome is merely sad."[23]

This serves as a reminder not to lose touch with food. The *Pollenzo Manifesto,* produced by the University of Gastronomic Sciences in 2018, states that "the true 21st century gastronome does not study food as an object; a gastronome studies with food,"[24]. This points to two ways in which the study of food can be strangely susceptible to misplacing food. First, it can veer into looking too closely at just the food, a form of 'foodie-ism' that becomes obsessively interested in the particulars of food—its production, cooking, or presentation—but largely blinkered to broader perspectives. Anyone studying gastronomy in the form described here has likely had to rebuff assumptions that they're participating in a kind of cookery course—a situation muddied by the frequent use of the word gastronomy in association with cookery skills classes, sometimes as an adjunct to culinary arts programmes or those specialising in molecular gastronomy. The neo-gastronomer's response is that, while cooking or making food are hugely valuable and important skills, they are only a sub-section of the knowledge and practices around food.

The second, and oddly converse issue with some food scholarship, is that researchers and educators often become detached from 'food' itself. This can be seen in some social sciences contexts, where activities *around* food become a focus for observation and analysis. Similarly, in the health sciences, the

23. Petrini 2015, 29.

24. Perullo 2018, n.p.

functionality of food can dominate knowledge paradigms, sometimes reaching a point at which solutions to the challenges produced by food actually counter the holism of food. A similar problem occurs when policy connected to food is developed in isolation by or around government, with theoretical ideas failing to take account of how people actually interact with food and its meanings in real-life situations. Gastronomy and food studies programmes designed to develop holistic and interconnected thinking help learners study food "beyond the plate,"[25] but without forgetting that it is still *food*.

CONCLUSION

In the end, gastronomy remains hard to define. It is, in Barbara Santich's astute description, "slippery."[26] It can be easier to attempt to describe what gastronomy *does* than what it *is*, although in the recurring emphasis on multidisciplinarity, polysemia, and broad thinking, boundaries can be hard to come by too. Yet in remaining rather mercurial, important but imprecise, gastronomy asserts that its substance and meaning are continually developing, discussed, and negotiated, and shares those characteristics with its equally elusive principal subjects, humanity and food itself.

Discussion Questions

- Describe and discuss the tension between 'old' culinary gastronomes—and their focus on cuisine—and 'new', eco-, or neo-gastronomers.

25. Maberly 2017.
26. Santich 2004, 15.

Explain their differing views and visions of food. Can (and should) both views be held at the same time? How and when are they contradictory?

- Why is gastronomy so difficult to define? Why is it so 'slippery', as Barbara Santich noted? What historical and current elements contribute to, or cause this confusion or difficulty? How might you begin to define gastronomy?

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CHRISTIAN KELLY SCOTT AND GUANGQING CHI

THE MEANING OF FOOD IN RURAL MOUNTAINOUS KYRGYZSTAN

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Examine practices of food gathering, eating, and meaning-making using the principles of political ecology.
- Explain how food, environments, and identities are related.
- Describe the importance of everyday experience to food studies.

INTRODUCTION

Cascading, poplar-lined rivers, along with glacier-peaked mountaintops and lush, fertile pastures are everyday aspects of rural life in southern Kyrgyzstan. The community members whose experiences are discussed in this text reside in a village that lies in a valley overlooked by steep mountains on both sides. To the north lies a brightly colored slope of red, yellow, and orange sediment and rocks. To the south are dark rock outcroppings with

clusters of ancient, stoic, deep-green juniper and spruce trees. Both sides show the telltale markings of landslides in the distant and recent past. The surrounding ecology shapes what each day and night bring for the people in southern Kyrgyzstan. Life in the village and life in the mountain pastures are intimately tied to the passage of seasons. There is a close tie among humans, environment, and food, which lends itself to the application of **political ecology** theory—the study of environmental themes that are inherently tied to human political, economic, and social factors.

Figure 1: *Scenes from the village (photos: Christian Kelly Scott)*

Livelihoods in these rural communities are centered on traditional agropastoral practices—a mixture of sedentary agriculture practiced in mountain valley villages and semi-nomadic livestock management in mountain pastures. **Environmental subject making** and identities, explained in detail below, are reproduced in the types of food that are prepared, preserved, shared, or traded, and consumed in the villages and pastures. This text outlines the ways in which the theoretical foundations of political ecology are demonstrated in the meaning of food for the people in a rural community. The principles of political ecology are demonstrated in ways that reflect the composite meanings of food in multiple contexts in this area. Drawing on data collected throughout four seasons of the same year in rural

southern Kyrgyzstan, our examination of food demonstrates how diets and meals reflect the surrounding mountain environment.

Figure 2: *Map showing the location of Kyrgyzstan in Asia*

POLITICAL ECOLOGY

The theory of political ecology enables the analysis of humans and the environment as innately linked together through interactions among biophysical, cultural, economic, political, and social factors.[1] Five core concepts make up a framework for political ecology: environmental knowledge, environmental subjects and identity, environmental change, environmental governance, and environmental political objects and actors.[2] *Environmental subject making and identity* means that "people's

1. Neely 2015.
2. Gavin et al. 2015; Robbins 2012.

behaviors and livelihoods (their actions) within ecologies influence what they think about the environment (their ideas), which in turn influence who they think they are (identities)."[3]

In food studies, political ecology is useful for situating the experience that people have in their food relationships within the **spatio-temporal** context of their environment. This concept is brought to light here by examining how people perceive food in agropastoral Kyrgyz communities. By applying this framework to the study of food, we were able to focus on ways in which people derive meaning from what they eat, how they eat it, and where it comes from. We reached beyond the surface of merely analyzing interviews and embraced the connections and complexity of political ecology. With this focus in mind, we analyzed interviews of local residents conducted in their homes and yurts (a round mobile dwelling used by nomads), villages, and pastures to shape our understanding of food as a source of identity and practice.

RESEARCH PROCESS

We conducted 44 interviews with adults in a rural southern Kyrgyz community. The interviews took place throughout the winter, spring, summer, and fall of 2019, and aimed at understanding seasonal aspects of food security. Interviews were recorded in Kyrgyz and translated into English for analysis. The semi-structured interviews allowed for an open discussion about rural life, food systems, and relationships with the surrounding mountain environment.[4] Transcripts were coded to focus on identifying, describing, and linking themes.[5]

3. Robbins 2012, 216.

4. Scott 2021.

5. Saldana 2016.

Pastures and livestock

Traditional livelihoods in rural Kyrgyzstan are oriented around agropastoral practices. These include sedentary agriculture produces a small yield of mountain-friendly crops (such as potatoes, which can grow in the harsh conditions with the limited growing season) and seasonal vertical transhumance (i.e., movement from higher pastures in the summer to lower pastures in the winter). The latter takes place with livestock (mostly horses, cattle, and sheep) in mountain pastures. One mother of five highlighted the importance of livestock by saying, "Well, our life revolves [a]round the livestock, each day, repeatedly. That's the reality in [the] village… That's the way we live. [We have] no other income apart from that."

The mountain pastures are therefore key places of environmental interaction. This interaction takes the form of spatial movement when traveling in pasture and staying in yurts and villages, as livestock is grazed, slaughtered, herded, breed, sheared, and milked. The foundation of seasonal diets is derived from livestock and livestock products. These ideals were voiced by one mother as she was baking bread with her daughter: "People love dairy products here in the village. Dairy products are our main diet. People call it *aktyk*, which means 'white food.' The times when cows produce less milk we say, 'We are having a tough time without white food.' Today our cows are out in pasture, so we are having tough times. To cope with the shortage of milk, once in a while we go to pasture to bring some milk, *ayran*, and *kymyz* [examples of white foods]."

But the adaptive food preparation strategies that households deploy to make it through times of scarcity are also tied to cultural identity and the historical legacy of the community. One father of six said, "You can also preserve *jukka* [a mixture of yogurt, butter, and flour] for years. This is why we're called the

nomad nation. [Our ancestors] practiced a lot of these preservation methods because it was easy to take [those foods] everywhere." Movement in pastures and the intergenerational legacy of nomadic movements are tied to the meaning of food preservation and food consumption. In this way, food preservation takes on a meaning not only as a source of resilience to food shortage but also as a celebration of the proud heritage among the Kyrgyz people.

Seasonal diets

The passage of seasons in the mountains of the southern Kyrgyz highlands influences the precise makeup of household diets. Another mother of five articulated this by saying, "Of course, [household diet] changes [seasonally]. During autumn we have high harvest, so we have a lot to eat, and we eat a lot. In February and March our preservations are over, so we have difficulties. Not difficulties actually, [because] we know spring is coming, so we will have food [then]." The local environment changes starkly with the season. Winter is characterized by thick snow cover, and summer is accompanied by lush pastures, so the food security status of households also changes. Diets are closely related to the relationship that the community has with the environment through these changes. In winter, food is in short supply and diets need to change to consume fewer fresh foods.

Community members said that the utilization and availability of foods often coincide with the processes of raising livestock in the mountain pastures. Another mother of five explained, "When the fall comes, our livestock gets fat, times of abundance, everything is ripe. We cook a variety of dishes. In the winter and spring, [consumption of] meat and nutritious [food decreases]… In general, spring is [a time] of scarcity." Here we see how livestock and pastures relate to the perceived abundance or scarcity of food throughout the year. The reference to fall and summer abun-

dance is in stark contrast to the previous mother's reference to times of difficulty when there may be an acute shortage of food in winter and spring.

The importance of meat

Food can take on a meaning reflective of the Kyrgyz ethnic identity that links the mountain environment and pastoral movement through explicit statements that community members made about meat: "Meat is the most important ingredient in our meal. It should always be available. A meal without…meat is like a low-calorie food. We can't live without meat. If we eat food with no meat in it, we can feel a weakness." With those words, this mother explained how meat is vital to making life possible in the mountains and, without it, survival would be difficult. Meat comes from livestock that are well suited to life in the mountains: sheep, horses, cattle, and goats. The type of meat that was available was also seasonal, depending on whether the livestock were in distant pastures during summer or in village stables during winter.

But meat is about more than just survival—it also links the ethnic identity of the Kyrgyz people to the surrounding mountain environment: "First of all, we consume the Kyrgyz food—meat—as all Kyrgyz people do." And, when asked about the foods they eat, one young mother of two said, "Mainly we eat *boorsok* [fried dough], *oromo* [rolled dough with cube-cut, steamed potatoes], etc. We fry potatoes, meat. You know, Kyrgyz foods. These are our main foods." To these community members, to be Kyrgyz, at least in these communities in the mountainous rural highlands, is to eat meat.

Nature provides

The final observation that demonstrates the meaning of food as a source of environmental identity among community members is how the respondents articulated their relationship with and uti-

lization of nature as a source of resilience and sustenance. One grandfather of eleven stated, "We, Kyrgyz people, are ancient people. We are resourceful. Even if we do not have flour today, for example, we will find a way to make it work somehow… If we have no imported groceries, we can go to the mountains, hunt mountain deer, and still get by. Or we can set bird traps to hunt for meat." This grandfather linked their identity and ancestral heritage to the resilience that the environment enables through wild-sourced foods. Another community member discussed the importance of nature in providing nutritious, wild-sourced foods. Likewise, a young father of one son linked natural foods to previous generations and traditional medicines: "Today they also collect from the mountains. There are things to collect, thanks to God. For example, they collect black currant, rosehip, green onions. They save some for winter, they eat some. In the old times, everything depended on the mountains… People eat more things that are natural… There are [also] special herbs for medical purposes."

DISCUSSION

Our observations and interviews show how the idea of environmental subject making and identity is linked to the meaning of food in a real-world setting. The livelihoods and personal identities of these Kyrgyz community members are shaped by their surrounding mountain environment. One community member, a father of four, perhaps said it best and most simply: "Here everything is connected to…nature. We eat clean. We have clean air." The fundamental implication of this research is that the meaning of food, as seen through a political ecology lens of environmental subject making and identity, is not an abstract ideal. Community members stated clearly that food took on a meaning that reflected how the surrounding ecology shaped their lives and their own environmental identities. It also speaks to the importance of incorporating everyday experience into food

studies, especially when examining something as complicated as the meaning of food and the role of food in shaping identities.

CONCLUSION

This study provides a practical example of how food is conceptualized in a unique environmental and sociocultural context. The observations of pastures and livestock, seasonal diets, the importance of meat, and foraging from the landscape demonstrate the interconnected relationship between food, identity, and the environment. Food may not mean the same thing to everyone in the same community, let alone to different populations in completely different geographic contexts. It is therefore helpful to bring critical perspectives to the forefront, particularly for research conducted in places that are under-represented in scientific studies, such as Central Asian countries and, specifically, communities in rural Kyrgyzstan.[6]

Discussion questions

- What does food mean to the members of communities in rural Kyrgyzstan? How do the meanings of food, the environment, and personal identity relate to each other in this context?
- Drawing on your own experience(s), identify a food that is connected to both identity and the environment. How do the meaning of food, the environment, and personal identity relate to each other in this context? How does this relationship differ from example from rural Kyrgyzstan

6. See Ellis & Lee 2005; UNICEF 2015.

described in the chapter above?

- How does each of the four observations—pastures and livestock, seasonal diets, the importance of meat, and nature provisioning—exemplify the connection of food to everyday life in the Kyrgyz highlands? What are some potential observations about everyday life and food that shape your identity?

Acknowledgments

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VINCENT ANDRISANI

THE SWEETEST SOUND IN THE CITY

Vincent Andrisani *is an Instructor in the Communication and Media Studies program at Carleton University. He specializes in the area of sound studies, intersecting the fields of soundscape studies, oral history, and popular music studies. Media production is an important dimension of Vincent's research and teaching, and he presently produces (and hosts) a radio show called "The Place of Sound," showcasing the audio media produced in his classrooms.*

ARTIST'S STATEMENT

"The Sweetest Sound in the City" is an audio documentary that tells a history of Havana through the sounds of the ice cream vendor. The piece comes out of a larger project on sound and listening in the city, developed using a combination of methods grounded in sensory ethnography and media archiving. Using a handheld audio recorder, and with the guidance of Havana-based oral historian Dr. Aurelio Francos Lauredo, I constructed a sound archive of Havana that today is housed at Fundación Fernando Ortiz. This audio documentary makes use of a number of those recordings, including the sounds of street vendors and Havana's soundscapes among others. The narrative it tells was developed through my own research and is a story that (re)centres Havana as a city defined not by colonial or imperial rule, but one that belongs to the residents themselves.

Listen to the documentary. ***(See transcript below.)***

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=164

The song "Helado Sobre Ruedas" by Gema y Pavel can be heard in the documentary and was used with permission from Peermusic Spain and Pavel Urquiza Domenech.[1]

1. Song: Helado Sobre Ruedas Author: Pavel Urquiza Domenech © Peermusic Española, S.A.U.

Figure 1: *Havana's ice cream vendor today, 2012. (image: author)*

Figure 2: *The Guarina vendor on the streets of Havana, 1946. (image: www.havanacollectibles.com; photographer unknown)*

Figure 3: *The Hatuey vendor on the streets of Havana, date unknown. (image: courtesy of the University of Miami Libraries, Cuban Heritage Collection)*

Figure 4: *Ice cream vendor on the streets of Havana, 1890-1910. (image: archived in digital format at the Library of Congress Archives in the Prints and Photographs Division)*

Exercises

Exercise 1: Listening to an Image

Have a close look at the photograph of the old ice cream vendor. Take a moment, study the image. Imagine you're a resident living in Havana at the time. How might you have learned about the presence of the vendor? What are some of the sounds that he may have made? What are some other sounds that are in some way associated with him and his truck?

Exercise 2: Finding Sounds

This is a simple listening exercise, but it often produces surprising results. Whether you're alone or in a group, take out a stopwatch or open your smartphone's timer app. Take out a pen or pencil, and a piece of scrap paper, and be ready to use them. From the moment you press 'go' on your stopwatch, sit in silence and write down all the sounds you hear over the course of three minutes.

Some people's lists will be longer than others, and that's totally fine. All answers will be correct. This exercise highlights how differently each of us listen, because listening is a very personal practice.

Exercise 3: Categorizing Sounds

Now you're going to work with your list from Exercise 2, categorizing each of the sounds you wrote down. Beside each sound, indicate its type using the letters N, H, or T, which stand for Natural, Human, and Technology (i.e., a machine-generated sound). Which of the categories is dominant?

Exercise 4: Listening to, and for, food sounds

A "food sound" is any sound that is in some way related to food. Some food sounds are directly related to the preparation or consumption of food (e.g., frying or chewing). Others are less obvious and can be related to such processes as preservation or transportation.

Using the categories above (Nature, Human, Technology), think of a food sound that falls into each of the three categories.

* These listening exercises are adapted from R. Murray Schafer's text "A Sound Education" (1992).

Transcript

Vincent Andrisani: The Sweetest Sound

[Vendor's chant, sound of passing vehicles]

It's unlikely you'll encounter this sound on your own street, but chances are, you know what it is. It's the sound of a street vendor

calling out to nearby residents, letting them know they have material goods or food items for sale. This particular vendor happens to be selling cookies.

[Vendor's chant, sound of passing vehicles and brief car horn]

In the city of Havana, Cuba, where this recording was captured, this sound can be heard at most times of the day. There, vendors walk the streets and capture the attention of residents using a signature musical cry known in Spanish as a "*pregón*." Presumably, the more musical and captivating the *pregón*, the more successful the vendor is.

[Vendor chanting a pregón]

But there's one vendor whose sounds you might very well hear on your own street. A vendor that doesn't use a pregón, but instead, plays a recognizable musical jingle. A jingle that summons childhood nostalgia, and is symbolic of a tasty summertime treat.

[Recorded music plays over sound of passing cars, children's voices, and birds chirping]

Of course, I'm talking about the ice cream vendor. The recording you're listening to was captured on a street corner in the district of Central Havana, one of the older and more populated areas of the city. You might notice that the vendor's not moving, and neither am I. We're standing across from one another in the same intersection. And the vendor is standing next to his parked tricycle, waiting to greet customers.

[Vendor's music, ringing of bicycle bell, voices and ambient street noise]

I thought this was a bit unusual at first since vendors are typically on the move, but after thinking about it for a while, I realized that he's playing music, not only for people in the streets, but also, for people in their homes. Because there's no glass on windows and

doors are often left open, sounds move easily between the street and the home. This vendor knows that, and so stopping in a populated intersection is actually a pretty good sales tactic. When I let one of my friends listen to this recording, he said, "You know, this is a very new sound in our city." I replied, "How could this be a new sound? Ice cream vendors have been around for a really long time." He said, "of course they have. But in Cuba, they were silent for many years."

[Vendor's music fades to silence]

In 1990, the fall of the Soviet Union brought about an intense economic crisis in Cuba. Over the next several years, there was barely enough food to eat, let alone ingredients to make ice cream. Only in about 2010 did the sound return. And today, ice cream vendors can be spotted 'most anywhere in the city and at 'most, any time of the year.

[Lively Cuban music begins, with whistling and a woman singing in Spanish]

Because of this, I realized that there's a profound difference between how I listen to this sound, and how it's heard by residents of Havana. For them, it must have a very different meaning since it was gone for over two decades. And one way we can hear that meaning is in song. This song by Havana-based duo Gema y Pavel, is called "Helado sobre ruedas," which means "ice cream on wheels." It's a musical tribute to Havana's missing ice cream vendors, and it represents them as a source of joy, happiness, and as a neighborhood event that, as the song says, "made family problems disappear."

["Helado sobre ruedas" plays]

Andrisani: So, I wondered, how can I listen to the sounds of the ice cream vendor in a way that resembles how residents of Havana listen to it? And what place does this sound hold in the collective

memory of the city? To answer these questions, I'd have to follow the sound through history. I'd have to learn how it sounded before it was silenced, all the way back to the moment that it appeared on the streets of Havana. So that's what I did.

["Helado sobre ruedas" fades to silence. Electronic music box begins to play]

The sounds of the electronic music box that we heard earlier have been used by ice cream vendors for quite some time. The technology was invented in the mid 1950s by Minnesota-based company Nichols Electronics. And so, these were the sounds that were heard on the streets of Havana before the vendor fell silent. They appeared sometime in the late 1950s and were present right up until about 1990 at the onset of the crisis.

[Music box continues playing]

But before this technology became available, ice cream vendors were associated with an entirely different set of sounds.

[Music box fades, bell starts ringing]

One of which was the bell, which vendors in the 1940s and 50s would ring as they walked the streets with a cart they pushed by hand. Some of them would pause from time to time to ring the bell, but others mounted it directly onto their cart so they could ring it as they walked. Another sound made by ice cream vendors was much less deliberate.

[Small bell ringing; sounds of horse-drawn carriage moving along street]

While some vendors walked the streets with pushcarts, others traveled with a horse and carriage. And so, you can imagine what the sounds associated with these vendors might have been. A memoir written by Iris Díaz, a former resident of Havana, offers a really rich description of her memories of the horse-drawn car-

riage. Díaz says the following, [female speaking voice] "I remember the hoof sounds of a horse pulling the Hatuey ice-cream cart, and the cries of a peddler ringing his bell, yelling '*Helado*!' Children ran into the street, holding onto their nickels and dimes to buy that creamy vanilla ice cream cone, then balancing the cone in one hand as they tried petting the horse with the other. The sweetest sounds were the happy voices of children calling each other, 'Angelina come out to play!'"

[Street noise and sounds of children playing]

And all of these sounds: the bells, the horse, the carriage and the children, could be heard just like the modern vendor in the streets and through open windows and doors into nearby homes. But we can go further still into the past and listen to the moment that ice cream vendors first appeared on the streets of Havana.

[Street noise fades to silence. Sound of a large crowd of people at a baseball game]

During Cuba's struggle for independence in the late 1800s, cultural practices, traditions and customs from the United States began to replace those from Spain. For instance, baseball took the place of bullfighting and was an important example of the island's turn-away from Spanish colonial culture in favor of a more modern American way of life.

[Murmur of crowd of people in baseball stadium, homerun, applause]

It's no coincidence that streetside ice cream vending arrived in Havana at this very same time. And one way we know this is because an early ice cream vendor was captured in a photograph taken right around the time of Cuban independence in 1902.

[Camera light bulb flash, silence]

This photo tells us that early ice cream vendors also made use of a hand cart, but their cart was bigger and bulkier than those used in the 1950s. And it was made entirely of wood, so it was probably quite difficult for them to push. These vendors didn't use sound-making technologies like chime music or bells. But that doesn't mean they didn't make any sounds.

[Creaking wooden cart wheels moving against ground]

The most obvious sound they'd make is their *pregón*. Presumably, they'd walk the streets shouting, "Helado!" Letting residents know they're selling ice cream, just like vendors do today. These vendors marked an important moment and played an important role in the everyday life of the city for a couple of reasons. The first of which is that they offered the opportunity for the working class to purchase a food item that was historically reserved for the upper class. Through the ice cream vendor, ice cream became a popular confection that could finally be served to everyone. And the second reason, is that ice cream vendors represented the local desire to replace Spanish with American culture in the hopes of modernizing the island, and ultimately, demonstrating what it means to be Cuban. The sounds of the ice cream vendor were literally the sounds of a city and a cultural identity being formed!

[After the silence begins, the sound of wooden cart fades. "Helado Sobre Ruedas" begins to play again]

And it's worth noting that this identity was brought to life, in part, using an ingredient that had grown in Cuba for hundreds of years: sugar! Sugar was the reason for the colony, and it plays an important role in the Cuban diet—which of course includes a steady dose of ice cream to keep cool on those hot Havana days.

It's quite amazing to think that all of this information, and all of this history is expressed in the sound of the ice cream vendor. In it, we hear: the silence of Cuba's economic crisis; Havana's golden era in the 1940s and 50s, the Americanization of the city at the turn of

the century, and the emergence of a middle class that could afford ice cream for the first time.

But in order to hear this, we not only had to listen to the sound locally, through the open windows and doors of Havana's neighbourhoods. But we also had to listen globally, by mapping those sounds onto far away places at different moments in history: the Soviet Union in the late 1980s, Minnesota in the 1950s, and Spain in the late 1800s.

All of this history is expressed in the sound of Havana's ice cream vendor today, but it takes a bit of time, effort, and guidance in order to hear it. It takes curiosity to map the linkages between taste, sound, people, their geography, and their history. But when we do, it enriches our experience. It makes the world make a bit more sense, once we accept the idea that certain sounds and certain flavours have a cultural history, and are defined not by one but by many different meanings.

So this raises the following question: what do you hear when you listen to the sounds of the ice cream vendor?

[Music fades]

YUKARI SEKO AND LINA RAHOUMA

BENTO BOX AND MOTHERING AWAY FROM HOME: JAPANESE IMMIGRANT FAMILIES' EXPERIENCE AT CANADIAN SCHOOL LUNCHTIME

Yukari Seko *is a critical health communication scholar and an Assistant Professor at Toronto Metropolitan University's School of Professional Communication. Her program of research takes a participatory, arts-informed approach to explore communication processes related to mental health, disabilities, and food practices. Her current research interrogates how Asian immigrant families navigate through institutionalized food environ-*

ments in Canada including school, hospital and long-term care facility.

Lina Rahouma *graduated from the Nutrition and Food program at Toronto Metropolitan University. She then completed a Professional Master's Diploma in Dietetics through Ryerson University, in partnership with The Hospital for Sick Children. She is passionate about food literacy, food security, and children's nutrition and health, and she has a deep interest in working internationally and learning about different cultures and foods.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe how children's home-packed lunches reflect family food values and their social locations.
- Identify potential impacts of food culture mismatch experienced by children between home and school.
- Discuss potential ways of mitigating the negative impact of food culture mismatch.
- Name structural barriers in school food environments and propose creative solutions for fostering an inclusive and accepting climates in the classroom.

INTRODUCTION

"Mom, can I bring a sandwich to school?"

"Yes, of course. But can you tell me why? I thought you love *onigiri* [rice ball]."

"…My friend told me 'you brought sushi again.' I'm hiding it during lunch time."

I (Yukari) vividly remember this conversation with my then five-year-old son when he started senior kindergarten in the Toronto District School Board.[1] Growing up in Japan and having migrated to Canada in my 20s, it never occurred to me that my son's Japanese-style ***bento*** would attract unwanted attention at school. His *bento* box was typically packed with what we eat at home: meat or fish dishes (dinner leftovers), cooked vegetables, and steamed rice (often made into *onigiri*), which I grew accustomed to and thought of as 'normal.' Yet what I thought was an ordinary lunch stood out at my son's school, leading him to feel embarrassed about his favorite foods.

This poignant experience told me that children's lunches at school closely reflect the complex realities of their families' food landscapes. Indeed, food has profound symbolic values that shape one's cultural identity. For immigrant families, home-packed lunches (i.e., meals to be consumed outside the home) can play a crucial role in maintaining their emotional ties to the 'home country' and preserve their culinary identities across generations. However, as my son's request for sandwiches indicates, norms and expectations around what to eat at school differ, not only among family members, but also between the home and the school, and across **food cultures**.

In this chapter we present a case about school-aged children of Japanese origin and their mothers focusing on their experiences during Canadian school lunchtimes. As a unique medium con-

1. The recollection of this dialogue was made in collaboration with Asahi Seko, who was eight years old at the time of writing (summer 2021).

necting the private and the public food environments, children's lunches at school provide a salient context in which to explore how families formulate food meanings and habits in and outside the home. Our exploration unpacks the complex interplay between migration, gender, social class, school, and larger sociocultural discourses on healthy eating that determine what goes in the lunchbox.

UNBOXING THE BENTO BOX[2]

To help children engage in the study and openly express their thoughts on school lunchtime, we used an **arts-informed research** method in combination with focus group interviews. A total of 16 school-aged children (6 to 12 years old) of Japanese background participated in two art workshops, facilitated by the researchers and a fine artist, and created art pieces about their typical school lunchboxes. Coloured paper, textiles, magazine pages, coloured pencils, markers, and other arts and crafts supplies were provided to spark children's creativity (see Figure 1). After creating their lunchboxes, the children were invited to join focus groups to talk about their experiences at school lunchtime. This data collection process transformed otherwise adult-oriented interview procedures into a more relaxed, enjoyable, and child-centred experience.

Along with the children, we also conducted a total of four focus groups with 19 Japanese immigrant parents (all mothers), asking about their experience packing children's lunches to school. After the preliminary analysis, we shared an animated video summarizing the findings and asked all participants for anonymous feedback. This engaging **member checking** process was

2. Results from this study are also reported in a paper published in *Canadian Food Studies* (Seko et al. 2021). While that work is distinct from what is presented here, the two pieces draw on the same body of research and there is some overlap between the two texts.

invaluable for this study, to ensure analytic rigor and integrate voices of the children and mothers into the final analysis.

Figure 1: *Child participants expressed their creativity in making their school lunchboxes with various art and craft materials*

Mothering away from home through bento box

All mothers who participated in the study reportedly took on responsibility for family feeding and indicated strong preferences about serving Japanese home meals to their family. For the mothers, a 'good' lunch means a Japanese-style lunch, namely, a nutritionally balanced, wholesome meal containing diverse food items, including a staple, main and side dishes, and a substantial amount of vegetables. This perception was informed mainly by the mothers' own experience growing up in Japan, within the Japanese national food education program (***shokuiku***) that prioritizes Japanese home-cooked meals as optimal for children's

development.[3] Moving away from Japan, the mothers strived to prepare good *bento* for their children, in order to nourish their growth and food literacy. Some mothers reportedly taught themselves how to cook Japanese home meals after having children in Canada, so as to "feed [their] children properly" (Parent 05).

Echoing the mothers, most children in our study said they usually bring home-cooked Japanese foods to school. The majority of children's artworks reflected that their lunchboxes typically contain a variety of food items, including a staple (mainly steamed rice), a main dish (mainly meat), and vegetables (Figure 2), or one-dish meals such as Japanese-style curry on rice (Figure 3).

Figure 2: *A 12-year-old participant crafted her lunch to school, which closely resembles a typical bento in Japan.*

3. Mah 2010, 406-7.

Figure 3: *An artwork representing Japanese curry on rice in a thermal lunchbox, created by a six-year-old participant. The speech bubble next to the person reads itadakimasu! ("I'll dig in!").*

In many mothers' perspectives, the preparation of 'good' lunchboxes is tied closely with the moral accountability of 'good mothering' that influences children's future health:

> "All I do for the lunch stems from the truly nutritiously balanced lunch my mother made for me… I believe moms should put their effort into lunch making for their elementary school kids… The food practice during the elementary years affects his/her whole life, such as fussiness [in food habits]." (Parent 03)

Relatedly, the mothers' perceived responsibility to prepare 'good' lunches for children goes in tandem with their commitment to help children with 'good' eating habits outside the home. Many mothers taught their children to finish the *bento*—leaving no leftover—so that they can get enough nutrients and express appreciation for the food. Through everyday lunchbox making, these mothers hope to pass on to their children a Japanese culinary

identity and normative understandings of personal responsibility for health. In return, most children internalized the mothers' ideas of a 'healthy' lunch and the moral imperative of good eating, and followed the exhortations to eat all foods served to them.

Food culture mismatch

Although their children's lunchbox embodies the mother's active commitment to promote children's health and well-being, what were considered 'good' lunches do not always fit within the school food environment. Some children in our study reportedly experience *food culture mismatch*[4] between home and school. As the opening anecdote suggests, Japanese food items such as *onigiri* (rice ball) and *nori* (seaweed) occasionally attract unwanted attention at Canadian schools. When asked what their schoolmates would say when they bring Japanese foods to school, one child described:

> "They sound like they're saying it's gross, I don't like it. [They're] not my friends but the boys in the class… They say like, 'ew, what is that?' in like a gross way." (Child 12)

Other participants shared that some Japanese food items are seen unfamiliar or foreign, and thus become subject to mockery and negative comments.

> "My son was told by his classmate, '*inari sushi*[5] is bad for your health.' I said to my son you should ask your classmate if they have ever had it. My son actually asked next day and found that the classmate didn't know anything about *inari sushi*. They were like 'what is it?' For them

4. Agaronov et al. 2019, 24.

5. Inari sushi, also known as bag sushi, is a dish of sushi rice stuffed in a seasoned deep-fried tofu pocket.

it was an unfamiliar brown thing that looked unhealthy." (Parent 07)

Additionally, both children and mothers noted that Canadian school food environments do not always accommodate their food practices. Due to the lack of access to microwave ovens, some of their favorite Japanese foods cannot be packed in their lunchboxes, as these foods lose flavor when they get cold. Some children bring thermal lunchboxes, but their favorite foods cannot always be packed because both the texture and flavours are altered.

Most children also reported that they often feel rushed to eat. As lunchtime is part of recess in many Canadian public schools, students' actual seated lunchtime is limited to 15 to 20 minutes, which may not allow children to finish Japanese-style *bento* with a variety of food items. Responses to their children's experiences at school varied among families. While many have maintained their preferred food practices, some mothers have reportedly modified their children's *bento* to accommodate their children's need to fit in at school.

Shaming toward 'unhealthy' food habits

While some Japanese foods are seen as foreign and unfamiliar at Canadian schools, food shaming does not occur in a one-way direction. Many participants, children and mothers alike, shared negative views toward other children's 'unhealthy' lunchboxes, ones that were perceived to be nutritionally unbalanced or containing 'junk' foods. Some children commented that their classmates bring "unhealthy (foods) like burgers…like sandwiches that have a lot of junk in it" (Child 07). Such descriptions do not fall into their definition of a 'healthy' lunch. Other children reportedly felt puzzled by peers whose lunches do not consist diverse food items. One child commented that it was hard to

understand why one of her classmates "only had Tim Hortons for lunch for the whole year" (Child 03). To her, such a food habit does not represent 'healthy' eating.

Though relatively scarce in our data, negative perceptions toward 'unhealthy' food habits were sometimes associated with lower socioeconomic status and financial constraints. One mother commented on her child's classmate who brings prepackaged snacks for lunch:

> "I asked my daughter what [the classmate] eats during lunch time. [My daughter said] she fills with snacks. I was like really? Her parents are rich and still that?" (Parent 08)

A link between low socioeconomic status and 'snacks' (i.e., prepackaged, processed foods) is alluded to in this comment through the surprise the mother felt that affluent parents would provide their children with 'unhealthy' foods. It is worth noting that children reported that their teachers would quickly intervene when culture-related food shaming took place in class, but comments on 'junk food' rarely attracted the adults' attention.

CONCLUSION

Children's school lunchboxes embody multiple aspects of a family's food practice, including culinary traditions, family dynamics, social locations, and sociocultural discourses of 'healthy' eating. For many of Japanese mothers in our study, everyday lunchbox making is a key aspect of mothering in and outside home, through which they demonstrate an active commitment to their children's health and future well-being. The lunchbox is also an important locus of cultural identity to materialize and instill Japanese food values within the children growing up in Canada. Children's artworks and narratives indicated that the

mothers' norm of 'good' lunch and eating is being successfully passed down to them.

The mothers' effort to preserve Japanese culinary traditions in their new country, however, sometimes caused food culture mismatch between school and home environments. Home food that does not fit the dominant food norms of schools stands out, producing feelings of embarrassment and ostracization in children. As food is closely tied to one's identity, the bitter experience of lunchtime shaming at school could have a substantial impact of children's and their families' emotional well-being. In order to embrace and nurture the diverse food identities that children bring to class, schools can engage with families from diverse food cultures and explore their priorities in helping children establish positive relationships to food.

In so doing, the prevalence of disdain toward 'junk' foods and a class-based notion linking 'unhealthy' eating with socioeconomic status merit closer attention. Stigma toward 'unhealthy eating' could be linked to culinary ethnocentrism or classism, which prioritizes one food practice over the others. A more inclusive, intersectional, and culturally appropriate discussion on 'healthy eating' at schools can support children and families from diverse ethnocultural and socioeconomic backgrounds, while safely exploring and performing their food identities. Meantime, food should not become a taboo subject at school, resulting in children becoming afraid of offending one another. Instead, schools can offer an optimal space that helps children be exposed to many different food cultures and learn how to negotiate social and emotional boundaries around their food identities.

Discussion Questions

- What are some of the ways in which a person may experience food culture mismatch between home and school?
- What are the potential ways of mitigating negative impacts of food culture mismatch children may experience between home and school environments? Take the role of students, educators, parents/families, and school staff members, and discuss how to collaboratively approach this issue.

Exercises

Think back to your own school lunch and write a short reflective essay by addressing the following questions:

- What did your typical school lunch look like when you were at elementary school? (Option: draw or make an artwork of your typical school lunch.)
- What was your favorite food/dish that you ate at school? Explain what makes this food/dish special for you.
- If you brought home-packed lunches to school, what factors shaped your lunches? How much of a factor were family food tradition, cost, nutrition, and your preference?
- Reflect on any notable experiences you may have had regarding the way your school lunchroom was set up.

Additional Resources

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Finally Getting "White People Lunch" — "Fresh Off the Boat"

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CREATIVE: COLLABORATIVE EATING PERFORMANCES

ANNIKA WALSH

CHINESE CROQUEMBOUCHE & CONGEEGATE

Annika Walsh *is a transdisciplinary artist who was born in Chuzhou, China and adopted at 11 months of age by her family in Canada. She works with a variety of ingredients, materials, and collaborators to form her conceptual pieces. Her practice ranges from exploration of cultural identity to participatory food performances, and everything in between. Striving to blur the lines and push the boundaries, Annika makes a habit of traversing many disciplines, including sculptural installation, performance, and media.*

CHINESE CROQUEMBOUCHE (NOV. 2021)

This interactive sculpture puts a savoury twist on a classic french dessert. A croquembouche is a pastry cream stuffed choux pastry tower that is stuck together with sweet caramel. My version has a savoury chinese flavoured bean sprout and cabbage filling. For the caramel aspect, I created a concentrate of soy sauce, hoisin, rice vinegar, mushroom oyster sauce, garlic and ginger. I took that concentrate and mixed a bit of it into simmering maple syrup. I let this concoction bubble down into a hard ball caramel. With all of the new elements, I constructed the tower the day of reviewing. This piece requires activation and destruction in order for it to be "completed". The rest of the art making happens through the deliberate action of the participants.

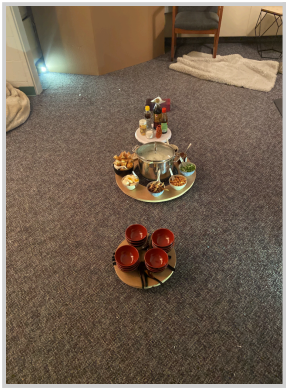
Figure 1: *Chinese Croquembouche*

Figure 2: *Chinese Croquembouche, after the eating*

***Figure 3**: Chinese Croquembouche, 'completed'.*

CONGEEGATE (DEC. 2021)

I call this piece a performance because the focus is not about an art object. While this experience did involve objects (some crafted specifically for this piece), it is more about the notion of congregating and eating together. All of the elements were placed close to the ground, encouraging the participants to shift their attention down towards the floor. Things were placed in a linear fashion, with three distinct sections. The first was a bowl and spoon stand; the stand was made for this piece. The second station had a large pot containing congee (a rice porridge). This batch only had jasmine rice cooked down with water and salt. This base suggested a blank canvas in which participants could add their own preferences, putting more of themselves into the piece that was initially presented to them. Surrounding the pot was a handmade lazy susan that smoothly revolved around the pot. It held different toppings: tea eggs, spicy peanuts, green onions, oyster mushrooms, a Szechuan kelp mixture, and more. The last part of the installation was a pre-made lazy susan that held sauces and seasoning such as soy sauce, sesame oil, black vinegar, kosher salt and more. The stations were placed in the middle of my studio; surrounding the food were pillows, blankets and exercise mats. During this experience, everyone chatted while creating their bowls, and then went to sit down and eat.



Congeegate: the floor set up

Congeegate: participants preparing their bowls

Congeegate: gathering for warmth

SARAH ROTZ

FOOD AS RELATIONS: REFLECTING ON OUR ROOTS, (RE)VISIONING OUR RELATIONSHIPS

Sarah Rotz *is an Assistant Professor in the Faculty of Environmental & Urban Change at York University. Her academic and organizing work is grounded in environmental justice, with a focus on land and food systems.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the relationship between systemic/structural food issues and personal food choices and beliefs.
- Reflect on and question their relationship to food and body, particularly as related to issues of systemic racism and sexism.
- Critically interrogate the personal and political impacts of diet culture, and propose alternative perspectives toward food, dieting, and body acceptance.

INTRODUCTION

How often—and how deeply—do you think about your relationship to food? If you're like many students I speak to, you might say, "I try to eat healthy, but other than that…not too much." Yet we are inundated with all sorts of food messages every day. How, then, can we make sense of all this information if we don't ask ourselves some critical questions? Let's start with the following: How would you describe your relationship to food? What meaning does food have in your life? What thoughts and feelings does food evoke for you? What different feelings are associated with certain foods and food practices? What key memories have shaped your 'coming to know' food?

This process of reflection has been powerful for me personally, because it has helped me connect bigger–picture food system issues, such as industrialization, corporate concentration, and systemic racism, to cultural and emotional dimensions, such as diet culture, body image, and fat-phobia (fear or disdain of fatness). For this chapter, I draw from my own reflection process to make some connections between seemingly abstract structural forces of racism, **settler colonialism**, and **patriarchy** to our personal relationships with food, our bodies, and ourselves.

Some of my earliest food messages centered on themes of food restriction and self-discipline, creating an inner world of confusion and self-doubt. Many of the people in my life—especially the women—modelled an anxious and polarized relationship with food, displaying a venomous hate for both 'the calorie' and the body in some moments, and a ravenous desire for food in others. The latter often ended in self-blaming and punishing remarks about "piggies," along with promises to "never do that again." Weekend brunches were often followed by declarations that "we don't need to eat *anything* until dinner!" I remember feeling nervous, thinking: But, what if I get hungry *before* dinner? The message I took from this was that that hunger is something to be controlled, managed, and contained, and that one should only feel hungry at socially appropriate times. If, then, my hunger arose outside of these socially sanctioned moments (which was often), I would feel shame: Why am *I* hungry? This isn't right, I *shouldn't* feel hungry. Looking back, I see how immediately I internalized my parents' relationship to food as I grew. Their punitive, regulatory voice became my own.

SITUATING OUR RELATIONSHIP TO FOOD

Exploring our personal relationships to food (made up of intertwined experiences, perceptions, mentalities, narratives, and messages) can feel difficult because it is so deeply connected to our core sense of self. Our early messages about food tell us a great deal about whether or not we can (and should) trust ourselves, our bodies, and our feelings. If they are shaming, critical, and restrictive messages, they can have deep and persistent negative effects on our self-worth, and our degree of body acceptance. They also shape how we understand and internalize larger cultural messages, such as fat-phobia and the idealization of thinness. The relationship between the personal and political reveal themselves in the realm of food. Our internal relationship to food is shaped and informed by our familial and socio-cultural

food knowledges and practices, which are strongly determined by larger forces that condition how we understand, access, interact with, and consume food. Put simply, our ability to engage in different food practices (e.g., whether we gain access to food from a fridge, restaurant, garden, or forest) are limited to a large extent by the culture and society we live in (e.g., how we are situated in society to have access to economic resources, cultural knowledges, land, and natural spaces). So while we can certainly push back against and move beyond food messages that feel unhealthy and harmful to us, it is helpful to remember that our social conditions have heavily encouraged some ways of knowing and interacting with food, while making others incredibly difficult.

As my own memories affirm, many of us struggle with various forms of rigid and disordered eating, which can be described as a way of relating to food that causes emotional, psychological and/or physical harm. Again, this harmful relationship does not arise simply from one's own mind—external forces shape our personal relationships to food. Diet culture, defined as a system of beliefs that equate thinness and particular body shapes and sizes to health and moral virtue, has played a particularly destructive role here. Its roots run deep. As systems of **capitalism**, colonialism, and ecological imperialism reveal, unhealthy and unethical systems often cultivate unhealthy and dysfunctional relations to food, the land, each other, and ourselves.

GETTING TO THE ROOTS OF OUR PERSONAL FOOD RELATIONS

The 'restrict-binge' cycle of eating has become so common in Western culture that most of us can easily recognize it in ourselves and others. Fat-phobia and diet culture have a centuries-long history rooted in European imperial and colonial expansion (marked by resource theft and political and cultural domination),

and cultural beliefs in the superiority of white people—men in particular. These are the same systems through which the dominant food industry has evolved. In her book, *Fearing the Black Body: The Racial Origins of Fat Phobia*, sociologist Sabrina Strings clearly shows how anti-black racism (linked to the Atlantic slave trade) and the rise of religious Protestantism shaped anti-fat expressions around food and the body, coming together firmly in the early 19th century.

Fat-phobic language and the admiration of the thin body were deployed through popular culture and media by Europeans and white Americans to create and reinforce "social distinctions between themselves and so-called greedy and fat racial Others." Religious language linked slenderness to 'civilized' dispositions and moral and racial superiority, while equating fatness to signs of ungodliness, "poor constitution", and savagery. The popularization of fat-phobia in dominant North American culture had material interests and consequences, and it played a key role in degrading Black people, so-called "hybrid whites" (e.g., Celtic Irish, southern Italians, Russians), immigrants, and poor people. As feminist and gender scholars have shown, fat-shaming language and thin obsession has targeted women by regulating and denigrating women's relationships with food and their bodies. White women became the representatives and delegates of the white Protestant ideal, involuntarily assigned the role of upholding established codes of superiority—a slender woman is a disciplined, civil, dignified, and pure woman. In this way, Strings argues that race acts as a double agent "to both degrade black women *and* discipline white women."[1]

The disciplining language of fat-phobia has been passed down through generations of families, and mine was not immune. Reflecting on how the main tenets of diet culture have shown up

1. Strings 2019, 6.

in my own life[2]—in my home, amongst friends, at school, and in the media, the messaging was everywhere. Family and friends were often comparing themselves and each other to white, thin ideals, and they tended to associate thinness with health and moral virtue. When I was as young as ten or eleven, I remember the shame and frustration on the faces of female friends as they declared their weight loss goals and focused on "getting thin." I learned at a young age that weight loss was widely attributed to sexual desirability and social status. Around this time, my mom began an especially intensive 'healthy eating' phase in which she demonized certain foods and revered others.[3] This self-disciplining language of 'good' or 'healthy', versus 'bad' or 'unhealthy' foods, creates a sense of shame and erodes our pleasure and trust around food. These thoughts and practices have far-reaching impacts on our internal lives and psyches. Also, these culturally constructed categories of food (as either 'good' or 'bad') are rooted in racist and classist language that centers white Euro-American foods while excluding, demonizing, or otherwise appropriating foods from non-white cultures and communities.

When I was young, my family didn't cook or eat together regularly. Money and time were both fairly tight, but that doesn't fully explain why our food culture felt so isolating and noncommunal. My family, too often, carried and reinforced food messages based in shame, restriction, and discipline.[4] Looking back, I would describe our food atmosphere as unloving, with undertones of hostility. Food preparation and eating practices were often spoken about negatively—as an unwelcome obligation (and unwelcome calories)—rather than as a potentially joyful oppor-

2. See Christy Harrison's book, *Anti-Diet: Reclaim Your Time, Money, Well-Being, and Happiness Through Intuitive Eating* for a deeper analysis of diet culture.

3. I now see that my mother was merely responding to the same diet culture and fat-phobic messaging that pervades our society.

4. Both markers of broader settler colonial and European imperial cultural norms and ways of knowing.

tunity to bring people together. These characteristics are not unique to my family. They are premised on age-old sentiments that openly loving and finding joy and pleasure in food implies you are weak, inferior, boorish, and unrefined. These sentiments have evolved from—and serve the interests of—capitalist food and diet culture, but they have particular historical origins in North America under white European settler colonialism. While particular in how they function, settler colonial and enslavement societies are relatedly underpinned by beliefs and practices of discipline, control, and hierarchy, alongside individualist, acquisitive, and supremacist ways of thinking.

REFLECTING ON COLONIAL FOOD RELATIONS

While my ancestors may not have been the central architects of colonial invasion (although I'm still unclear about the details), they were by and large colonial in their mentality and actions. Like most settler Canadians, my ancestors were born into "a mental framework of Euro-American arrogance"[5] that operates as a widespread system or method of control and underpins our dominant society. In terms of food, the settler colonial mental framework drove the project of land theft and resource accumulation, and gave rise to the dominant food system we are now steeped in. The settler colonial origins of our food system are marked by the rise of the settler patriarchal family farm engaged in market-based production using increasingly large and expensive machines and inputs (such as seeds, chemical fertilizers, and pesticides) on relatively large plots of land within a growing agri-business industry. In turn, the vast majority of agricultural land and other-than-human beings (also described as 'resources') in Canada have been built by and for white settler people, governments, and corporations. It is thus unsurprising that nearly all of the agricultural land in Canada is managed by white (male)

5. Barker 2009, 341.

settler farmers. Collectively, settler culture understands land and food as an economic resource and commodity, and this way of seeing has deeply shaped how settler societies and institutions relate to it.

Put differently, regardless of the motives of individual settlers, the *structure of colonization* (comprised of institutions, laws and policies, norms, and worldviews) evolved with intent and purpose. Patrick Wolfe argues that to effectively accumulate land and build an industry, peoples and cultures currently living on those lands must be eliminated.[6] Giving the lie to the rhetoric that Canada was "empty land" or "terra nullius," Indigenous peoples had deeply rooted food relations and practiced complex forms of food growing and gathering for centuries before contact with Europeans; they continue to do so today. Colonial governments created policies to suppress Indigenous food growing, gathering, and harvesting while also restricting Indigenous involvement in settler agriculture—even while colonial policymakers argued that they wanted Indigenous people to be farmers. These policies (including the **homestead**, **reserve, pass**, and **Métis scrip** systems) played a central role in dispossessing Indigenous Nations and dismantling their food and livelihood systems. Further, they forced certain settler food cultures, habits, and relations upon Indigenous Nations. Forced starvation, food and water contamination, the prohibition of Indigenous food practices, and other food injustices that the colonial government has inflicted on Indigenous peoples are often strategies in the larger project of settler expansion. Indeed, settler expansion requires the concurrent undermining of Indigenous lifeways, control, and self-determination (although Indigenous peoples, communities, and nations have done a great deal to resist this).

6. How the elimination happens is always ongoing, and it shifts according settler-Indigenous relations of mediation, action, and resistance.

REVISIONING FOOD RELATIONS: MAKING JOY, LOVE, KIN & JUSTICE

If colonial mentalities and behaviors are conditional rather than inevitable states of a society[7], how then can we move beyond colonial and patriarchal food relationships, both personally and collectively? I have shifted away from the perspective that sustainable food solutions must be found primarily through legal regulation (e.g., banning or mandating certain foods or ingredients) that would change consumer behavior. This is specifically because these approaches have been shown to reinforce diet culture tenets of discipline, restriction, and shame, while transferring structural harms onto individuals and deploying cultures of surveillance onto those with the least power.

Taking direction from Black and Indigenous scholars, activists, and teachers—and in community with students and colleagues—I envision what it means to build a (de)(anti)colonial and feminist relationship toward food. As Kim TallBear explains, "in order to sustain good relations among all the beings that inhabit these lands, we must undercut settler (property) relations. Instead of killing the Indian to save the man, we must turn the **ontological** table."

7. To differentiate between social states and cultural imperatives, Barker points to Taiaiake Alfred's passage from Wasáse (2005, 109). As a clash of "cultures," "civilizations," etc., this problem could be discussed in more objective theoretical terms to avoid the discomfort of personal responsibility, but in reality, the injustices we live with are a matter of choices and behaviours committed within a worldview defined by a mental framework of Euroamerican arrogance and self-justifying political ideologies set in opposition to Onkwehonwe [this term is the Kanienkehaka equivalent to "Indigenous," meaning roughly "original or authentic peoples"] peoples and our worldviews. The basic substance of the problem of colonialism is the belief in the superiority and universality of Euro-American culture.

As a first step in this life-long process, I began working to confront my internalized racism, sexism and fat-phobia, especially with how I thought about and acted on food. By applying processes of reflection to my own life, I have been able to better understand how these internalized mental frameworks have guided my approach to food and my body. The wisdom and support of teachers and community have shown me the power of practices and relations grounded in mind-body attunement and self-trust (through, for instance, an 'intuitive eating' approach)[8], starting with simply listening to and affirming my body's own intuitions, desires, and needs. Doing this work has allowed me to begin healing shame- and control-based food behaviours while encouraging internal dialogue that de-links self-worth from appearance. For me, these teachings have been the most promising and sustainable path of recovery from personally destructive food relations. In addition, they can be extrapolated to the political.

Given our deeply unequal social conditions, we know that declaring that all people ought to 'just make healthy food choices' only strengthens shame-based food messages, especially for marginalized folks and those in larger bodies. Instead, what would it mean to center the needs and well-being of those whose bodies and identities fall outside of the limited boundaries of diet culture, and who bear the brunt of white, heteronormative patriarchy? What would it mean to apply decolonial and feminist mental frameworks to our understanding of and relations to land more broadly? Wise teachers and practitioners are showing us what a different way can look like through visions, principles, and practices of collective cultural resurgence, land-based learning, **reciprocity** and **kin-making**, land reclamation, remediation

8. See Tribole & Resch 2020.

and **rematriation**, and **food sovereignty**.[9] Taking these visions, principles and practices seriously allows us to work together toward emancipatory food relations rooted in personal food relations of pleasure, joy, and deep acceptance, alongside nourishing and mutually supportive family, kinship, and collective food cultures.

Discussion Questions

- What are some of your significant experiences with growing food, working with soil, or cooking and preparing food? In what ways have these food experiences been influenced by your or another's race, gender, or class?
- When you think about 'Canadian' food, what kinds of foods do you think of? What messages have you been told about 'Canadian food'? What kinds of foods and what different communities and populations of people might these categories and messages exclude?
- How much do you know about First Nations (Anishinaabe or Haudenoshaunee, for instance), Inuit, or Métis foods, or Haitian, Jamaican, or South Asian foods? Why or why not?

9. I've been thinking a lot about how the concept of kin-making can be applied to re-imagining and righting our relations to food, land, and the body as non-Indigenous people: "Making or creating kin can call non-Indigenous people (including those who do not fit well into the 'settler' category) to be more accountable to Indigenous lifeways long constituted in intimate relation with this place. Kinship might inspire change, new ways of organizing and standing together in the face of state violence against both humans and the land." (Tall-Bear 2019, 38)

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ANDREA ELENA NORIEGA

HONEY AND ALMONDS & HONORING RELATIONSHIPS AND COMPANIONS

Andrea Elena Noriega *is an Ottawa-based artist and Carleton University graduate with an MA in Applied Linguistics, and PhD (abd) in Anthropology specializing in food discourses related to health and wellness. Her artwork explores the relationships between people and non-human beings, with particular interest in the role of pollinators and food systems.*

ARTIST'S STATEMENT

We need to view creatures like bees not as *objects* (i.e., commodities and labourers) but as *subjects* (i.e., living beings).[1] Their status needs to be elevated from the caste system that privileges human beings over non-human animals. I believe that they, like other beings, should be regarded as *persons,* giving them rights that acknowledge their individuality and protect them from torture, illness, injury, enslavement, and death.

Indigenous teachings provide an **epistemological framework** for interspecies relationships, one that lateralizes the food system and provides reciprocity.[2] Non-human beings in the Euro-Westernized world are starting to be seen through anthropomorphism, allowing us to perceive the intrinsic commonalities of all living beings. This means seeing 'nature' as having the **emergent potential**[3] (a collective force) for sentience and consciousness.[4] It also means trying to understand the lived experiences of other beings, and affording them the empathy, compassion, and deference we aspire to show to other human beings.

Similarly, Indigenous **ontologies** offer highly progressive and advanced models for our daily attitudes and conduct toward other creatures. Implementing such an ethos within Euro-Western spaces of practice (such as farming and agriculture) can serve to enhance the overall outcomes of human actions, including improved yield, sustainability, diversity, and collective **affect**.[5]

1. Nimo 2015.
2. Kimmerer 2013.
3. Johnson 2001.
4. Wohleben 2015.
5. Stewart 2007.

Honey and Almonds

The banality of evil resides in the idiosyncratic,
it is, woefully, the little choices made.
The existence of one may take the existence of another,
but must that also entail an indentured servitude?"
With so many gifts from la Pachamama,
it seems, then, belligerent to steal, hoard, or take prisoner any of her iterations
Sweet honey, a gift
Nourishing almonds, a gift
Bees busily producing, an honor to all of nature,
not, indeed, an invitation to oppress and exploit
Entitlement to gifts, disposable commodities, transactional, and disposable, incites a banality that does give rise to evil, but also to complacency, willful ignorance, and a regime of husbandry that is not an inherent right.
Release the bees; let them give gifts, not sacrifices

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Honoring Relationships and Companions

Independent we fall, united, we . . . grow
Sturdy and reliable, I am corn
Nimble and giving, I am beans
Cool and protective, I am squash
A whisper from the wind, or visit from the Cucurbita bee brings new life
Together, entangled,
we bring to each other that which we cannot bring for ourselves alone.
We owe strength and resilience to the relationships we have
We flourish *because* of the championship, not in spite of it

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LUCY LONG

GREEN BEAN CASSEROLE: COMMERCIAL FOODS AS REGIONAL TRADITION

Lucy M. Long *directs the independent nonprofit Center for Food and Culture and teaches at Bowling Green State University, Ohio. She focuses on food, music, and dance as mediums for meaning, identity, community, and power. Her publications include: Culinary Tourism (2004), Regional American Food Culture (2009), Ethnic American Food Today (2015), Food and Folklore Reader (2015), Honey: A Global History (2017), and Comfort Food Meanings and Memories (2017).*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe how the environment and history of a region shapes its food traditions.
- Explain folkloristic concepts of tradition using foods that are familiar to them.
- Recognize and reflect on the relationship between commercial foods and local cultures.

INTRODUCTION

Green bean casserole, a baked dish of green beans, canned cream of mushroom soup, and canned fried onions, was invented by the Campbell Soup Company in their New Jersey test kitchen in 1955. Marketed across the United States for Thanksgiving, it has since become popular among many families in the eastern Midwest, eaten not only on holidays, but also for everyday meals, potlucks, and community gatherings. It has been embraced in this region, more so than others, as an expected customary **tradition**.

While it seems odd that a mass-produced, commercial food product could be considered a tradition, **folklore** studies (folkloristics) sees tradition as more than just old-fashioned ways from the past. From this perspective, traditions are things, behaviors, and attitudes that connect an individual to their past, place, and other people. Traditions are resources for individuals to creatively act upon those connections, expressing—and negotiating—who they are, what they value, and what tastes they prefer.

As a food tradition, green bean casserole represents the **identity**, **ethos**, and **aesthetics** of the culture of the eastern Midwest, all of which are shaped by the history of the region. To understand why the dish has been embraced by so many residents, we need to look at that history. It is not simply a matter of people liking it or finding it convenient to make. There is a logic behind it, in the same way there is a logic to every tradition. This is particularly important to recognize with foods that are frequently made fun of or dismissed as not being 'serious cooking', as often happens with green bean casserole. Understanding the logic of a food tradition helps us understand why people eat the things they do. It also helps us understand how things that start out as commercial inventions and are distributed nation-wide can come to be meaningful to specific groups in specific places.

DISCOVERING A TRADITION

I first became aware of green bean casserole (GBC) when I began teaching folklore classes at a university in northwest Ohio in the mid 1990s. I frequently included assignments about food traditions, and the dish kept coming up as a standard part of Thanksgiving dinner menus and other meals. At that time, most of the undergraduate students came from the region, which was primarily rural with heavily industrial agriculture, but also included several major cities—Toledo and Cleveland, Ohio. Many of the students felt that the dish held a special place in their own lives, and, even if they didn't like it, it carried meaningful memories for them.

That I was surprised by the popularity of the dish is a reflection of my own cultural background. I had been living on the urban east coast where there was a high value given to fresh, nutritious, and innovative foods. GBC did not fit those expectations, nor did it fit the food ethos and aesthetics of my southern upbringing where holiday foods were made from scratch and required culi-

nary skill and finesse. In contrast, GBC is made by opening cans of green beans, cream of mushroom soup, and fried onions, mixing the contents together, and baking the mixture in the oven, none of which is too demanding.

As a folklorist, however, I wanted to understand how this tradition came about. Folklore shares many theoretical perspectives and methods with anthropology, and Franz Boas' concept of **cultural relativism** is foundational. That means that we need to understand how a practice functions and what it means within the culture using it, rather than judge it according to our own standards.

In order to gain that understanding, I conducted formal and informal interviews with students and residents in the region and did ethnographic research. I then took my observations on GBC as a tradition back to members of this regional culture to see if they agreed with my interpretations. They affirmed that the interpretations made explicit the implicit meanings of the tradition. (This kind of collaborative, reflexive fieldwork ensures the accuracy of conclusions drawn by the researcher and is common practice in folkloristics.)

OBSERVATIONS ON A DISH

One of the first observations drawn from my fieldwork is that GBC represents the history of this area (northwest Ohio, specifically) as a cultural region. Because it was largely swampland, it was settled later than other parts of the Midwest. Starting in the 1830s, drainage systems started being developed. The rich land was perfect for farming and its flatness made it ideal for larger machinery and large swaths of crops, setting the stage for industrial agriculture.

The region also was one of unpredictable weather. High winds, tornadoes, droughts, and heavy rainfalls could destroy crops in a moment, and the continued threat of the fields flooding and returning to swamp kept farmers on their toes. This meant that nature itself was seen as a danger, something to be tamed and controlled, rather than worked with—a worldview that embraces technology and industrial agriculture.

The human history of the region also supported that worldview. Although Native American groups had used the area for hunting and fishing, permanent settlements were established by farmers from larger, German areas of Europe. They tended to have a pragmatic and conservative approach to life, valuing hands-on skills and practical knowledge. They wanted their farms to be efficient and orderly, leaving little room for romanticizing nature or "trivial" things like decorative arts. Food was expected to be the same—hearty, filling, with no surprises. Housewives were expected to be frugal and make food guaranteed to be consumed.

Commercial, industrial foods offered those kinds of guarantees, and represented the elevation of human inventiveness and technology over nature. GBC reflects that history and worldview. It also reflects the foodways aesthetic of many of the settlers, who preferred dairy-based sauces and preserved vegetables with little spice other than salt and maybe some black pepper.

GBC also offered the opportunity to participate in a nationally known food produced by a company that represented both tradition and modernity. The Campbell Soup Company began in 1869 in New Jersey by Joseph Campbell, a fruit merchant and Abraham Anderson, an icebox manufacturer. In 1897, the company invented condensed soups, selling them for a dime for a ten-ounce can. This condensed soup was displayed at the Paris Exhibition of 1900, where it won a gold medal, and the image

of that medal is still shown on the can labels. In 1916, the company published a cookbook, *Helps for the Hostess*, that suggested ways to incorporate condensed soups into cooking. In 1931, they began radio ads, including the saying "M'm! M'm! Good!", which then entered into popular culture. In 1934, cream of mushroom soup was invented and promoted as a sauce as well as a soup. In 1955, the green bean casserole was invented by "Campbell home economist" Dorcas Reilly. Today, more than one million cans of soup are used everyday, and the green bean casserole is one of the company's most popular recipes. Preparing and consuming this dish, then, is a way to participate in what is perceived as an all-American national tradition.

At the same time, GBC offered the possibility for personal creativity. One of the assumptions about commercially created, processed, and distributed foods is that individuals passively accept whatever is them handed to them. It is easy to see, however, that all of us put our own tastes and identities into foods, whether they come from the industrial food system or from our grandparents' farm. We do this by changing ingredients or cooking styles, adding flavorings, pairing foods in particular ways, and developing our own rituals and memories around them. Variation is the hallmark of tradition, and GBC is easily varied. Some cooks use commercially canned green beans; others use home-canned. Some add mushrooms, fresh onions, or 'Italian' spices. Some substitute crushed potato chips for the more usual Durkee-French's crispy fried onions. One of my children made the dish completely from organic, vegan ingredients. In this way, individuals adapt the tradition to their express their own identities, tastes, and values.

CONCLUSIONS

Mass-produced, commercial foods have been a significant part of American food culture since industrialization enabled their

development in the late 1800s. While they seem like the antithesis of home-cooked folk foods, they have frequently been incorporated into family and community tradition. Green bean casserole illustrates how such a product can become a meaningful tradition that expresses both regional culture and individual creativity. It suggests the processes by which all of us adapt commercial foods to fit our own histories, needs, and tastes.

Discussion Questions

- Are there any food traditions you participate in that others might find silly or distasteful? Is there a "logic" to them that explains why they make sense to you?
- Can you think of any of your foods or practices that reflect the specific place you are from or live in now? Does the natural history of that place shape those foods in any way? Can you detect the influence of the cultural history?
- What are some ways that you personalize fast food or other commercially available food? How do those foods relate to your personal tastes or identities? Do you think of those foods as traditions? Does reading about GBC make you think of your own experiences with commercial foodways as traditions?

Exercise

View this short documentary on Mexican-American food in northwest Ohio. The video focuses on the meanings of tortillas for members of that community and discusses how the artistry and skill needed to make tortillas is oftentimes overlooked. Drawing on your own experience, reflect on foods in your life that might not be appreciated by others.

Ask yourself: Does that lack of appreciation evoke embarrassment, sadness, or even humiliation? In what ways are your foods significant carriers of identity, values, or memories?

Additional Resources

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For more on folklore as a discipline and profession, see the website of the American Folklore Society.

Also see the Center for Food and Culture for more discussion of folklore approaches, as well as our YouTube channel for short documentaries on food traditions in northwest Ohio.

MARY ANNE MARTIN AND MICHAEL CLASSENS

HOUSEHOLD FOODWORK: AN ESSENTIAL SERVICE, ESSENTIALLY DEVALUED

Mary Anne Martin *is a White settler woman and adjunct faculty member in the Master of Arts in Sustainable Studies program at Trent University. Her interests include household food insecurity, the impact of community-based food initiatives, and intersections between gender and food systems. She actively participates in food policy initiatives and is dedicated to fostering social change through campus-community collaborations.*

Michael Classens *is a White settler man and Assistant Professor in the School of the Environment at University of Toronto. He is broadly interested in areas of social and environmental*

justice, with an emphasis on these dynamics within food systems. As a teacher, researcher, learner, and activist he is committed to connecting theory with practice, and scholarship with socio-ecological change. Michael lives in Toronto with his partner, three kids, and dog named Sue.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain the concept, framing, and dynamics of *household foodwork*
- Name ways in which household foodwork is organized through structures of inequity such as gender, race, and class.
- Articulate ways in which individuals' foodwork and food consumption are inextricable from broader structures and interdependencies.
- Identify possible paths towards a fairer food system.

INTRODUCTION

How much thought do you give to activities like getting groceries, making meals, and washing dishes? These forms of household foodwork, while so necessary on an ongoing basis for households to survive and for society to function, nonetheless tend to go relatively unnoticed and undervalued, both in the home and well beyond it. They can seem unremarkable, taken-

for-granted, almost invisible—at least until one has to do them. And because this work isn't measured or counted, it doesn't count in national accounting systems of economic value, like the **Gross Domestic Product** (GDP)—which, in turn, can make this work even less noticeable in homes and communities.[1]

Household foodwork is defined here as all the tasks and effort involved for a household in planning for, acquiring, preparing, serving, consuming, cleaning up, storing, and disposing of food. It includes not only more obvious, practical tasks (e.g., food shopping or washing dishes), but also cognitive tasks (e.g., determining what food to buy or how to use a recipe), emotional work (e.g., responding to household members' needs for nurturing or celebration through food) and managerial work (e.g., enlisting the assistance of others with foodwork). The way that households are organized (e.g., nuclear family members, extended family members, individuals living on their own, collections of roommates) affects what household foodwork looks like.

Overall, household foodwork activities revolve primarily around the home and occur on an unpaid basis. However, they are by no means confined to just domestic spaces or non-monetary practices. Feeding households frequently means engaging with businesses (by phone, online, or in public spaces) to procure food and related goods and services. More than ever, people today buy their food instead of growing or making it.[2] This means that the kinds of work that were more common 150 years ago—like growing vegetables, raising chickens, preserving jams, baking bread, or cooking meals—are more often outsourced to those such as farmers, processors, retailers, restaurants, and, increasingly, takeout delivery services. Our ability to eat almost anything relies on other people.

1. See Waring 1999.
2. Jaffe & Gertler 2006.

FOOD FOR FOODWORK

It may go without saying, but at a bare minimum, household foodwork requires food and the means to acquire it. Even though food is one of the most basic human needs, it is still treated as a **commodity**. That is, food is usually bought and sold, like so many less-important things in our lives. This means, of course, that people with money are seen as "deserving" food, but those without money aren't. Instead, people who can't afford food often live with *food insecurity*, "the inadequate or insecure access to food because of financial constraints."[3] They may worry a lot about affording food, go without nutritious food, or skip meals entirely—even though many countries have committed to the right of all their citizens to adequate food.[4] As one example, in Canada, a prosperous country, 12.7% of households (or at least 4.4 million people) were living with food insecurity before the global COVID pandemic, while 10.5% of households, or over 35 million people in the U.S., were food insecure.[5]

Paradoxically, as Figure 1 illustrates, some of those with the utmost responsibility for household foodwork, such as parents, often don't have adequate food with which to accomplish it. In fact, in Canada, the presence of children under the age of 18 *raises* a household's risk of food insecurity from 11.4% to 16.2%. Households of lone parents, in particular, experience much higher rates of food insecurity. In fact, 21.6% of male lone-parent households and an astounding 33.1% of female lone-parent households experience food insecurity.[6] Having children means

3. Tarasuk & Mitchell 2020.

4. FAO 2021.

5. This included participation by all provinces and territories but excluded some groups like people living on First Nations reserves, in prisons or in care facilities. Tarasuk & Mitchell 2020; Silva 2020.

6. Tarasuk & Mitchell 2020.

both added expenses and more challenges in maintaining stable and well-paid employment. Furthermore, raising children on one's own typically means that there is no additional adult to earn an income for a household. And women are much more likely to earn less than men and to assume primary caregiving roles for children.[7] Overall, parenting status, partner status, and gender all affect food insecurity. That is, who you are, who you live with, and who you care for all affect whether your food needs will be met. The individualized assumption that every person should be able to earn enough money to buy all the food that they need does not consider the relationships and social structures of inequality that affect their lives.

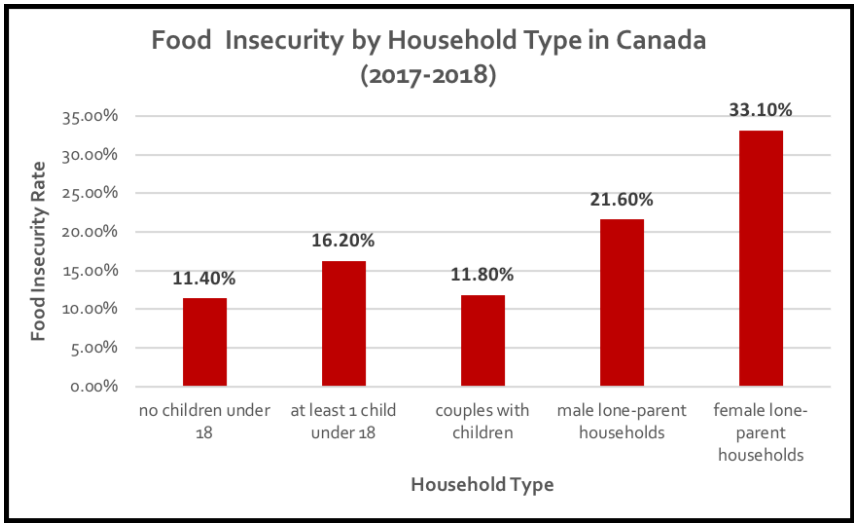

Figure 1: *Food Insecurity by Household Type (adapted from Tarasuk V. & Mitchell A., 2020)*

HOUSEHOLD FOODWORK, AN ESSENTIAL SERVICE

The right to food itself is critical for, but not the same as, the right to eat. Indeed, a package of rice or dried beans is not imme-

7. Pelletier & Patterson 2019; Moyser & Burlok/Statistics Canada 2018.

diately consumable. What often gets lost in thinking about food access is the essential labour required to literally put food on the table. Food itself generally needs to be transformed through the use of physical resources (e.g., tools and energy sources for cooking) and the labour of acquiring, preparing, and serving the food in ways that meet eaters' needs. Since human survival and well-being utterly depend on food, they utterly depend on the foodwork, within or outside the home, that makes food edible. Given people's varying skills, capacities, and circumstances, it is rare for any person to be completely self-reliant in producing, processing, and preparing all the food that they require.

The start of the COVID pandemic shone a harsh light on the essentiality of household foodwork as expectations for it grew. Household foodworkers, primarily women, faced increased challenges as children required more meals at home, elementary and high school students could no longer access food from programs at school, some supermarket shelves emptied, and all public places, including those selling or donating food, were seen as sites of potential COVID exposure. Foodwork extended to disinfecting groceries, waiting in lines outside grocery stores, and generally reconciling household food needs with the pandemic-related risks and regulations pertaining to acquiring food. This work has been crucial for ensuring that people remain alive and healthy.

HOUSEHOLD FOODWORKERS: SOME PLATES ARE FULLER THAN OTHERS

Despite how necessary it is, household foodwork cannot be separated from a political context in which power, money, food access, and effort are unequally distributed. **Social structures of inequity**, such as sexism, racism, and poverty, combine so that both the efforts required and the resources available for household foodwork are unevenly assigned. For example, even

with significant increases in women working in paid employment[8] and men doing domestic work,[9] women continue to perform the bulk of foodwork.[10] However, except for some mothers' ability to breastfeed, actual foodwork abilities are not limited to just women. This discrepancy means that mothers in particular, especially those with low incomes, face difficult choices between providing in-person care for their children and participating in paid employment to afford to feed them.

Racialized poverty and racialized food system labour interfere with food access and the opportunity for adults to be physically present and able to feed their own families. Food is persistently kept out of reach for the 28.2% of Indigenous and 28.9% of Black individuals who live in food insecure households.[11] Racialized workers disproportionately fill low-wage, **precarious jobs** in food retail while their employers post huge profits.[12] Furthermore, a long history continues in which migrant women of colour support their own families in their home countries by providing household foodwork and other caring labour in the homes of North American, mostly White, families.[13] Similarly, (primarily) male migrant agricultural labourers work in under-

8. From 1976 to 2015, the employment rate for women (25 to 54 years) rose from 48.7% to 77.5%. Houle et al. 2017
9. Moyser & Burlok/Statistics Canada 2018.
10. Beagan et al. 2008; A study conducted by Statistics Canada among parents found that fathers preparing meals rose from 29% in 1986 to 59% in 2015 and that mothers preparing meals remained high but dropped somewhat during this time from 86% to 81%. Houle et al. 2017; A study of opposite-sex couples living in the same household found that meal preparation was done more often by women (56%), but that dishwashing was done equally by men and women. Statistics Canada 2020; These studies do not consider the full complement of foodwork involved in feeding a household.
11. Tarasuk & Mitchell 2020.
12. Block & Dhunna 2020; Moon 2020.
13. Arat-Koç 2006.

paid, insecure, and unsafe conditions to feed Canadians, in order to financially support the vital needs of their own families back in their home countries. In addition to these barriers to having the 'privilege' to do household foodwork for one's own family, foodwork can also be impeded by difficulty in having access to culturally specific foods, stigma around the consumption of certain foods, and a lack of understanding by health and teaching professionals regarding the appropriateness of particular foods and food practices.

FOODWORK AS HEARTWORK

Sociologist Mignon Duffy states "We should be able to value relationship without reducing care to the warm and fuzzy."[14] The ways in which household foodwork's concrete physical necessity and its 'fuzzier' emotional and social dimensions intertwine make it hard to perceive its value. Connecting with loved ones by understanding and responding to their food needs places household foodwork activities within social relationships. Here, these activities transform into *caring labour,* a medium for expressing love, affection, creativity, playfulness, and commitment—but also a source of judgement, guilt, shame, frustration, and anxiety. The breadth of these emotions relates in part to the dual meaning of "caring." The word can simultaneously act as both a verb and an adjective, both an action and a personality characteristic—so that the work of *caring for* fuses with the emotion of *caring about* and the state of *being a caring person*.[15] The result is that work that comes from the heart (or that is expected to) is easily exploitable and not fully regarded as work. It holds a contradictory position where it is necessary and demanded, but not fully seen or valued. This **invisibilization** of care operates so effectively that it blocks questions about whether those responsible for foodwork should

14. Duffy 2011, 40.

15. See DeVault 1991; Neysmith et al. 2004.

even be supported in doing so—leaving those with limited resources having to fend for themselves.

WHAT HAPPENS WHEN RESOURCES ARE NOT ADEQUATE TO MEET NEEDS

Because food is treated as a commodity, people without sufficient money to pay for it must be resourceful in finding ways to access it. The low-income mother who drew the dollar signs and almost-empty cupboards and fridge in Figure 2 explained that money is the main reason that she cannot gain access to enough food for her family.[16] Insufficient incomes increase foodwork in many ways: walking long distances for groceries; determining how to make meals from food bank offerings; calculating how to stretch an inadequate budget; and helping children feel valued when 'special' foods are not affordable. A significant portion of the foodwork of marginalized women involves acting as "shock absorbers"[17] to bridge gaps between household food needs and available resources.

16. Martin et al. 2021.

17. Bakan & Stasiulis 2005, 24.

Figure 2: *A low-income mother's illustration of food in her household during the COVID pandemic.*

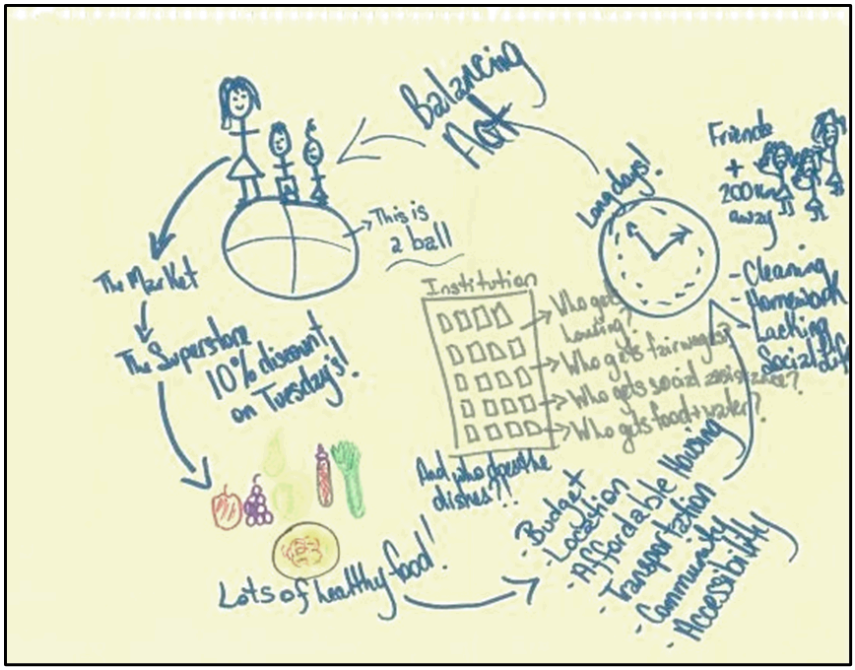

Figure 3: *A low-income mother's response to "What does a week of food look like in your home?"*

As an example, a low-income mother's drawing in Figure 3 illustrates many of her experiences regarding food in her life.[18] With the ball, she shows the delicate act of balancing considerations around healthy food, affordability of food, other costs (like housing), social isolation, and time demands. At the same time, she recognizes that it is not entirely her responsibility to reconcile these issues and that policy makers (at the "institution") play a role in allocating money for necessary resources.

When household resources are limited, women often assume added responsibility to make ends meet by using their own resourcefulness. This **responsibilization** is shown as they stretch food by using sales and coupons, using less expensive ingredients, growing or preserving their own food, and going

18. Martin 2018.

without food themselves. Women also try to free up more funds for food through juggling other expenses, reducing medication consumption, and putting off expenditures like new clothes or haircuts. They participate in informal economic activities such as bartering, engaging in odd jobs, and selling personal items. This bridging between resources and need also occurs through risky, punishable, and demeaning behaviour, such as asking friends and family for help, applying to social assistance programs, accessing food banks, engaging in adult entertainment or sex work, and participating in dishonest or criminal activity.[19] These kinds of attempts to bridge household food needs with the resources for them clearly demonstrate the cost to women that results from 'having to figure it out.' The sense that people are on their own in meeting their basic needs and those of their loved ones demonstrates a form of **individualism**.

BEYOND THE INDIVIDUALIZING OF HOUSEHOLD FOODWORK: NO EATER IS AN ISLAND

Although household foodwork is necessary for human well-being and for all the activities we do in the world, the responsibilities and resources for this work are not distributed evenly. Women continue to take on the brunt of this labour, while many people who work within the industrial food system, especially women and people who are racialized, are prevented from directly or adequately feeding their own families. Food access is far from assured, even in rich countries. For example, despite Canada's repeated commitments, food insecurity is a growing crisis, especially affecting those who are Indigenous, Black, and/or parenting children. For some, making foodwork tenable comes at a distinct cost, which is often paid by women. Throughout, we see how care is invisibilized and how responsibility rests heavily on individuals to "make it work." Moving forward

19. Martin 2018, 7-9; Neysmith et al. 2012.

towards a fairer food system that values what is essential means addressing an over-emphasis on the individual.

MAKING THE NORMAL ABNORMAL

An important first step in imagining alternatives for ensuring that people can eat what they need is to rethink or de-normalize assumptions. It is important to question, for example: Why are food prices and incomes so incompatible that they make food inaccessible for many people? Are the poverty and food insecurity of single mothers, Indigenous people, and racialized people unchangeable? What is the role of **the state**, if not to ensure its people's well-being? Moving towards more equitable futures requires questioning current realities.

Where is interdependence working?

The dominant food system sees people as detached from one another and privileges the choices of individuals—instead of supporting projects that redefine food as being for the collective use and enjoyment of all. Beyond questioning the status quo, it is important to look for existing examples of better alternatives and to discover those places where people work collectively and interdependently. Food co-ops, community kitchens, neighbourhood food exchanges, and community gardens are some of those places.[20]

No eater is an island

Food systems are utterly dependent on human foodworkers and non-human actors (e.g. animals, water, trees). To ensure that everyone can eat sufficiently requires questioning who really depends on whom, and embracing the reciprocity and interdependence of all actors (human and non-human) in the food sys-

20. See J.K. Gibson-Graham 2006.

tem. It means thinking about the people, animals, waters, and plants that all played a role in food reaching our plates.

Working on our relationship with the state

The state has an important role to play in ensuring that people can eat. Policies around income, agriculture, land planning, and even housing and childcare influence whether people can access the food that they need. Within the food system, it is important to see ourselves not just as consumers. We also need to see ourselves as citizens with both the right to food and the responsibility to hold the state accountable for ensuring it. This can mean informing ourselves, voting, contacting elected officials, and educating others about the policies that are necessary.

Discussion questions

- What are some ways in which food access and household foodwork are related?
- Does it matter who does the dishes? Why or why not?
- What are some examples of exploiting, devaluing, externalizing, or invisibilizing the resources and labour that support the global industrial food system?
- What kinds of policies, programs, initiatives, or practices might support household foodwork?

Exercise

Think about a time when you had to be responsible for your own meal(s). How does that compare with times when you were part of a collective food experience? What was or was not possible in each situation?

With a partner, share your experiences and discuss similarities and differences. Identify some of the key factors that shaped what was or was not possible in each situation.

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JOSHUA STECKLEY

YOUR KITCHEN IS A LABORATORY

Joshua Steckley *is a PhD candidate in the Department of Geography at the University of Toronto. His research focuses on the commodification of nature and how capital accumulation both shapes and is shaped by biophysical processes. He is also an avid urban beekeeping in Gatineau, Quebec, which explains his fondness for mead.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain how alcoholic drinks were historically a means for consuming calories and nutrients.
- Name the basic biochemical reactions that occur during fermentation.
- Ferment honey into mead using simple ingredients and equipment available from their own kitchens.

HOW TO TURN HONEY INTO MEAD

Your kitchen is a laboratory. It is the setting for daily chemical reactions that we often take for granted. Sautéed onions, toasted bread, and seared barbecue meat, for example, produce their cacophony of flavours when sugars and proteins are broken down through what is known as the *Maillard reaction*. Frying an egg initiates the process of 'denaturation,' in which heat unspools the egg's intricately folded proteins to produce those deliciously spongy tastes and textures. Kneading bread smashes glutenin and gliadin together to produce gluten, while the baker's yeast consumes carbohydrate sugars, expelling carbon dioxide and causing the dough to rise.

But today, we are going to use your kitchen laboratory to set of a biochemical relation that will produce a special drink—so special that the Norse god Odin claimed it bestowed the gift of knowledge to all those who drank it. We are going to turn honey into **mead.** Mead is perhaps the oldest alcoholic drink known to humankind, and it was (and is) everywhere. Archeologists have found remnants of mead in Northern Chinese pottery dating to 7,000 BCE; in Europe and Egypt, they date mead consumption back to 2,500 BCE.[1] While other fermented drinks like wine, sake, and beer require particular environments to produce the

1. Vidrih & Hribar 2016, 329.

grapes, rice, or grains, mead can be made wherever honeybees have access to flowering plants, bringing the nectar back to their hive, and regurgitating it back and forth to one another until it is transformed into honey.

Mead is nothing else but fermented honey. It is also how we acquired the word *honeymoon*, since family and friends would make sure the newlywed couple had enough of this 'honey wine' to last a month. And yes, mead contains alcohol. While we might connect mead with drunken medieval feasts, much like a keg of beer at a house party, we often forget that fermented drinks have historically provided all sorts of nutrients and enzymes, as well as packing a hefty caloric punch.[2] Alcoholic beverages were not simply a means to a drunken end, but rather a means of sustenance. Beer, for example, was considered essential to pre-industrial English households and thought to be a caloric necessity for anyone engaged in arduous agricultural labour.[3] In addition to the calories, fermentation also synthesizes B vitamins, which are necessary for human health. When some puritanical colonial forces, for instance, forbade Indigenous populations from drinking traditional fermented drinks, they began to suffer nutrient deficiencies.[4]

Mead's long history—as well as its calories, nutrients, and alcohol—are available to you right now; you only need two simple ingredients and some patience. The first thing you will need, unsurprisingly, is honey. But not just any honey. You need "raw" or unpasteurized honey. **Pasteurization** is the process of applying heat to liquids to eliminate potentially harmful microorganisms. Unlike milk, however, for which pasteurization is meant to destroy potentially harmful pathogens, pasteurizing honey is

2. Allsop & Miller 1996, 514.

3. Thompson 1963, 317.

4. Steinkraus 2013, 55.

largely a means to keep honey in its liquid form, prevent crystallization, and thereby increase shelf life in grocery store aisles. (As a side note, crystallized honey has not *gone bad*; it has only changed its form. If you want it soft and syrupy again, simply heat it up.) Raw or unpasteurized honey has many health benefits, as it possesses natural yeasts and antioxidants that have been shown to reduce stress, treat wounds, and reduce cold symptoms.[5] For our mead, we want those natural yeasts; they are the microorganisms that will eat up the honey's sugars and ferment our drink.

But if honey contains yeasts and other bacteria, you might be thinking, doesn't it ever go bad? Honey's moisture content is typically around 17%. At this low level, the yeasts lie dormant, unable to eat all the sugars that envelop them; it's as if you were surrounded by chocolate cakes after you've just come back from a long run—you'd probably rather have a glass of water before you cut yourself a slice. The bees, however, need this low water content to preserve their honey stores. Inside the hive, they will actually use their wings to fan the honey, evaporating the moisture to just the right amount, at which point they will seal the honey with wax capping, and keep it stored as food throughout the long, flowerless winter. We humans have figured out bees can produce more honey than they need for the winter, and thus essentially steal their excess throughout the summer and fall. Once in human hands, we slice off the wax caps, spin out the honey, filter it, and bottle it. That's the unpasteurized honey we want.

So, how are we going to set off this biochemical reaction? Ingredient two: water. Boost the moisture content above 17%, and the yeast will start to feast on the sugars around it. There is no specific measurement of water to add, but I've found a ratio of four

5. Blasa et al. 2006, 218.

parts water to one part honey makes delicious mead. Find a nice jar that will hold the quantity of mead you are making.

I am not a proponent of bottled water, but you may want some for this experiment. Municipal tap water will have traces of chlorine in it, which may prevent the fermentation process. Also, we will re-use the plastic bottles later when we bottle the mead.

Stir the water and honey together until well mixed. Take a coffee filter (or some kind of cloth) and an elastic band and cover up the jar. This will protect our concoction from the curious fruit flies that will be attracted to the fermenting scent.

What's going on in our bottle? Very soon, the yeast will start to devour the sugar. And we all know that whatever goes in, must come out. Fortunately for us, yeast excrete alcohol and carbon dioxide. You may be thinking, wait, does that mean when we use yeast in a bread dough, we're making carbon dioxide and alcohol? Yes! The same carbon dioxide that makes your drink fizz is the same carbon dioxide that makes your bread rise. And that musty smell of your rising bread? That's the alcohol. Fortunately—or unfortunately—when you bake bread, you also evaporate the alcohol.

Our mead is not going to have a high alcohol content, only one or two percent. We are making what is called a "green mead" or a "**short mead**." This means we won't have to wait months or years, but can enjoy it after ten to fourteen days. Honey contains two types of simple sugars: glucose and fructose. Once the water is added, the yeast will spend the next few days or so eating up the glucose which is evidenced by the carbon dioxide bubbles you'll see drifting to the top. If you want to boost the alcohol content you will have to wait for the yeast to consume the fructose, but it will only do slowly under anaerobic conditions. This requires some more equipment like carboys and air locks. But the point

of this video is not to teach you how to increase alcohol content! You can do that research on your own.

After a few days you should see some bubbles rising to the top and may notice a fermented scent. If you don't see any bubbles or smell any smells, give the mead a good stir.

Stir the mead every day or two and listen for the beautiful fizzing chorus of yeast excrement. Don't hesitate to take a sip to see how the flavours are changing.

After ten to fourteen days, depending on the temperature and your own personal taste, your mead is ready to drink. If the mead tastes like you basically mixed honey and water together, something probably prevented the fermentation. If by chance it tastes vinegary, it means the **alcoholic fermentation** has transformed into **acetic fermentation** where other bacteria and oxygen are now turning your alcohol into vinegar. Either way, you will have to start again. If, however it has a deep, rich, slightly tangy, effervescent taste, then you're ready for the next step: bottling.

Grab those empty plastic water bottles and, using a funnel, pour the mead into the bottles, leaving about an inch of air space at the top. Ever so slightly, squeeze the bottle and fasten the lid tightly. Leave the bottles on the counter for another two or three days and let the yeast continue to produce carbon dioxide. Your bottles will re-expand and become firm. (You can use glass "swing top" bottles to bottle your mead, but the increasing carbon dioxide will pressurize the glass bottle, and if you're not careful, it will explode. Stick to plastic bottles for now.)

After a few days, place the plastic bottles in the fridge. The fermentation will slow considerably, and you can enjoy the mead at your leisure. Or, if you are impatient, you can skip bottling all together. Pour the mead from the jar into a bunch of glasses for your closest family and friends and relish in the knowledge that

you are imbibing a drink of the gods, thousands of years old, and it all came from your kitchen.

Cheers.

Watch the video:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=252

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ALISSA OVEREND

KNOWING AND EATING: A BRIEF WESTERN HISTORY OF NUTRITION PARADIGMS

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain the historical relativity of nutritional paradigms.
- Differentiate between humoural medicine, the doctrine of signatures, and modern nutritionism.
- Argue for the ways our understandings of food change our relationships to it.

INTRODUCTION[1]

As a sociologist, I have long maintained that food is cultural. Food ties us[2] to our childhoods, to our families and their ancestral histories, and to our cultures and their traditions. What we eat today—our tastes and distastes—is a reflection of those cultural histories. What we eat today is also a reflection of our access to various foods, whether through geographical location and food availability, or through the social determinants of health, such as income, affordable housing, and job security, which affect our ability to procure and prepare food. While food can be studied through a range of disciplinary lenses (psychological, anthropological, biological, etc.), this chapter analyzes how historic framings of food shape contemporary understandings of health. To understand why we eat the way we eat, we also have to examine the changing social and historical **paradigms** in and through which we come to know food, and, correspondingly, frame health and nutrition. This chapter offers a broad overview of three paradigm shifts in Western nutritional wisdom: (a) ancient humourism; (b) the Middles Ages and the

1. This chapter has been adapted from "Western Genealogies of Healthy Eating: From Humoural Medicine to Modern Nutritionism, Chapter 1 in my book Shifting Food Facts (Overend 2021, 14).
2. I use "us", "our" and "we" in a plural sense to capture multiplicity, not homogeneity, of people, identities, and cultures.

Doctrine of Signatures; and (c) modern nutritionism. Knowledge about food is contingent and changes over time, depending on the values circulating at any given historical moment.

A BRIEF WESTERN HISTORY OF FOOD KNOWLEDGE

Ancient and Renaissance food knowledge

For more than 15 centuries in much of Europe and its colonies, the dominant understanding of food and nutrition stemmed from the theories of **humoural medicine**. Although the ancient Greek physician, Hippocrates, did not put forth the complete theory of humoural medicine, he is often credited for attributing foods with 'heating', 'cooling', 'moistening', and 'drying' properties. It was Galen, a Greek physician and disciple of Hippocrates, who advanced and popularized the idea that disease states were the result of an imbalance of the bodily humours—black bile, yellow bile, blood, and phlegm—which were considered central for the body's regulation, maintenance, and function.[3] Humoural medicine was part of a broader dietetic understanding of health and medicine held by the ancient Greeks. **Dietetics** were a set of rules that regulated the care of the self, including eating, drinking, sex, exercise, and sleep. These rules were not the same for everyone—labourers and upper-class bodies were seen to tolerate different foods. Likewise, athletes and scholars had divergent dietetic needs. Unlike today's almost singular focus on the relationship between health and nutrition, dietetics was a holistic approach—a mode living that combined health, medical, and philosophical orientations to everyday life.[4]

Given the holistic framework of dietetics, it is unsurprising that according to humoural logic, diet was both the cause and treat-

3. Anderson 2005, 141.

4. Coveney 2000, 26.

ment of disease. The principal philosophy behind humoural medicine was *allopathic*—to rebalance the humours by consuming foods with the opposite properties to the symptoms described. For example, a physician would attempt to correct phlegmatic symptoms (i.e., those that were considered a result of an excess of cold and moist properties) with foods that were classified as hot and dry.[5] Likewise, a fever would be rebalanced by cooling foods and liquids (a method still used today). Eating foods with opposite properties to one's temperament was essential to maintain balance, part of a dietetic regimen of living.[6] While humoural theory was widely accepted from ancient times into the Renaissance, the classification of hot/cold, wet/dry foods was more complicated and widely debated.

Detailed in his book *Eating Right in the Renaissance*, Ken Albala documents how humoural properties were foremost categorized through taste.[7] The tongue was the first indicator—a kind of litmus test—for effects foods would have on the rest of the body. Black pepper, which burns or warms the tongue, was presumed to have similar heating effects as it passed through the body; sour foods, such as lemons, were considered cooling and constricting (or drying) to the tongue, and were assumed to have similar effects on the rest of the body; and cooling foods, such as cucumbers, were classified as cooling and moistening to the tongue, and were thought to hydrate the body. In addition to taste, a food's colour was also used to determine its humoural properties. Red and yellow foods, such as bell peppers, were considered heating; green foods, like lettuce or spinach, were considered cooling; and foods pallid in colour, such as rice and bread, were considered to have neutral effects on the body.[8] Another consideration

5. Crowther 2013, 12.

6. Gentilcore 2016, 19.

7. Albala 2002, 52.

8. Anderson 1997, 82.

in humoural food classification was the physical environment in which foods grew. Marsh plants, for example, were considered cool and wet, while mountain plants were cool and dry.[9]

Cooking methods, food order, and food pairings also played important roles in the ancient and Renaissance understanding of food's effects on the body and on health. Potentially harmful foods such as raw meats or eggs were corrected (or balanced) by appropriate cooking methods and by combining foods to counterbalance any insufficiencies. The latter is one explanation for why meats, which were considered heating, were often combined with vegetables, which were cooling, and why denser red meats were often broken down into soups and stews, rendering them easier to digest.[10] Wheat also had to be corrected (or balanced) by salt and leavening processes, rendering it more easily digestible and absorbed by the body. Food order was also debated at great length. The general consensus among ancient and Renaissance physicians was to start with "opening foods," which is one explanation for why European cuisines tend to start with cooling salads. Jams and cheeses, because of their texture, were seen to "close the meal" by providing a plug between the stomach and the mouth, and likewise still function in many European cuisines as desserts.[11]

By the 19th century, through mass migration and colonization, humoural medicine had spread throughout the various parts of the world, blending with the traditional knowledge systems of local cultural groups. Humoural medicine and its associated theories of food remain one of the longest-standing documented knowledge systems historically and cross-culturally. As E.N. Anderson notes, "by the mid-20th century, the humoral theorof

9. Albala 2002, 81.
10. Ibid, 94.
11. Ibid, 59.

food was the most widespread belief on earth, far outrunning any single religion."[12] While the bulk of contemporary Western food knowledge has drifted away from humourism, remnants of this 3,000-year-old system still linger. Many people continue to treat the common cold (the name of the ailment itself a vestige of humoural thinking) with a hot soup, refer to a laid back or 'chill' person as someone who is as "cool as a cucumber", and use the word "hot" as a synonym for spicy.[13] Moreover, distant cousins of the humoural system are still widely used by traditional Chinese, Ayurvedic, Indigenous, and some holistic dietary practices where food and diet are used to counteract (or rebalance) disease states. The major Western epistemological shift in food knowledge that followed humoural medicine was the folk concept of the **Doctrine of Signatures** (DOS). The DOS emerged out of the spiritual paradigm of the late Middles Ages and circulated as an alternative model to humoural theory into the Renaissance period.

Middle Ages and the Doctrine of Signatures

While Galen and Hippocrates subscribed to the healing epistemology of *antipathy* (i.e., opposite cures opposite), Paracelsus—a 16th-century Swiss physician and alchemist—and his followers espoused the healing philosophy of *sympathy* (i.e., like cures like).[14] In the spiritual societies of the Middle Ages, the guiding premise of the DOS was that the divine creator had endowed *signs-in-nature* (i.e., signatures) that pointed healers to the curative potential of foods and plants. Unlike humoural medicine, which focused on a food's taste, colour, and location of growth, the theory DOS contended that a food's shape provided clues

12. Anderson 2005, 142.

13. Ibid, 84.

14. Bennett 2007, 248.

to the body part or ailment it was intended to heal.[15] A walnut, for example, which resembles the brain, was widely used to treat head ailments; gingerroot, which resembles the stomach, was widely used to treat indigestion and other stomach ailments.

A number of European scholars, including pioneers in modern toxicology and botany, were attracted to the DOS. Paracelsus was one of the earliest proponents of the DOS and contended that humoural theory was too limited to account for the scope and complexity of human ailments. Like many of that era, he maintained that health and eating were best achieved in union with the heavens.[16] Paracelsus, like other supporters of the DOS, believed that the spiritual essence of all things (including food) were best understood by studying their material form as presented in nature. For scholars of that generation, the many wonders of the natural world, including humans and food, were considered a microcosm of the divine, connected by a universal chain of symmetry (or similitude). As Paracelsus explains, humans and the natural world were "two twins who resemble one another completely, without it being possible for anyone to say which of them brought its similitude to the other".[17] Epochal understandings of nutrition were merely an extension of this spiritual paradigm.

As a broad-scale theory of food, the DOS was eventually replaced and debunked. According to historians and anthropologists, the DOS is best understood as a mnemonic method for recalling and classifying a wide range of curative plants, especially in illiterate societies common to the Middle Ages.[18] Moreover, in highly spiritual societies, the DOS was "rather fancied by men than

15. Pearce 2008, 51

16. Richardson-Boedler 1999, 174.

17. Quoted in Foucault 1970, 20.

18. Bennett 2007, 249.

designed by Nature,"[19] understood in today's terms as a kind of confirmation bias. Despite the paradigmatic shift away from the DOS, elements of the similarity framework persisted. Into the 18th and 19th centuries, red wine was thought to strengthen the blood and was often given to the ill. Likewise, meat was considered necessary for manual labour—muscle work needed to be replenished with muscle tissue. Even today, walnuts (like other nuts) are high in omega-3 fatty acids and are thus beneficial to brain function, and gingerroot is still widely used (by both Western and Eastern medicine) to treat indigestion and upset stomachs. Finally, Paracelsus's near 500-year-old claim that "it is the dose that makes the poison" was foundational to the development of modern understandings of toxicology and immunology, which rely on the homeopathic logic developed in the DOS.[20] While sight continued to play a formative role in the incumbent paradigm of modern **nutritionism**, how one came to see food, and correspondingly, what came to be seen, changed extensively in the era of scientific nutrition.

Modern nutritionism

Commonplace by contemporary Western standards, scientific understandings of food date back to the chemical revolution in France at the end of the 18th century. The identification of chemical properties and the development of methods of chemical analysis led to quantitative ideas concerning food and how food was used by the body and departed substantially from the similarity and humoural paradigms of previous eras. In 1827, summing up the work of chemists of the past three decades, the 17th-century English biochemist, William Prout, divided foods into three substances: saccharine (i.e., sweet), oily, and albuminous (i.e., resembling animal protein). These classifications

19. Ray 1717, quoted in Bennett 2007, 251.

20. Richardson-Boedler 1999, 174.

would later come to be reclassified as carbohydrates, fats, and proteins, respectively, and form the basis of a macronutrient approach to food.[21] Food was no longer understood in terms of its humoural or morphological characteristics, but instead by its internal nutrient properties, launching an empirical focus into the study of food.

The next building block in the scientific understanding of diet was the small unit, but immeasurable force, of the calorie. Derived from the Latin word *calor*, meaning heat, the unit of the calorie was used to measure the energy contained in food and burned by the body.[22] By the end of the 19th century, German and American scientists led the study of the energy content of various foods and the amount of energy expended during a range of activities. In both countries, considerations about which foods most efficiently maximized human energy were largely focused on questions of labour.[23] Using a calorimeter, American chemist Wilbur Atwater measured the caloric composition of food, aiming to decipher which foods maximized human energy at the cheapest costs. As Atwater itemizes, "[t]en cents spent for beef sirloin at 20 cents a pound buys 0.5 pounds of meat, which contains 0.08 pound of protein, 0.08 pound of fat, and 515 calories of energy available to the body".[24] These measurements were used to advance empirical understandings of food but also to continue differentiating working- and upper-class food and bodies. As Neswald explains, early nutrition science "aimed for the precision of physics and chemistry, but was confronted with the enormous variability of its subjects, objects, and external circumstances, and with discrepancies between the artificially controlled conditions of the lab and the variable conditions of

21. Scrinis 2013, 54.

22. Hargrove 2006, 2957.

23. Neswald 2017, 32.

24. Atwater 1902, quoted in Mudry 2009, 40.

human life".[25] In a relatively short period of time, a good diet, which was once understood as a matter of balance broadly defined, aimed to be both uniform and quantified.

As transformational as the caloric model of food was, however, it failed to account for the persistence of scurvy and other illnesses that continued to plague Europe and North America at the turn of the 20th century.[26] In 1912, the Polish biochemist Casimir Funk hypothesized that beri beri, pellagra, scurvy, and rickets were caused by unknown food deficiencies. He went on to propose that these deficiencies were a result of a lack of vital amines, which he shortened to "vitamins" since not all vitamins were amines.[27] For the next 30 years, beginning with Elmer McCollum's work on "accessory food factors" A and B (later renamed vitamins A and B), vitamins including riboflavin, folic acid, and vitamin D were the central focus of nutritional research and had both replaced and challenged the prior, singular focus on the calorie.[28] Even today, vitamins are hailed as protective agents against disease as well as for their broader promises of health.

In a matter of a couple hundred years, the dominant food paradigm of Enlightenment Europe had swung from holism to mechanism, from individualization to homogenization, from localization to standardization, from community- to expert-driven, and from one largely concerned with quality to one inherently focused on quantity. What was once fluid, contingent, and complex, became increasingly mechanistic—"ordered, controlled, and understood though measurable factors."[29] Coining the term nutritionism, Australian food theorist Gyorgy Scrinis

25. Neswald 2017, 29.

26. Scrinis 2013, 63.

27. Carpenter 2003, 3023.

28. Scrinis 2013, 64.

29. Mudry 2009, 2.

highlights the reductive nature of empirical understandings of nutrition. While scientific understandings of nutrition have yielded valuable insights into human health, the focus on internal biochemical components of food has also led to the "decontextualization, simplification, and exaggeration of the role of nutrients in determining bodily health."[30] Culturally, we have swung so far to the role of nutrients, calories, and vitamins, that we have decentralized foods as a whole, the diet of which they are a part, and the broader social, cultural, and economic contexts in which they are embedded.

DISCUSSION AND IMPLICATIONS

By tracing the broad shifts in historic framings of food knowledge, this chapter sets up the ways that nutritional knowledge is far from continuous and has changed—quite significantly—between paradigms. The language of nutrients, calories, and vitamins, while near ubiquitous by contemporary Western standards, was unknown to past populations. Likewise, the holistic, descriptive humoural understandings of food have been, for the most part, replaced. Using the French philosopher Michel Foucault's[31] helpful concept of a **history of the present**, the historical overview of nutritional paradigms offered here provides a critical orientation on how current understandings of healthy eating have come to be constructed. As David Garland explains,[32] Foucault's history of the present is not intended to judge historical concepts through contemporary values, nor is it meant to reimagine the past in new ways. As its name suggests, a history of the present is a means of critically engaging with and understanding how the contemporary moment has come to be shaped.

30. Scrinis 2013, 5.

31. Foucault 1997, 31.

32. Garland 2014, 367.

A critical questioning of current food paradigms, I contend, is beneficial for two reasons.

First, rather than accepting current **nutricentric** framings of nutrition as static truths, these truths should be positioned as one historical paradigm among others. How we eat today, and prospectively how we will eat in the future, are thus contingent and actively shaped by shifting knowledge paradigms. As new nutritional information emerges, our Western collective understandings of nutrition will also change. Researchers, for example, are only beginning to understand the role of our gut's microbiome in human health, factors previously unstudied in nutrition.[33] Newer nutritional studies are also only beginning to include situational factors that affect health, such as genetic predisposition, epigenetics, hormone levels, life stage, medications, environmental toxins, and gut bacteria, but these factors are far from the norm in mainstream food research. What other yet-to-be discovered food, bodily, illness, and/or environmental factors will alter our currently held nutricentric views of nutrition? Only time will tell, but if the history of nutrition yields any guidance, it's probable that nutrition paradigms will continue to change and evolve as new knowledges become available.

Second, by decentralizing nutricentric food truths, we can recentralize social, cultural, familial, ecological, relational, and contextual food truths. While nutricentric understandings of food worked well to mitigate deficiency diseases of the early 20th century, the same model does not equally apply to the many chronic health concerns affecting Western societies in record numbers today.[34] The *increase* (not decrease) in diet-related diseases of the 21st century indicates shortcomings of a strictly nutricentric food paradigm. Such a paradigm fails to account for the

33. DuPuis 2015, 137–144.

34. Mayes & Thompson 2014, 160–161.

social conditions affecting human health, including but not limited to the accessibility and affordability of healthy food, affordable housing, a secure neighbourhood, a guaranteed minimum income, job security, air quality, access to clean water, stress care and mental health, and social inclusion. (Many of these factors are considered social determinants of health.) In focusing too intently on what we eat, we overlook other questions of healthy eating relevant to contemporary food and social inequality. As we move towards new food paradigms, I hope we learn to better balance social determinants of health alongside nutricentric food truths, to create a more complete picture of the role of food and eating in our lives.

CONCLUSIONS

Before looking into the history of food, I did not fully consider why we eat the way we eat. Before studying food as a social object, I did not think that intently about the social or historical contingency of what I routinely found on my plate. The more I studied food and its history, the more I saw how much of what we eat, when we eat, and how we eat is inextricably linked to how we see, understand, and ultimately know food. As history has shown, how we understand nutrition profoundly affects our orientation to it—what we consume, how much, and in what combinations. Organ (or offal) meats, for example, used to be a routine food item on the plates of many Canadians, but are much less popular today. History has also shown that what we eat and consider healthy is continually shifting, not only because our contexts of health are likewise shifting, but also because our food paradigms are in themselves in flux, reflecting dominant ideas of the time. As we continue to move towards new nutritional paradigms, refining and augmenting what we already know about food, health, and the human body, my hope—to borrow from

Geoffrey Cannon[35]—is that we continue to maintain one piece of nutrition's long history: to value it as science *as well as* a philosophy.

Discussion Questions

- Do you agree or disagree with Lisa Heldke's statement that the "unexamined meal is not worth eating"?[36] Justify your answer. What does a historical analysis of food provide?
- Take a moment to consider how scientific understandings of food affect how, what, and why you eat. What patterns or trends do you notice in your own life? Can you identify elements of food and eating not captured by a nutritionism paradigm?
- What are some examples of *humoural medicine* or the *doctrine of signatures* that remain in circulation today? How do these paradigms encourage a different relationship to food that the scientific paradigm of modern nutritionism?
- What factors do you think would be important to highlight in the next regime of nutritional knowledge? How might these factors augment previous understandings of food and healthy eating?

Exercise

35. Cannon 2002, 503.
36. Heldke 2006.

Pick a meal you've recently eaten, or perhaps one you eat often. This can be an everyday meal or a festive/ceremonial one. What do you notice most about the meal? How is the meal usually organized, presented, or served? What language do you use to describe the meal to others? How do you understand the foods included? Which of the three historical food paradigms helps you best understand or describe your selected meal?

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JENNIFER BRADY

THE CONTESTED TERRAIN OF WHAT IT MEANS TO EAT HEALTHY

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the two divergent paradigms of healthy eating

that are central to current nutrition debates.

- Identify and define key concepts for thinking **critically** about healthy eating.
- Discuss healthy eating as an area of contested meaning that shapes—and is shaped—by power inequities.

INTRODUCTION

What is healthy eating? For many, the answer to this question seems simple: healthy eating means eating a variety of foods with an emphasis on low-calorie, nutrient-dense fruits and vegetables, fibre-rich whole grains, lean proteins, and unsaturated healthful fats, like plant-based oils. Conversely, healthy eating means avoiding unhealthful foods, which are high in calories, fat, salt, and sugar. This description reflects a mainstream account of healthy eating that is championed by nutrition and health experts, as well as via government-issued tools and policies, such as Canada's Food Guide. Although the answer to the question "what is healthy eating?" may seem simple, this chapter suggests that it is anything but!

Jean Anthelme Brillat-Savarin (1755–1826), a French politician and lawyer, wrote, "*Dis-moi ce que tu manges, je te dirai ce que tu es*."[1] This phrase is often translated into the well-known idiom, "You are what you eat." However, a more accurate translation reads, "Tell me what you eat, and I will tell you what you are." In other words, who and what we are, our social, cultural, and spiritual identities, and even our bodies, shape and are shaped by what we eat. If we agree with Brillat-Savarin's observation—and many do—then it is important to think about another question when

1. Brillat-Savarin 2007.

thinking about healthy eating: If we tell people what to eat, aren't we at the same time telling them who we think they should be?

This question is important because it invites consideration of the ways in which defining healthy eating and telling others what to eat is inherently political. That is, the ways in which healthy eating is defined and communicated to diverse populations are not neutral. This includes the people, the knowledge, and the language involved in such communications. Rather, as researchers in the fields of **critical nutrition studies** and **critical dietetics** have established, healthy eating is a terrain of competing perspectives that are rooted in diverse forms of knowledge. Said otherwise, healthy eating is intertwined with **social and structural inequities** in society.

CURRENT DEBATES

An important debate within critical nutrition studies and critical dietetics is about who gets to decide what it means to eat healthy and based on what criteria. Although there are a multitude of views about what healthy eating is, at the core of current debates lie two competing perspectives—or **paradigms**—each of which present divergent ideas about what healthy eating is, the kinds of knowledge that are important to understanding it, and what it means to tell others what they should and shouldn't eat to be healthy.

On one side of the debate is a dominant paradigm. A dominant paradigm may be described a set of values and ways of thinking about an issue that becomes so pervasive that the underlying assumptions and approaches to understanding it are seen to be normal and completely natural, and other perspectives and approaches are dismissed as inappropriate or false. On the other side of the debate is a critical paradigm. A critical paradigm also comprises a set of values and ways of thinking about an

issue, but it is explicitly concerned with relationships of power. More specifically, a critical paradigm is concerned with the ways in which power inequities form and are perpetuated in society. Hence, the dominant and critical paradigms comprise very different priorities and ways of understanding what it means to eat healthy, and what it means to tell others what to eat. The next two subsections explore each paradigm in more detail.

The Dominant Paradigm

Why, at first glance, does the question "What is healthy eating?" seem so simple? How is it that we all seem to be able to recite a version of healthy eating that approximates the one described at the beginning of this chapter, even though it does not reflect what, how, or why many of us eat? In short, healthy eating is the subject of a dominant paradigm. In other words, healthy eating has come to be defined in ways that reflect a particular set of values, ideas, assumptions, and forms of knowledge that are largely taken for granted. More specifically, the values, ideas, assumptions, and ways knowing that underlie **hegemonic** nutrition frame healthy eating as something that is best understood as a biophysiological concern, and is therefore most accurately described using science and quantitative measure. That is, the dominant paradigm understands healthy eating through an approach to knowledge known as a **positivist epistemology**. When viewed through this lens, the criteria used to define healthy eating focus almost exclusively on the quantifiable nutrients contained in single food items, which are determined through scientific analysis. Hence, the answer to the question, "What is healthy eating?" is simply understood as the consumption of foods that are high in health-promoting nutrients and low in nutrients that are seen as harming one's health.

An example of hegemonic nutrition as the dominant paradigm of healthy eating is *Canada's Food Guide* (see Figure 1).[2] *Canada's Food Guide* reflects the model of healthy eating that is described at the beginning of this chapter, and that stems from a positivist epistemological approach. In other words, *Canada's Food Guide* categorizes and promotes foods based almost exclusively on their nutrient content. For example, fruits and vegetables are grouped and promoted based on their relatively high content of fibre and micronutrients, such as vitamins and antioxidants, versus the number of calories and the amount of fat, sugar, and salt. Likewise, the recommendation to "eat protein foods," particularly those that are plant-based and unprocessed, is intended to encourage consumption of foods such as fish and legumes, which are high in protein and other health-promoting nutrients like omega-3 fatty acids and fibre, and which are low in calories and saturated fat.

2. Health Canada 2021.

***Figure 1**: The front cover of Health Canada's 2019 revision of Canada's Food Guide*

The dominant paradigm of healthy eating and the science of nutrition have led to important discoveries about consuming certain nutrients and avoiding others. This in turn can benefit our health and help to manage and/or reduce our risk of various diseases. But consider this: there is also much about food, eating, and health that the dominant paradigm and nutrition science

cannot tell us about healthy eating. To explore this issue, consider how the question "What is healthy eating?" might be answered from the perspective of the critical paradigm.

The Critical Paradigm

In contrast to the dominant paradigm, the critical paradigm draws on a different understanding of what counts as legitimate knowledge, known as **interpretive epistemology.** An interpretive epistemological approach sees food, eating, and health as being highly contextual, and that insights gained from people's lived experience are also important to understanding healthy eating. In other words, the critical paradigm sees food, eating, and health—and how we understand these things—as inseparable from the social, cultural, economic, political, historical, and geographic contexts in which they exist. This includes the ways in which food, eating, and health are understood and experienced by people. For example, when viewed from the dominant paradigm, chocolate cake is a high-calorie, nutrient-poor, unhealthful food. Yet when viewed with from the critical paradigm, eating chocolate cake is (for many of us) laden with meanings that connect us to who we are, to our relationships with friends and family, and to important social and cultural rituals like birthdays. Hence, from a critical perspective, what healthy eating *is* depends on a set of unique circumstances related to who, when, where, why, and how one might be seeking to define healthy eating. The critical paradigm thus implies that understanding healthy eating requires knowledge beyond what can be known through science alone.

In taking an interpretive epistemological approach, the critical paradigm also highlights the ways that definitions of healthy eating are intertwined with social and structural inequities, such as sexism, classism, racism, as well as hierarchies of knowledge wherein non-dominant (i.e., non-scientific) ways of seeing the

world are dismissed as untrue, deceptive, or deluded. For example, the dominant paradigm sees lobster as a universally healthy food because it is low-fat, protein-rich, and high in omega-3 fatty acids. Yet the dominant paradigm obscures the local context in which lobster may be fished, sold, and eaten. For example, in Mi'kmaw'ki/Nova Scotia, where I live and work, lobster has been at the centre of on-going and sometimes violent conflict between commercial lobster fishers—who are predominantly White—and Indigenous Mi'kmaw fishers, whose right to fish is protected by treaties, but which has been repeatedly threatened as a result of settler colonialism and anti-Indigenous racism.

The fundamental differences between the dominant and critical paradigms of healthy eating are well illustrated by *Atlantic Canada's Food Guide* (see Figure 2) and *Cape Breton's Food Guide* (see Figure 3), both of which were published as satirical responses to the latest version of *Canada's Food Guide* shortly after its release.[3,4] The Atlantic Canada and Cape Breton food guides may be seen as simply poking fun at the gap between the picture of healthy eating depicted by *Canada's Food Guide* and the stereotypical eating habits and food culture of those living in Cape Breton and Atlantic Canada. However, they may alternatively be seen as legitimate critiques of *Canada's Food Guide,* which does not reflect the social, cultural, economic, and historical realities of those living in Eastern Canada.

3. deAdder 2019.

4. CMikeHunt 2019.

***Figure 2**: Atlantic Canada's Food Guide, by world-renowned editorial cartoonist Michael DeAdder, was first printed on January 28, 2019, soon after Health Canada released the 2019 revision of Canada's Food Guide. Atlantic Canada comprises four provinces in Eastern Canada: Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador. (Used with permission.)*

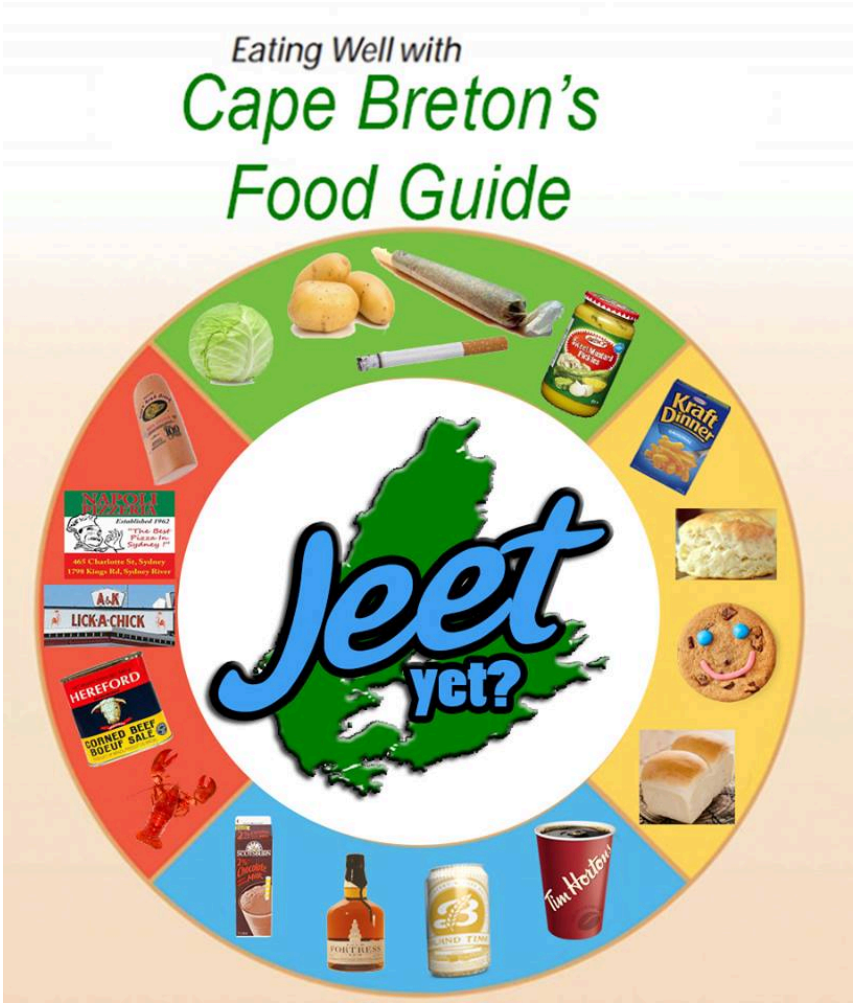

***Figure 3**: Cape Breton's Food Guide, shared by CMikeHunt on January 25, 2019 in r/halifax, a subreddit of Halifax Regional Municipality, Nova Scotia, Canada. Cape Breton is an island located at the northeastern tip of its home province, Nova Scotia.*

One strength of the critical paradigm is its emphasis on the highly contextual nature of food and health, which doesn't dismiss as unhealthy the foods and ways of understanding health that are meaningful and important to people all over the world. The traditional food and eating habits of Eastern Canadians reflect the region's rich social and cultural identity that is rooted

in its unique history, geography, and climate; some of these are depicted in the Cape Breton and Atlantic Canada food guides. Both guides include a diverse array of foods, such as canned corned beef, lobster, soft rolls, luskinikan, rappie pie, boiled dinner, and donair. Many of these might be unfamiliar or unappealing to those who "come from away" (as those people from the rest of Canada are typically labelled by Eastern Canadians). These foods are also low in fibre and other health-promoting nutrients, and high in calories, fat, sugar, and salt, but are also deeply rooted in the history and culture of the region, and in the identities of those who live here. Are these foods not a part of healthy eating for people living in Eastern Canada?

Another strength of the critical paradigm is its emphasis on the interconnection between social and structural inequities—such as racism, sexism, and poverty—and what people eat and how they understand health. The provinces of Eastern Canada have suffered social and structural inequities as a result of economic hardship and intergenerational poverty. Nova Scotia, for example, and especially Cape Breton island have for decades reported highest rates of food insecurity[5] and poverty[6] compared to all other Canadian provinces. The minimum hourly wage in Nova Scotia falls well below what is considered an adequate living wage, and many people earn salaries that are below or barely above the poverty line[7]. The impact of poverty is even more severe for the Indigenous Mi'kmaq individuals and communities who live throughout the region, and who have fought to maintain traditional food and eating habits despite the impact of racism and colonialism. In short, many of the foods that are visually depicted in *Canada's Food Guide*—such as salmon, quinoa, and

5. Tarasuk & Mitchell 2020.

6. Saulnier & Plante 2021.

7. Driscoll & Saulnier 2021.

fresh berries—are both financially out of reach and culturally irrelevant to the people who live in this region.

Canada's Food Guide, and the dominant paradigm of healthy eating more generally, overlook the contextual factors that shape what is accessible to and considered healthy by Eastern Canadians. What is more, if what we eat is meaningful to who we are (as Brillat-Savarin suggests and as the Cape Breton and Atlantic Canada food guides seem to affirm), then in many ways we are telling people who they should be when we tell them what to eat. The dominant paradigm of healthy eating can thus be seen as overlooking, if not exacerbating, the social and structural inequities that shape what, why, how, and when people eat.

Despite its strengths, the critical paradigm also has shortcomings. Specifically, the critical paradigm provides little concrete guidance about what foods and eating patterns contribute to human health. This insight leads to yet more questions that are important to the ongoing debates about healthy eating that have unfolded within critical nutrition studies and critical dietetics. One such question is: *How do we reconcile the strengths of the dominant and critical paradigms?* In other words, how can we provide information that may help people eat healthfully, but in ways that do not dismiss or exacerbate inequities, and instead affirm the highly contextual and deeply held meanings of food, eating, and health?

DISCUSSION AND IMPLICATIONS

The dominant paradigm has led to many health-promoting and life-saving discoveries about healthy eating, including how to manage and treat disease through diet. However, this paradigm has been widely criticized for overlooking the highly contextual nature of healthy eating, which is intertwined with social and structural inequities, as well as the knowledge that is derived

from people's everyday lived experiences of food and eating. Conversely, the critical paradigm has shed light on the highly contextual nature of food and eating, the interconnections between how we define and think about what is healthy to eat, and social and structural inequities. Yet the critical paradigm tends to overlook the scientific evidence, and provides little direction about what and how we should eat to support health. In this light, the question remains: What is healthy eating?

The answer that is currently emerging from critical nutrition studies and critical dietetics points to the need to bring together the strengths and weaknesses of both the dominant paradigm and the critical paradigm. That is, what is needed is an understanding of healthy eating that reflects scientific evidence about the impact of what we eat, but which also incorporates the diverse meanings of food, eating, and health that are rooted in the complex and contextual experiences of people's everyday lives. How exactly that might unfold is a question on the horizon of the developing field of critical nutrition studies and critical dietetics.

CONCLUSION

As researchers, activists, practitioners, and students of food and nutrition, our work is often geared toward changing what and how people eat. Questions such as "What is healthy eating?," and "What does it means to tell others what to eat?" are important and require us to consider the breadth of knowledges that are needed to understand potential responses.

This overview has drawn on key concepts in the field of critical nutrition studies and critical dietetics to explore two epistemological paradigms that provide very divergent responses to these questions. Some of these responses are reflected in the different depictions of healthy eating presented by *Canada's Food Guide*

and the Cape Breton and Atlantic Canada food guides. Ultimately, what these divergent paradigms indicate is that healthy eating is a terrain of contested meaning that shapes and is shaped by social and structural inequities. In other words, answering the question, "What is healthy eating?" is anything but simple.

Discussion Questions

- Reflexive thinking is important for being aware of our social positionality within systems of power and privilege, such as those that influence how we view healthy eating. Think about what healthy eating means to you and the role it plays in your day-to-day life and in shaping your identity. What informs your conceptualization of healthy eating? How does your conceptualization of healthy eating reflect the dominant and critical paradigms discussed above?
- Recall the *Atlantic Canada Food Guide* and the *Cape Breton Food Guide* discussed in this chapter. If you were to create a food guide to reflect the town, region, or country that you call home, what foods or messaging about healthy eating would it include?

Additional Resources

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ACTIVITY: CLASSIFYING FOOD

ERIN SPERLING AND SARA SCHARF

ACTIVITY: CLASSIFICATION OF FOOD AS A WAY TO UNDERSTAND DIVERSITY AND SOCIO-CULTURAL HISTORY

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Articulate their understanding of their personal and cultural connections to food and begin to analyze these connections in relation to their own and others' contexts.
- Identify a variety of food products and understand their cultural and/or historical origins, including influences of colonization and globalization.
- Express multiple ways of knowing food and name the various stakeholders in food systems, including ecological, medicinal, industrial, and agricultural interests.

CLASSIFICATION OF FOOD

This activity on the **classification** of food plants encourages participants to draw on their own cultural and historical backgrounds to explore food-knowledge development in an **inclusive** way. The activity was developed by working with teacher candidates to encourage them to see food as an inclusive material for teaching across subject areas and supporting knowledge-sharing.

In this activity, students explore and classify food plants as a way to highlight the importance of biodiversity and to examine the role of scientific study and classification as just one of several ways of understanding the world, including Indigenous and other localized approaches. An additional goal is to help participants recognize their own **biases**, as well as the views and experiences of others. Our biases have an impact on the way we view and encounter the world and the assumptions we may make.

In particular, students may explore specific skills of observation, using **inference**, classification, and the practices of information organization used to represent knowledge. Participants will draw upon their own experiences with particular foods—including cultural practices and personal preferences—to demonstrate that there are multiple useful ways of looking at our complex and varied world, that scientific classification grew out of local classifications and works as a bridge among different local classifications, and that these different ways of engaging continue to inform each other.

This activity can be done with real food items, paper and pens or markers, paper towels and knives (for cutting open fruits and vegetables). It can be carried out in person, or through virtual delivery, using a Google Images search or the food randomizer site, for example. The latter is helpful for selecting a variety of foods for students to consider, as opposed to having students preselect the food items, which may bring unconscious bias into the activity, and which also eliminates the possibility that students may encounter new food items in the activity. However, it should be noted that a disadvantage to the food randomizer site is that its selection options are limited and already biased toward northern North American or European cuisine. If meeting in person is not possible, the instructor can also pre-select a list of images without letting the students know the names of the items. Students will have their own preconceptions about what each item might be. These preconceptions should also be explored.

For the virtual delivery of this activity, use the website(s) selected to make a list including at least four fruits and four vegetables. Students may draw and colour in the objects as well, based on their own knowledge, or do some quick research online for images to print and cut out or copy. Be careful not to have them read too much detail about the use or origin of the item selected.

Once you have a clear list of 8 to 10 items, have the students follow the directions below, making adjustments for virtual or in-person participation:

- Arrange yourselves into groups of about four.
- Put away your phones and close your browsers. Do not look anything up!
- First, on your own, investigate the contents of the "food basket." Try not to discuss your thoughts and memories with others yet, but take note of them.
- On your own, decide how you will organize your items. Write out clusters and sub-clusters (if appropriate) of food items with clear categories. Label the categories. There are no wrong answers!
- Write down a brief summary of why you organized your items the way you did. What guided your choices?
- Within your group of four, share and compare your organization and analysis. Respectfully discuss your results and consider how similar and different they are from each other. Consider both the categories you and your classmates have chosen as well as the way you have each organized the information.
- Come to a group consensus, if possible, about how to organize the items in your "food basket." Write down and/or illustrate your classification to share with class on big paper/digitally.
- Some possible ways of classifying the food items include: colour, connections to family or celebrations, cooking method, taste, geographic origins, texture, plant body part (i.e., root, stem, fruit), and others. Possible modes of representing the information could include a flow chart, matrix, pie chart, or graph. There are no limits and no

wrong answers.

Figure 1: *One way to arrange the food in delivering this activity (photo: authors)*

This activity highlights how to include other ways of viewing the world through diversifying modes of classification. The two engagements—individual and group—show multiple ways of looking at our complex and varied world, and that science is just one way among many. Even whether a given item counts as a fruit or vegetable is open for discussion.

Additional options include selecting a food or two from the lists and asking students to do further research to gather additional background information. This may include which of the foods are indigenous to the local site, which ones were introduced but can be grown locally, and which must be imported. It may also include learning which foods have cultural meaning to some groups and why, and/or which foods grow best in certain conditions or climates, and why.

Discussion Questions

- What did you notice about your connections to food compared to other members of your group?
- How did your group come to consensus about the final categorizations and organization that was displayed to the class?
- What factors did your group discuss that helped to determine individual and group representations of the food items?
- What do you notice about the overall class representations of their food items? What were the more and less common ways of organizing and categorizing food items? In what ways can we use

this information to support food studies actions?

- Scientific classification came out of an effort to produce a common language that would bridge different local ways of knowing and communicating about living things. In what ways is having a common scientific language useful? In what ways is it less useful?

Note: *If this activity is to be held in person, tell the students ahead of time that fresh produce will be brought into the classroom and give them the opportunity to indicate if there are any serious allergies that should be taken into account.*

ANNIKA WALSH

ONE DAY AT THE MICROWAVE & SAVOURY DREAMS

Annika Walsh is a transdisciplinary artist who was born in Chuzhou, China and adopted at 11 months of age by her family in Canada. She works with a variety of ingredients, materials, and collaborators to form her conceptual pieces. Her practice ranges from exploration of cultural identity to participatory food performances, and everything in between. Striving to blur the lines and push the boundaries, Annika makes a habit of traversing many disciplines, including sculptural installation, performance, and media.

ONE DAY AT THE MICROWAVE (NOV. 2021)

"One Day at The Microwave" is an interactive installation that situates you in an absurd space that you've probably never thought you'd want to be in. From the position of your food in a microwave, you have the ability to set the amount of time for which you would like to be heated up. Sitting and spinning in the small, lit-up box, you are invited to take a break from the day and enjoy the amusing space that the appliance provides.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=579#oembed-1

SAVOURY DREAMS (OCT. 2021)

Savoury Dreams is an installation that has visual and olfactory elements. A projector is suspended from an overhead lamp; a short looped animation of an array of ingredients glows in the simmering soup pot. The liquid of the softly boiling soup interacts with the projected materiality, adding another form of movement. Visitors to the space smell hints of lemongrass, shrimp, and ginger as the soup slowly simmers away.

One or more interactive elements has been excluded from this version of the text. You can view them online

here: https://ecampusontario.pressbooks.pub/foodstudies/?p=579#oembed-2

JANIS GOLDIE

WHEN FOOD KILLS: THE IMPACT AND MEANING OF FOOD ALLERGIES

Janis Goldie *is the incoming Dean of Academic Programs at the Alberta University of the Arts in Calgary, Alberta. Prior to this role, she was Professor and the Chair of the Communication Studies Department at Huntington University in Sudbury, Ontario, Canada. Her research on food and public health focuses on Canadian communication contexts, including investigating discourses of food allergies via popular culture artifacts, news media, or governmental sites, as well as the discourse that stakeholders use when considering food allergies.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain the basic aspects of food allergies and their prevalence as a public health issue.
- Describe how food allergies are an important issue of consideration in the broader context of Food Studies.
- Identify elements of the impact and experience of those living with food allergies.

INTRODUCTION

What did you eat for lunch today? A sandwich? Perhaps some bannock or curry? Maybe a sushi roll or a taco or a slice of pizza? Did you think about the ingredients? How the food was prepared? What oil or condiment was used? Did you consider that eating your lunch might harm you—harm you so severely that you would need immediate medical attention and, if not treated promptly, could even die? If these questions aren't at the top of your mind before lunch—or every time you eat—then you probably don't live with a food allergy.

Food allergies occur when the immune system does not recognize a food as safe and responds with an allergic reaction.[1] A serious reaction, **anaphylaxis**, can manifest as a number of different body-system effects, such as respiratory (trouble breathing, chest pain, or throat tightness), skin (hives or swelling of the face or lips or tongue), gastrointestinal (nausea or vomiting), or cardiovascular (dizziness or fainting), among others. While reactions can range in severity, a food allergy is a chronic health condition,

1. Nettleton 2010.

requiring ongoing medical attention and limiting the daily activities of those afflicted.

Roughly 2.6 million Canadians are affected by food allergies that can be deadly if treatment is delayed.[2] In Canada, 7.7 percent of adults and 6.9 percent of children under the age of 18 now report having at least one food allergy.[3] Peanuts, tree nuts, milk, eggs, mustard, fish, shellfish, sesame, soy, and wheat are the priority food allergens in Canada and are responsible for the majority of clinical reactions.[4] (See Table 1 below for breakdown of prevalence by age and allergen in Canada.) Food allergies are a serious and growing public health issue in Canada and much of the world. There has been a significant reported rise in food allergies in the past two decades, with up to a 50 percent increase of prevalence for children since 1997.[5] With prevalence at an all-time high[6] and no agreed upon explanation as to the cause and minimal treatment options available for the food allergic, food allergies are cause for concern.[7]

2. AllerGen 2017.

3. Ibid.

4. Husain & Schwartz 2013.

5. Jackson et al. 2013.

6. Sicherer & Sampson 2018.

7. Clarke et al. 2020; Soller et al. 2015; Kamdar et al. 2015.

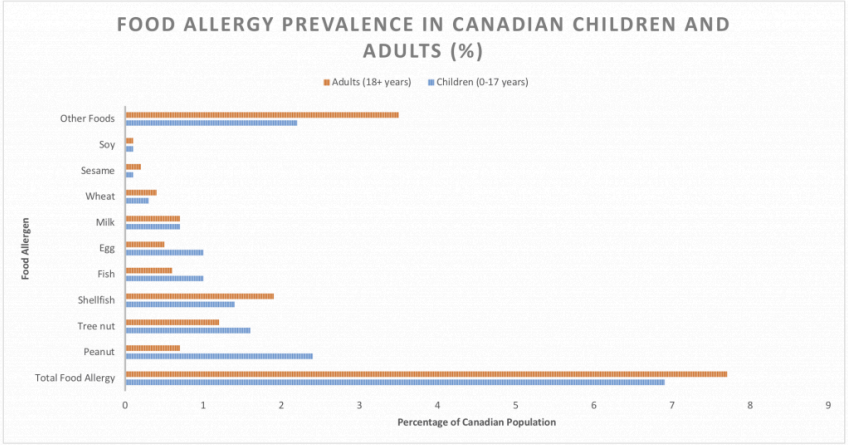

Table 1: *This chart is a representation of data from AlleGen's national survey. See the complete table on the Allergen website.*

Alongside the increasing prevalence of food allergies, research on the subject has also increased over the last few decades. Living with a food allergy qualifies as a legal disability under the Charter of Rights and Freedoms in Canada, including an obligation to accommodate.[8] Those with food allergies are frequently bullied, socially isolated, economically challenged, and experience significant negative outcomes on their **quality of life** (QoL). In this way, "food allergies not only increase the risk of fatality for those most severely affected, they regularly disrupt life for those diagnosed and their families".[9] Given that eating is a constant and potentially lethal risk, the study of food allergies presents a unique and important perspective to consider within food studies. Whether examining the issue from a food systems, culture, justice, risk, feminist, or policy lens, the topic of food allergies provides an ample area for future study in the field.[10] In the following section, some of the current findings in the research on food allergies are outlined. I then go on to discuss an area that

8. Murdoch et al. 2018.
9. Elliott & Cardwell. 2018.
10. Zhen 2019.

is receiving greater consideration and research—the communication or **discourse** of food allergies.

CURRENT RESEARCH

The Impact and Experiences of Food Allergies

The majority of the research on food allergies to date is biomedical. Biomedical studies examine issues such as current diagnosis options, prevention, treatment, and management strategies, as well as the epidemiology of food allergies and their prevalence.[11] In contrast, social science research on food allergies has focused on the experiences and effects of living with food allergies. For example, recent studies on the economic costs associated with food allergies have found that the overall economic burden is substantial, both for those with food allergies as well as for healthcare systems.[12] In Canada, families with a member who has a food allergy reported higher direct annual costs of just less than $2400 (on average), largely attributed to increased spending on groceries and restaurant meals. Food-allergic families also spent more travelling to medical appointments and on medications compared to families without a food allergy.[13] While healthcare costs in Canada related to food allergies are only beginning to be tracked, the Canadian Institute for Health Information (CIHI) reported that between 2007 and 2014, the total number of visits to the emergency departments for anaphylaxis and allergy rose from 69,691 to 84,855 in Alberta and Ontario alone.[14] Other studies have examined billing fees from physicians for common allergy tests across Canada and have

11. Foong et al. 2021; Dixon et al. 2016; Silvaet al. 2020; Nwaruet al. 2014; Warren et al. 2020.
12. Gupta et al. 2013.
13. Golding et al. 2021.
14. Information Canadian Institute for Health Information 2015.

found that costs vary widely depending on the service and province.[15]

Beyond the economic effects of living with a food allergy, there has also been a significant focus on the effects on QoL and the lived experiences of the food allergic as well as their caregivers. This research includes examinations of the psychosocial and mental health impacts of living with food allergies, as well as daily management and health-related measures.[16]. These studies show how all areas of life can be affected by food allergies—including emotional, physical, and social—for the food allergic and their family members. Everything from grocery shopping, meal preparation, school attendance, family and social activities, as well as social skills can be impacted. In addition, the effect on caretakers of children with food allergies, as well as the children themselves, can result in high levels of emotional distress and anxiety. Caregivers feel sadness, anger, guilt, worry, and uncertainty about food allergies in their children, and that their distress becomes worse if they have fewer emotional resources, younger children, and/or children with behavioural problems.[17] In addition to the effects on mental health, there are notable psychosocial effects. Living with a food allergy results in significant instances of social isolation, such as not being able to attend or participate in workplace, friend or family functions, restaurant outings, or even travel opportunities, which further affects QoL.[18] For children, not being able to eat what others are eating, or even needing to eat alone, can be particularly challenging in social settings such as schools, parties, and sports events. In addition, bullying is a noted problem for children with food allergies. Anywhere from 16 to 32 percent of children or teens

15. Protudjer et al. 2020.

16. Cummings et al. 2010; Shaker et al. 2017; Miller,et al. 2020.

17. Williams et al. 2009; Abrams et al. 2020.

18. Ravidet al. 2012.

report having been teased or bullied because of their food allergy, often leading to negative emotional/psychological impacts such as sadness, depression, and decreased QofL.[19] Other studies note the stigma surrounding food allergies and the challenges that go along with the consistent self-identification that management of a chronic health condition necessitates.[20]

With regard to vulnerable groups, research has indicated that education, socioeconomic status, and race can affect the experiences and management of food allergies. For example, lower-income individuals in Ontario with food allergies reported difficulty obtaining safe food and medications due to medical misinformation, having to use food banks, and/or general financial barriers.[21] Other studies have found that Caucasian children and those with higher income are more frequently provided a diagnosis than other children,[22] while Aboriginal children have low rates of diagnosis and treatment for their food allergies as well as significant disparities in food allergy management related to health–care access.[23]

Various other studies on food allergies have examined risk perception as well as risk-taking behaviors, such as the conscious risks teenagers with food allergies are willing to take (trying food without knowing the ingredients, not having their EpiPens on hand, etc.), in addition to management strategies and practices in schools and policies, to name just a few areas.[24] In all, the study of food allergies is a burgeoning area of focus with many facets.

19. Fong et al. 2017.
20. Pitchfort 2011.
21. Minaker et al. 2014.
22. Gupta et al. 2011.
23. Harrington et al. 2013.
24. Warrenet al. 2017; Abramset al. 2020; Sauer et al. 2018.

Food and Communication: The Discourse of Food Allergies

In food studies, food is understood to be much more than just a means of survival. Food is sustenance, but it is also "a symbol, a product, a ritual object, an identity badge, an object of guilt, a political tool, even a kind of money."[25] As Koç, Sumner, and Winson argue, "What we eat, how we eat, when we eat, and with whom we eat reflect the complexity of our social, economic, political, cultural, and environmental relations with food".[26] Food has much meaning. As such, the combination of a communication studies approach and a food studies approach (both fields emphasize **interdisciplinarity** and a critical perspective) is a natural fit.

Connecting food and communication is a fairly recent move.[27] The study of communication "is concerned with understanding the ways in which humans share verbal and nonverbal symbols, the meanings of the shared symbols, and the consequences of the sharing."[28] Because food is a nonverbal symbol in so many ways, unpacking the meanings that we have around food and the consequences of those meanings is crucial to understanding food. Food is also a code, much like language, in that it expresses patterns of social relationships, can be performative, and is directly linked to both ritual and culture.[29] In all of these ways, we "use food to communicate with others and as a means of demonstrating personal identity, group affiliation and disassociation, and other social categories, such as socioeconomic class" so that "food functions symbolically as a communicative practice by

25. Reardon cited in Koç et al. 2017.

26. Koç et al. 2017.

27. Henderson 1970.

28. Lizie 2014.

29. Greene & Cramer 2011.

which we create, manage and share meanings with others."[30] We use food in the construction and communication of our own personal identities, in our group associations, and our ability to share and discuss food across a wide variety of social sites and situations. Importantly, our communication about food, which can be referred to as our *food discourse*, "operates as important 'sites of struggle' with significant social and political implications."[31] Discourses around the local food movement, organic food, or dietary practices such as veganism, for example, all point to social and political implications such as changes in production and consumption behaviours, investments in economic resources, and government policies.[32]

When we understand that not just food and the ways we communicate about food matter economically, politically, and socially, we start to ask questions about the ways issues such as food allergies are represented in talk, text, and **media culture** more broadly. We also start pay more attention to the implicit and explicit meaning of discourses around food allergies, and what they mean for how we develop resources and supports, approach treatments, management practices, policies, etc. While there is a great deal of research on food allergies, the focus on the various *discourses* of food allergies is only beginning to receive more attention.

Examining how we communicate about food allergies can be undertaken in various discursive sites of text and talk across various contexts. A few studies have begun to examine the discourse of food allergies within sites of media culture. For example, looking at food allergy blogs, Morlacchi has investigated the ways that food-allergy discourse orients the health risk as

30. Ibid, xi.

31. Fiske cited in Greene & Cramer 2011.

32. Desrochers 2016; Derkatch & Spoel 2017; Greenebaum 2012.

an individual responsibility, centered on food consumption and choice. Further, she highlights that that responsibility is represented as a gendered one, so that "allergy foodwork is overwhelmingly seen as the responsibility of women as mothers and as providers of food for their families."[33] Analysis on the framing of food allergy discourse in the news has pointed to the way that certain stakeholders frame issues differently. Advocates and affected individuals make moral judgments and suggest remedies, while doctors diagnose the cause of food allergies or frame food policy issues.[34] Others point to the harmful effects of representing food allergies humorously in entertainment media.[35] In a recent piece, for example, two short comedic media representations of food allergies were analyzed: an episode of CBC Television's *Mr. D,* in which one of the main characters has an anaphylactic reaction; and a short stand-up skit from the Halifax Comedy Festival about food allergies in wartime.[36] These media artifacts represent food allergies as something to be not taken seriously, even ridiculed. The food allergic are shown as weak and unable to survive or cope with life's everyday challenges. Further, food allergies are represented as an individual problem—one in which the food allergic is responsible for the problem solely on their own.

These messages matter, because like all discourse circulating in the public domain, they can inform our broader beliefs and behaviours, especially when certain representations persist and dominate. Its pervasiveness in North America as a cultural-orientation machine means that media culture offers much social instruction about who we are and what our norms and values are in a society. The ways that food allergies are presented in our

33. Morlacchi n.d., 11.

34. Harrington et al. 2012; Rachul & Caulfield 2011

35. Abo et al. 2017; Goldie 2019.

36. Ibid.

popular media such as comic books[37], news or social media[38] or entertainment texts, can thus influence how we feel, think about, or react to food allergies in our lives. If the messages we hear about food allergies on television, for example, tell us that people with food allergies are weak and that food allergies are not an issue to take seriously, then it might relate to the policies that are created for schools or the real-world bullying that exists for the food allergic.

In all, while the study of the discourses of food allergies needs much more attention, it is an important step in the research on food allergies more generally. When we tie the research on the experiences of those living with, or caring for, the food allergic with research into the way we talk about, and thus understand food allergies, we are much better positioned to provide valuable and meaningful social impact. We must first assess how we understand the meanings behind food allergies in our cultures if we are to come to any sort of health or policy solutions.

CONCLUSION

The issue of food allergies is an important area of consideration within the broader field of food studies because of its increasing prevalence and the impacts it has on the daily lives of those affected. The study of food allergies also provides a valuable opportunity to examine an area of discourse of food—in which the meanings imbued within a wide variety of talk and text construct and cement our understandings of disease, management strategies, support systems, and policies. We are used to thinking about food as a source of nourishment and identity, as well as for enjoyment and pleasure. But when the food one consumes poses a constant, everyday risk to one's life, there are very dif-

37. McNicol & Weaver 2013.

38. Hamshaw et al. 2017.

ferent meanings imbued within it. Understanding the different ways that food *means* is an important endeavour to continue to build on in the work of food studies.

Discussion Questions

- Why is it important to connect food discourse to the broader field of food studies? Why do our meanings and language about food matter?
- Why do you think the research on food allergies has been slow to examine the communication around this health issue?
- What representations have you seen of food allergies in media culture? Do you recall any scenes in popular films or television series in which a food allergy episode or reaction occurs? If so, what happened? How was the reaction portrayed? How was the person experiencing the reaction portrayed? What meanings about food allergies were constructed? Do these align with the experiences indicated by the academic research?

Additional Resources

Food Allergy Canada

National Film Board, *Sabrina's Law*, 2007, documentary available for free online streaming.

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ANNIKA WALSH

FROM HEAD TO DOUGH

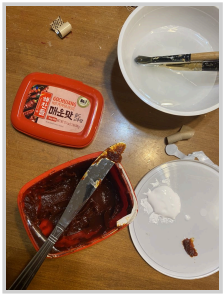
Annika Walsh is a transdisciplinary artist who was born in Chuzhou, China and adopted at 11 months of age by her family in Canada. She works with a variety of ingredients, materials, and collaborators to form her conceptual pieces. Her practice ranges from exploration of cultural identity to participatory food performances, and everything in between. Striving to blur the lines and push the boundaries, Annika makes a habit of traversing many disciplines, including sculptural installation, performance, and media.

FROM HEAD TO DOUGH (DEC. 2020)

"From Head to Dough" is a process-oriented work. Starting with a simple dumpling dough, I rolled it out into a large oval, then

cut it into the shape of Anhui Province. I then stamped one of my Chinese names, 生, on the location of Chuzhou, the city I was born in. I made some score lines where the Yangtze river runs through the province and put tinfoil underneath to mould mountain ranges. Anhui is known for their mountain topography; for me, it was important to represent the terrain, because I resonate so much with this type of landscape in the Canadian Rockies. Then I let the dough dry for three days on my kitchen island, where it cracked into many uncontrollable pieces, one being the line of the Yangtze River.

"Form" was the word prompt I used to create this project. By allowing the dough to take on *its own natural form,* after some initial manipulation at the beginning, I was able to highlight how the materiality of the dough interacts with elements such as heat, air, and time. When I decided it was done drying, I flipped it over attached supports—using broken chopsticks—to piece some of the pieces back together and create three larger segments. I then hung each segment separately onto the wall, as I would a canvas. I then garnished it with a bit of gesso and *gochujang* (red chili paste). The visual simplicity makes of this piece allows viewers to concentrate more on the individual ingredients.




Jiangsu
Huaibei
Bozhou
Suzhou
Fuyang
Bengbu
Chuzhou
Huainan
Liu'an
Hefei
Chaohu
Maanshan
Wuhu
Xuancheng
Tongling
Anqing
Chizhou
Huangshan
Yangtze River

LIAM COLE YOUNG

SALT'S HIDDEN HISTORIES

Liam Cole Young *is an Associate Professor in the School of Journalism and Communication at Carleton University in Ottawa, Ontario, Canada, where he teaches and writes about media-technology and culture. He is the author of List Cultures: Knowledge and Poetics from Mesopotamia to BuzzFeed. His favourite salt is Halen Môn from Wales.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the intersections between culture, economics, and technology.
- Explain how human cultures ascribe symbolic meaning to foods that transcend flavour or nutrition.
- Build links between the histories of food production, distribution, and consumption and aspects of contemporary food cultures and supply chains.

INTRODUCTION

Salt is so ever-present in our lives as to be banal, so woven into the fabric of our culinary and gustatorial lives that we hardly notice it. Every pantry or spice collection, in every corner of the world, has some form of salt. It is one of the five modalities of taste, along with sweetness, bitterness, sourness, and umami. Salting is the oldest and most popular technique of food preservation. For thousands of years, humans have used it to extend the life of meats, fish, and vegetables, but also of dairy, in the making of cheese and butter. In this way, salt has been an important mediator of nutrients and protein, allowing humans to nourish themselves during periods of climate unpredictability, famine, or war. Some argue our appetite for salt is 'hard wired'. Our neural networks require sodium, but our bodies do not produce it; *sodium chloride*, the chemical name for common salt, offers a cheap and abundant way for our cells to metabolize precious sodium ions.

This list of common and consequential uses of salt could go on and on. Almost every civilization from which we still have material traces has gathered, traded, and used it for a variety of purposes, making salt a central player in the emergence and history of what we call "human culture." Its ubiquity across cultural tra-

ditions and historical time makes salt fun to think about but also difficult to study. All we can hope to do is scratch the surface. In this chapter, I tackle this challenge by exploring a few episodes from salt's many histories, using three lenses: taste, trade, and technology.

TASTE

To think about taste is inevitably to think about **culture**. It raises questions such as: how is salt used and enjoyed, and where, why, and by whom? Or, what and how does salt signify in cultural practices and texts, like ancient rituals and recipes, or modern representations and advertisements? Culture, as Raymond Williams famously argued, is the stuff of human life—practices, customs, values, rituals, but also the way people imagine and tell stories about their lives, experiences, and relationships.[1] Salt figures at the centre of many such stories.

In fact, the question of *how salt became cultural* teaches us a lot about this complicated concept of culture. Salt stands at the threshold between ideas of 'nature' and 'culture.' For many thousands of years, salt was a naturally occurring substance that humans and animals used instinctively to regulate levels of sodium and water in their bodies (this is why salt licks are still used in animal husbandry to herd and organize the movement of animals). But over time and alongside other technological and cultural transformations, salt became a complex and contested object of taste, meaning, and value, one that offers us important insights into more general processes by which the earliest human societies transformed from small, disaggregated bands of hunter-gatherers into sedentary, large-scale, agricultural communities. Anthropologists sometimes refer to this process as one of "hominization" or "becoming-human." By this, they simply mean

1. See Williams 1958.

that over many thousands of years, *Homo sapiens* transformed from a hunter-gatherer, quad–pedal creature (with which today's human beings have little in common) into one that we more readily recognize as our physiological and cultural ancestor: people who stood upright, made fire, cooked, pair-bonded, farmed, lived alongside a relatively large number of others for long periods of time, developed rituals, language and other forms of representation, and so on. In short, a species with 'culture'. Salt was present during all these complex transformations. There is archaeological evidence of salt mining in the Araxes Valley of Azerbaijan from 3500 BCE, salt refining in the Mekong River Delta from 900 BCE, and commercial-scale pig salting at Hallstatt during the late Bronze Age. There is even some evidence of a salt trade at Jericho as early as 9000 BCE! Such evidence suggests that, along with cooking and making fire, uses of salt played an important role in these processes of becoming-human.

These early human societies eventually developed systems of writing and representation that allowed them preserve and transmit knowledge toward the future. Such records give us a more precise sense of how they used salt. One area of use was health and wellness. For many centuries prior to modern medical science, healers and alchemists speculated about the machinations of the human body and how certain substances might be used to alleviate pain, remove parasites, and cure disease. These were important goals because, as humans set down roots, transitioning from smaller nomadic communities into longer-term agricultural settlements, viruses, bacteria, and malnutrition settled in place along with them. To combat these problems, a variety of regimes were proposed in which salt played a crucial role. The *Charaka-Samhita*, a compendium of traditional Indian medicine likely compiled in the 1st or 2nd century CE, suggests salt be used in skin and eye care, enemas, and even to treat wounds after surgery. In the 7th century CE, Isidore of Seville, wrote about the Roman goddess of safety and well-being, *Salus*, who was named

after salt and came to stand as a term for health and even salvation. Chinese medicine has long held that salt is good for the kidneys and liver. It is likely that these uses of salt in early forms of healthcare established habits, or even addictions, that would continue as human bodies became healthier. This leads historian S.A.M. Adshead to suggest salt as "part of the struggle of culture against nature, a weapon of culture supplied by nature," which "became part of culture itself."[2]

In spite or because of these practical uses, salt has long served as a powerful metaphor. Most of us have probably heard someone referred to as a "salt of the earth" type, but did you know that phrase comes from the Bible? (Matthew 5:13, "Ye are the salt of the earth: but if the salt has lost its savour, wherewith shall it be salted? It is thenceforth good for nothing, but to be cast out, and to be trodden under foot of men"). Maybe you've had a particularly "salty" teacher, or a friend whose advice you always take "with a grain of salt." Most languages and cultural traditions have these types of metaphors. "When the Garuda exhausted his ideas, he boiled salt" notes an ancient Burmese proverb about despair. From the Chinese tradition comes the saying, "Just as dishes without salt are tasteless, so words without reason are powerless" (*Cà méi yán wúwèi; huà méi lī, wúlì*).

To explore such metaphors and other cultural aspects of salt is to be less interested in how salt gets to a kitchen pantry or dining table than in what it means and how it is used by people in such places. The double meaning of the English word "taste" captures these cultural questions. Taste can be used to describe both cooking *and* class relations; for instance, how salt combines with other foods to create flavour but at the same time can mark one's status and power (their "good" or "bad" taste). This was particularly true during the European Middle Ages, when only roy-

2. Adshead 1992, 26.

als and nobility had ready access to salt. Salt at a table signified the host's power, privilege, and elegant taste. This is why salt cellars from the period (used to store salt on the table, long before the introduction of salt shakers) were ornately designed using the finest of materials such as silver and gold. Such class dynamics inevitably lead to questions of access and power, the focus of the next section.

TRADE

Many scholars consider histories of salt as a **commodity** and staple good, asking such questions as: How is salt transported and traded, and where, by whom, and for what? This approach encompasses the question of value; specifically, how in many cultures salt was considered "white gold." Roman soldiers were once paid not in gold or silver, but salt! That's where the English word *salary* comes from—*sal* was the Roman word for salt.

Salt's ancient histories are present not only in words like salary, but also in basic infrastructures of transportation that continue to shape global trade and supply chains of food and other goods. For thousands of years, "salt roads"—ground routes established primarily for the salt trade—spread like veins across the continents, moving people, things, and information from place to place. These infrastructure projects took a lot of time, energy, and resources to build, which makes them valuable, heavy, and difficult to change. And so, when it came time to make improvements, people tended not to replace them but instead to build on top of or around them. This is what scholars and historians of infrastructure and communication refer to as path dependency. A great example is how the internet's fibreoptic cables were stretched around the globe using poles, wires, and undersea cables, originally built for telephone and telegraph networks. The same was true in ancient times. Today, "all roads lead to Rome" is a metaphor, but it once expressed a basic truth about

how all people, things, and information of consequence flowed through the Imperial capital's city walls. But the Romans didn't start from scratch, either. They built this network on top of existing pathways and trade routes, many of which were, according to archaeologists, first used in the salt trade.

Roman roads are a famous example of how transport and communication infrastructures are important sites of **economic and political power**. This continued to be the case during Europe's Middle Ages (500 to 1500CE). In Northern Germany, for instance, an Old Salt Road (*Alte Salzstrasse*) linked the inland city of Lüneburg, which stood atop one of Europe's largest underground salt deposits, with Lübeck, a major port on the Baltic Sea. There was far more salt at Lüneburg than local and surrounding communities required. Therefore, the Church, which controlled the saltworks, began to transport this surplus to Lübeck. From there, it could be exported to countries such as Norway and Sweden, where demand for salt exceeded supply given the importance of salted fish to Scandinavian diets. Given the vast wealth and power derived from this trade route, those who controlled it sought to defend the route from attacks and preserve the free flow of goods and capital. This was a primary factor in the founding of the Hanseatic League, a group of Northern European towns, duchies, and merchants that banded together to protect each other's economic interests and infrastructure. In some ways, this multi-lateral security and trade agreement was a precursor to modern interstate cooperatives such as the European Union, or even the United Nations. Some scholars in fact point to the Hansaetic League as an important step toward the founding of modern state system inaugurated with the Peace of Westphalia, a multi-party treaty that ended the Thirty Years' War in 1648. This treaty established important principles that continue to inform international relations and law, such as the right of each individual state to sovereignty and law over its own terri-

tory, the standardization of international borders, and the principle of non-interference, among many others.

That so many resources and so much human labour have been devoted to the extraction and movement of salt testifies to the value it has held for most of its history. But before labour, transportation, and value become concepts used by scholars to describe the movement of people and commodities, they are simple practices and techniques, forms of work that humans conduct using a variety of technologies. This takes us into the third and final section.

TECHNOLOGY

To think about technology is to think about how humans do things—what tools and techniques do we use to enhance or extend our bodies? What systems do we develop to cooperate and coordinate our actions with other people, sometimes across vast distances? What structures do we built to improve and enhance our ability to work, communicate, organize, or accumulate resources and wealth? Who owns them? What are the implications of these activities—on our bodies, environments, other people and creates? These are big questions, all of which can be understood within the broad category of "technology."

The extraction, movement, uses, and exchange of salt help us to consider some of these questions. Salt was so valuable for so long because methods of production were labour and resource intensive. They took a long time and required a lot of blood, sweat, and tears. By far the most popular technique was to derive salt through solar evaporation. People would take brine (salty water), either from the ocean or an underground source, put it in a large vessel, and wait. Heat from the sun would slowly evaporate the water, leaving salt crystals behind. Some salt is still produced in this way, particularly in coastal regions. But humans are impa-

tient, especially when there is money to be made, and so they began to experiment with ways of speeding up the process. The most effective and thus popular of these new techniques was to heat the brine using non-solar fuel sources. Until recently, the only way to do this was by burning wood or coal. The outdoor, "solar–powered" brine vessels thus became cauldrons, and saltworks became encased in structures with protruding chimneys. This had wide-ranging environmental implications—you can imagine how much wood or coal was required to keep the cauldrons hot enough to boil water away almost 24 hours a day. That's why most of the areas surrounding old European saltworks have very few trees; they were all chopped down to be used as fuel!

Beyond these environmental and geographic impacts, technologies and techniques of salt production had further consequences on statecraft, migration, and patterns of **colonization**. Salt was at the centre of the so-called "Age of Exploration" in the 16th and 17th centuries, which started with European powers making regular voyages to fish the waters off the coast of what today we call North America. Salt was necessary as a provision for sailors' diets, but more importantly it was necessary to preserve the catch for return to European markets. Return voyages took days or weeks—much longer than fish would normally keep—so salt helped keep the fish from rotting. Since solar evaporation was then the dominant mode of salt production, countries with a lot of sunshine like France, Spain, and Portugal were at a distinct advantage to cloudy countries like England. Their ships could bring salt from home and thus salt the catch immediately, on board in barrels, without landing the ship. This process required a lot of salt but it was fast, efficient, and easy to do in a confined space like the deck of a ship. As a result, ships from sunny countries could fish to capacity and return to European markets very quickly. Cloudy Britain, by contrast, did not have ready access to salt and had to acquire it via trade. Because this was more expen-

sive, complex, and time consuming, British crews were motivated to find ways to preserve their catch that required less salt. One way was to spread the fish out so it could be dried in the sun before being lightly salted. But spreading out required more space than was available on the deck of a ship, and more time than they could afford to stay at sea. So, British ships began landing at sunny spots, such as Newfoundland's Avalon Peninsula, or along the coast of what is today called New England. In drying the catch on land, British crews began to build infrastructure that could be left behind and used again in the future. They even began to leave sailors behind to make room for more fish on the return voyages.[3] These were some of the first European footholds on the North American continent, which had profound consequences for contact with Indigenous communities and the eventual projects of European settlement and colonization. All these decisions, at least in part, were motivated by access to salt.

These examples help us understand that though technological innovation often occurs in the service of what seem like banal purposes—e.g., to find, use, and trade salt—its consequences are anything but. Looking at these tools, techniques, systems, and infrastructures remind us that broad patterns of history settle into place only through practices and objects of everyday life.

CONCLUSION

In this chapter, I have surveyed some lessons from the history of salt through the lenses of taste, trade, and technology. These lessons show how a substance we today take for granted, or hardly notice at all, has played many important roles throughout human history. German philosopher Hans Georg Gadamer once wrote, "When you take a word in your mouth you must realize

3. Innis 1978 [1940], 30–51.

that you have not taken a tool that can be thrown aside if it won't do the job, but you are fixed in a direction of thought which comes from afar and stretches beyond you."[4] The same is true of food. When we take a mineral like salt in our mouths, we are not just enjoying a tasty flavour. We are participating in ancient and ongoing histories of taste, trade, and technology that stretch far beyond us, which are haunted by complicated and contested meanings, and which teach us about many histories of power and struggle.

Discussion Questions

- What are other foods or spices that we take for granted and that have consequential "hidden histories"?
- What are some further consequences of humans learning to extend the lifespan of food through salt preservation?
- For most of recorded human history, salt was known as "white gold." What are some of the reasons it seems to have faded in value and consciousness over the last hundred years?

Exercises

Over the course of two to three days, observe every encounter you have with salt. Count, for instance, the number of times you add it to food while cooking or eating. Consider the salt content on

4. Gadamer 1975, 496.

ingredient lists of foods you consume, and keep an eye out for non-culinary salt usage (such as on roads during winter).

- After a few days, survey and reflect on your inventory of uses and encounters. What surprises you about the role of salt in your day-to-day life? Did you consume more or less salt than you expected? How many "unconscious" uses of salt did you encounter?

Pick a source of salt in your cupboard and try to reconstruct its supply chain. In what part of the world was it harvested, and how? What can you find out about the company on the label? Are they a producer of salt, or just a distributor? How do they move salt from the point of production to sites where it is packaged, then on to sites for consumer purchase? What about the workers that help harvest, package, and ship the salt? What are their working conditions?

- Find a way to creatively visualize this salt supply chain. How do such visualizations supplement our knowledge about tastes, trade, and technologies of salt? Does your supply chain map onto older supply chains, such as those between European imperial capitals and what were once their colonial holdings in the Global South, or perhaps onto an ancient supply routes like the *Alte Salzstrasse*?

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AMY TRUBEK

ARTISAN CHEESE: A CATEGORY, A SET OF PRACTICES, A SHARED SENSORY EXPERIENCE

Amy Trubek *is a Professor in the Nutrition and Food Sciences department at the University of Vermont. Trained as a cultural anthropologist and chef, her research interests include the globalization of the food supply, the relationship between taste and place, the development of food agency, and cooking and sensory evaluation as cultural practices. Dr. Trubek is increasingly involved in transdisciplinary, collaborative research with scholars focusing on nutrition, public health, and sensory science.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Name the differences between artisan and industrial (or mass-produced) cheese making.
- Describe the relationships among artisan cheese, certain cheesemaking practices, social networks, storytelling, and places.
- Explain the importance of terroir and its influence in making artisan cheese unique.

INTRODUCTION

Over the past 20 years, the category of artisan cheese has become important in understanding contemporary production and consumption of this fermented and aged dairy product. This category very much exists as a counterpoint to the category of **industrial (or mass-produced) cheese**.

There are several reasons why artisan cheeses are categorized differently than industrial cheese. One is that the conditions of production are dissimilar. Industrial or mass-produced cheese is based on a production model that seeks consistency. For example, if there are two Kraft factories making Cracker Barrel cheddar cheese, both of them will aim to make a product that is identical in appearance, taste, flavor, and texture. The industrial model of production also assumes that the labor involved in making the cheese is exchangeable and interchangeable, thus adding to the cheese's role as a **commodity.** A second reason is that, in the case of industrial cheese, there is an assumption that it will be integrated into a spatially distributed supply chain. In other words, someone on the West Coast of the United States

and someone else on the East Coast will have roughly equal access to the cheese. On the other hand, in the case of artisan cheese, the primary commitment is to a clear or present connection to a specific **place**. When foods are linked to a certain place—due to geographical conditions or cultural traditions—regionally based practices (in terms of making such foods) emerge. In this way, it is understandable that cheeses produced in Vermont should be fundamentally different from cheeses produced in Oregon or Wisconsin. The connection to place also has an impact on the conditions of production and the spatial distribution of the product. Both are based on smaller scales, and there is an implication that specific people (and not just machines) put skilled labor into the products[1].

Many food scholars are interested in artisan (as well as traditional and/or craft) products because of their social implications. This includes researching the stories, practices, and politics of these products to understand both what they *reveal and reflect* about our contemporary food system. Social scientists also examine the strong connections between products defined as artisan and the geographic regions where they are produced. In other words, artisan products can be understood as crucial to the identities of individuals, groups, and places—as much or more than anonymous commodities sold in a generic retail marketplace. In this way, the **intrinsic** and **extrinsic** attributes of a certain product are assumed to be intertwined with both their social and natural environments. There are numerous examples, including Comte cheese[2], Burgundy wine[3], and Darjeeling tea[4].

1. Paxson 2011, 2013.
2. Bowen 2011; Shields-Argeles 2018.
3. Demoissier 2010, 2018.
4. Besky 2014.

With artisan cheese (as with other similar products), it is widely understood that these products are unique due to their connection to the identity of a group of people, a set of shared practices, and a place. A powerful expression of this set of connections is identified in the unique sensory characteristics of, for example, a three-year aged Shelburne Farms cheddar cheese or a Cabot Clothbound cheddar. Both of these cheeses are made using similar production techniques; the 'recipe' for cheddar involves stacking blocks of cheese curd on top of each other to encourage the removal of moisture. That means these cheeses will be similarly dry and tangy. However, there are also sensory differences between these cheese (the Shelburne Farms is tangier and the Cabot Clothbound cheddar is nuttier). The differences can be ascribed to the breed of cow, the type of pasture the cows graze on, and the location and type of aging facilities for storing the cheese. The intersection of place, sensory qualities, and social embeddedness is expressed in the concept of ***terroir***, or *the taste of place*[5].

Integral to terroir is that the intrinsic and extrinsic attributes of a food or drink are based on certain environmental conditions and/or human practices. In the case of cheese, this includes the breed of the animal, the plants eaten by the animal, and the traditional practices for transforming the fluid milk into the finished cheese (e.g., the type of rennet, other ingredients, aging, etc.) Although these can be understood as objective factors, they are all in fact the results of decisions made by human actors. Such human-made decisions act in ways that transform a wild landscape into a domesticated one, responding to what works in that natural environment while simultaneously creating an indelible human imprint on the landscape, the animals and plants, and the conditions for **sensory evaluation**. The analytic framework used in the sensory analysis of foods and drinks shaped by *ter-*

5. Trubek 2008.

roir relies on the articulation of these underlying environmental conditions, leading to an explanation of the ultimate sensory experience. At the same time, the story of *terroir*, of the unique natural environment and specialized human practices that make such foods and drinks, is very important to the appreciation of these practices.

Recent investigations into artisan cheese provide excellent evidence for the sensory importance of the *story* when it comes to eaters' sensory experiences. In a qualitative study of the development of the market for Vermont artisan cheeses, people who were interviewed indicated that their preferences for and experience of these products were influenced by their knowledge of the cheeses' stories[6]. These included how the products were made, who was making them, and their connections to the landscape and community of Vermont. In this study, people became Vermont artisan cheese consumers because of specific connections and encounters with these cheeses (e.g., amongst friends, in restaurants, at a special tasting), and those same connections and encounters became their personal context for understanding and appreciating these products. In other words, the story of the products was relevant to the eaters because of their *own* stories[7]. These qualitative findings were supported by a second quantitative consumer study in which subjects tasted, evaluated, and described Vermont artisan cheeses in two different "story" conditions. The first included accurate but general information about the technical production process for each cheese, and the second included a more specific description and story provided by the cheese's actual producer[8].

6. DiStefano & Trubek 2015.

7. Ibid.

8. Lahne & Trubek 2014.

In both research studies, the people involved reported higher liking and more positive experiences when provided with the specific stories. More intriguingly, they also reported significantly different sensory experiences. Specifically, the producers' stories allowed them to understand their intrinsic experience of strong or challenging flavors (like those of a ripened, blue-mold cheese) into positive experiential frameworks related to the making of the product (or the extrinsic conditions). This finding seems to be consistent with what is known about the importance of context and information when it comes to sensory experience[9]. Where the cheese comes from and how the cheese is made matter to consumers tasting it, as do the stories told about both.

An exploration of artisan cheese as a category within the world of all cheeses helps reveal the various structures, perceptions, and practices that constitute our contemporary food systems. It reveals the pervasiveness of industrial processes when it comes to making food, as well as the various other strategies that can be used. It also helps us see why producers who use industrial, large-scale production practices sometimes also adopt aspects of artisan production. For example, Cabot Creamery, a mid-sized, nationally marketed cheese producer that otherwise produces industrial cheeses, also makes Cabot Clothbound cheddar, an artisan cheese. This product draws on connections to place and tradition by using a single production line and single herd, located in Vermont, to produce the cheese. (It is also widely accepted and lauded in the artisan-cheese world.)

At the same time, artisan cheese reveals the importance of both social context and natural environments when it comes to the ways in which we make and appreciate food. No food is consumed in isolation (even if an eater of Kraft Cracker Barrel cheddar or Cabot Clothbound is alone). There are always larger

9. Shields 2015.

cultural contexts and social values—as well as specific personal memories—that inform our sensory experiences and preferences.

Discussion Questions

- What are some of the different cheeses you consume in your everyday life, given the distinction that is made between artisan and industrial (mass-produced) cheeses? How do your cheese preferences reflect your social or cultural context?
- Recall a personal experience with a food or drink that involves the celebration of *place* (as defined by a natural environment) and an appreciation of the tastes of the food or drink. What was the place and how would you explain the tastes? What were the intrinsic and extrinsic attributes of the food/drink? If you haven't had such an experience, are there other foods or drinks that you connect to certain celebrations and/or communities? How would you explain these tastes? What are the intrinsic and extrinsic attributes of that food/drink?
- What is the place of artisan cheese, informed by *terroir*, in our food system? How might the place for artisan cheese change, given contemporary changes in how we live and work today, and our increasing reliance on urban centers for both?

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DANYAEL LUTGENS AND ANDREW RYDER

DISORDERED EATING

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Name and describe the differences among key eating disorders.
- Express disordered eating as an intersection of sociocultural, physiological, and psychological elements.

INTRODUCTION

Have you ever heard someone describe themselves as "hungry for love"? Or conversely, so "heartbroken" that they cannot eat? Or more extreme, that they are "dying to fit into this dress"? If you are East Asian, there is a good chance you have been asked "have you eaten rice today?" instead of "how are you?" And if you are feeling ill, there may well be a dish, personally and culturally significant, that can make you feel a bit better—one preferably made by, or at least following the recipe of, a parent or grandparent. At the core of these links are expressions of care. Elsewhere in this book are descriptions of how food may be used as a tool for cultural ritual and social cohesion. Here, we consider how food may also work within these sociocultural frames to serve individual psychological needs. One person may fail to find the love they are "hungry" for in their environment and turn to food instead.

Another may fail to live up to unhealthy body image norms and turn away from food, despite mounting hunger and malnutrition.

Indeed, food is a daily necessity and key to sustaining life and health. The search for food is thus essential, not only to being human, but to being any living thing. Biological evolution brought teeth and tongues, throats and stomachs to the animal kingdom. Those who ate lived to survive and procreate. In this sense, food and eating are central and truly universal. But then in humans, cultural evolution also brought a series of innovations, from tools for hunting and gathering, to agricultural techniques, to contemporary mass-production and mass-marketing. Moreover, cultural evolution built innumerable innovations on top of the basic biology of food. To take one example, *disgust,* which is an emotion grounded in the ancient physiological imperative to expel potential poisons. Yet this same emotion system also scaffolds a very complex, culturally shaped, set of responses: moral disgust.[1]

The human experience of food and eating is at once deeply shared and personally idiosyncratic, biologically grounded and culturally shaped. One lens through which to view this complexity is that of disordered eating: the various ways in which our experience of food and eating goes wrong. As with any other form of what are commonly called "mental disorders," or psychopathology, we can understand disordered eating at the complex intersection of three levels: culture (and society); mind (and behavior); and brain (and genetics).[2] In this chapter, we consider some of the major ways in which eating can go wrong, considering several disorders described within the psychiatric manual commonly used in North America: *The Diagnostic and Statisti-*

1. Rozin & Haidt, 2013.

2. Chentsova-Dutton & Ryder, 2020.

cal Manual of Mental Disorders, or DSM-5. We look first at emotional distress, in which problems of anxiety and depression can lead to weight and appetite change. Then, we turn our attention to the eating disorders of anorexia nervosa, bulimia nervosa, and binge eating. After describing these disorders, we explore some research-based examples of how they are shaped by culture, mind, and brain. Finally, we will look at traditional and contemporary treatments, noting ways in which food has been used to treat emotional problems, along with ways in which psychological interventions have been used to treat eating problems. We observe effects in both directions because culture, mind, and brain are not three separate domains, but are instead deeply interconnected.

DISORDERS AFFECTING FOOD AND EATING

Imagine that you have an upcoming exam or that you are getting ready for a first date. Many people find that increased levels of stress or anxiety will suppress their appetite. For most, the situation passes and the appetite returns—but for someone with an anxiety disorder, appetite may be compromised for a prolonged period of time. This occurs because stress and anxiety lead to arousal of the autonomic system, which leads to many different physiological changes including symptoms that reduce appetite, such as nausea, diarrhea, and a subjective sense of bloating. Chronic sadness or loss of pleasure can also have an impact on appetite, with depressive disorders including weight and/or appetite change as one of the core symptoms. Appetite may be lost because of direct physiological effects of depression on the gastrointestinal system, but also because depression can affect the hedonic pleasure obtained from the senses.[3] When someone is exceptionally sad, foods that were previously enjoyed and ordi-

3. Simmons 2016.

narily very tempting, like chocolate cake or French fries, may be described as unappealing, tasting instead like cardboard.

Stress, anxiety, and depression do not always lower one's appetite. A sizeable minority of sufferers instead report increased appetite, often accompanied by weight gain. Some people cope with anxiety through what is popularly known as "stress eating." This phenomenon can be observed, for example, in people who are quitting smoking and no longer experiencing either the subjective calming or the appetite suppression caused by nicotine. One subtype of Major Depressive Disorder, known as "atypical depression," involves weight and appetite gain, along with other less common symptoms, such as increased sleep. Another subtype follows a seasonal pattern where sufferers are prone to depression during the winter months. A common feature of this Seasonal Affective Disorder is weight and appetite gain, driven especially by powerful cravings for carbohydrates.

DSM-5 also includes a chapter on specific "Feeding and Eating Disorders." The most widely studied eating disorder is *Anorexia Nervosa*, characterized by marked restriction of caloric intake resulting in strikingly low body weight. *Bulimia Nervosa*, meanwhile, involves a pattern of recurrent episodes of binge eating in combination with recurrent compensatory behaviors, such as purging or use of diuretics. A more recent inclusion in the diagnostic system is ***Binge Eating Disorder***, characterized by consumption of a vast amount of food in a discrete period of time. Up to 4% of Canadian women report an eating disorder.[4] Although men generally face pressure to increase musculature, eating disorder symptoms are observed in some men. There is evidence that these rates, especially among youth, are steadily increasing.[5]

4. Langlois et al. 2012.

5. Vyver & Katzman 2021.

FOCUS ON FEEDING AND EATING DISORDERS

> "Convinced that any extra weight would slow her down, and hearing coaches make offhand remarks about whether she had gotten bigger, Ruck began to fixate…
>
> Out with her teammates that evening, Ruck later ducked into a nearby cafe and forced herself to throw up the meal, telling no one. Purging had become as much a part of her routine as 7:30 a.m. laps in the pool."—*Canadian Athlete Taylor Ruck*[6]

Description and Symptoms

Anorexia nervosa. The North American obsession with thinness as an ideal of beauty grew steadily over the 20th century, but came to public attention in the 1980s as several celebrities died from anorexia nervosa–related complications. Others, such as Princess Diana, began to talk openly about their struggles with food and its relation to their self-identity. Anorexia nervosa is a serious disorder associated with a high mortality rate if left untreated. Indeed, death rates are about ten times higher for people with anorexia nervosa compared to the general population.[7] This disorder is considered "visible," in that we can often see when a person has abnormally low body weight. Other tell-tale signs include the appearance of fine downy hair on the body (Lanugo hair), loss of tooth enamel, and fidgeting. Subjective experiences of people with anorexia nervosa include intense fear of gaining weight, distorted body image, and difficulty understanding the consequences of the problem. Although some impacts such as gastric complications are reversible, physical features such as low bone density may remain.

6. Robertson & Brady 2021.
7. Attia 2010.

"And when I feel lonely, my heart feels hungry and I end up bingeing"

—Demi Lovato, "Simply Complicated," 2017

Bulimia nervosa. In contrast to anorexia nervosa, bulimia nervosa is an "invisible disorder," as those who suffer from it are often normal weight, or even overweight. A person struggling with this disorder may thus be able to keep their overwhelming hunger a secret for a very long time. An individual with bulimia nervosa will experience repeated episodes of binge eating, especially of highly palatable (e.g., ready to consume, high calories) and easy to purge (soft texture, mild flavour) foods, such as pizza, ice cream, or donuts. These episodes are not like the overeating you may have occasionally indulged in at a holiday or celebration with good, plentiful food. Rather, a binge averages 3,400 calories—and up to 10,000 calories—in a single episode, along with a subjective sense of little or no control during these times. The sufferers then engage in various activities to counteract the feared weight gain, including: self-induced vomiting; misuse of laxatives, diuretics, or other medications; or excessive exercise. Over time, a person with bulimia nervosa may experience serious physical complications.[8] Some may find it more difficult to convince their body to purge, further worsening mood.

Binge eating disorder. Binge eating disorder has received much less research attention, as it is a relatively new addition to the diagnostic system. As in bulimia nervosa, people with binge eating disorder will regularly eat large amounts of food in a short period of time. Unlike bulimia nervosa, however, they do not engage in compensatory behaviors. Moreover, people with binge eating disorder are likely to eat for reasons other than hunger, such as coping with stress or loneliness, and find this behaviour

8. Mehler, Krantz & Sachs 2015.

to be significantly distressing. Subjectively, they report low self-esteem, even self-hatred, as a consequence of the binges; they often report feelings of repressed anger and depressive symptoms.[9] Although people with binge eating disorder are often overweight or obese, some may have a body weight within the normal range. Now that this disorder has been admitted into the DSM and formally defined, we should expect to see more research on it in the future.

Causes and Contexts

Culture and society. In the 1980s and 90s, anorexia nervosa was thought to be a disorder of young, white, upper class, Western women. This is no longer the case. As industrialization and globalization increase the reach of the internalization of Western beauty ideals through media, including social media, so too does the prevalence of eating disorders increase around the world. For example, in the mid-1990s, after television was introduced to the island of Fiji, eating disorders that were previously unheard of escalated dramatically.[10] Anorexia nervosa and bulimia nervosa were previously thought to be infrequent in China, but this may have been because many Chinese eating disorder sufferers lacked the "fear of fat" required for a DSM diagnosis. Moreover, there is evidence from Hong Kong that greater cultural familiarity with Western concepts of eating disorders has actually shifted the symptom presentation of these disorders, closer to Western norms.[11] Eating disorders are especially common in social subgroups where body image is particularly important, such as models or dancers. Bulimia nervosa in particular seems to affect ethnoracial minority women in North America.

9. Telch & Agras 1996.
10. Becker 2002.
11. Wu et al. 2020.

Mind and behavior. People suffering from eating disorders are likely to have distorted thoughts, especially about their body but also regarding their self-esteem and relationships with others. Some research suggests that individuals with eating disorders may have difficulty being aware of their own bodily sensations (like being hungry or satiated). Childhood trauma and mood difficulties, including with depression and anxiety, are also linked with eating disorders. Anorexia nervosa stands out as having a particularly strong association with obsessional self-control,[12] with sufferers reporting that they experience a feeling of reward in their ability to exert control to override their hunger instinct and "successfully" limit their eating. People with bulimia nervosa may be more prone to act impulsively and they may also be more likely to prefer novelty and stimulation.[13] They may be particularly prone to being people pleasers and may feel an averse reaction to negative social interactions, which may even trigger a binge. People with binge eating disorder may find that they use food to avoid, cope with, or "numb out" negative emotions.

Brain and genetics. A child who restrains their eating is more likely to have a mother with anorexia nervosa, or a family with high expectations for their child or one that emphasizes the importance of weight.[14] Genetic studies suggest that inheritance plays a role in eating disorders and that chemical messengers in the brain (neurotransmitters)—such as serotonin and dopamine, responsible for regulated mood and feelings of well-being—are implicated. In many cases, stress may trigger a desire to eat an abundance of food containing carbohydrates, which help the brain to create and release serotonin, in an effort to calm the body down. Unfortunately, in both bulimia nervosa and binge eating disorder, the brain and body simply do not register the

12. Bardone-Cone 2007.

13. Atiye et al. 2015.

14. Polivy & Herman 2002.

chemical message that the body is now satiated. Some studies have even shown that foods high in carbohydrates and sugar present the brain with such a powerful reward that it overrides the body's signals of being full and even of the associated pain. Indeed, foods high in sugar trigger the same reward hormone (dopamine) in the same brain pathway associated with addiction to narcotics.[15]

TREATMENT INTERVENTIONS

Antidepressant medication is often incorporated into eating disorder treatment, as mood (depression/anxiety) and eating problems are often co-occurring. Appetite and weight symptoms in mood disorders respond to anti-depressants but prescribers need to be careful: many of these medications have weight gain as a side effect,[16] although some of them instead can lead to nausea and weight loss. Anorexia nervosa, in particular, can demand quite radical interventions because it is potentially life-threatening. The most immediate goal of treatment is to introduce food incrementally, safely increasing weight to an acceptable level. In some cases, such treatment (food) may need to be given involuntarily.

Psychological approaches to anxiety, depression, and eating disorders often include interventions grounded in **cognitive behavioural therapy** (CBT). For people with eating disorders, the aim is to help develop normal eating patterns; a similar goal can be seen in CBT for anxiety or depression when applied to weight and appetite symptoms. Eating journals may be employed as a technique to keep track of moods and to connect various emotional states to eating. CBT can also be used to bring attention to internal processes—such as stress, sadness, or anger—and to

15. Frank et al. 2021.

16. Fava 2000.

exchange unhealthy coping mechanisms with healthy coping (e.g., exchanging binge eating for breathing exercises). Exercise may also be utilized to improve mood and increase bodily awareness. For bulimia nervosa, the core of this approach is a focus on dismantling unhealthy beliefs about the self and the body. Individuals who binge may learn to override the impulse both to continue eating after eating a 'forbidden' food and also to purge in response. People who previously binged on pre-packaged foods may learn to cook and prepare foods carefully, thereby re-establishing a new relationship with food.

The sociocultural context should also be considered when discussing treatment. In many cultural contexts, food is an essential part of maintaining or recovering good health. In Traditional Chinese Medicine, various conditions—which can include mood or appetite symptoms—are understood as deficits of hot and cold, wet and dry.[17] Specific foods are then prescribed to help correct any imbalances. In Ayurvedic Medicine, disorders might arise through a person eating foods that are not compatible with one's body type; treatment would then correct this.[18] In any case, clinicians working with eating disorder patients should not assume that these patients inhabit a cultural world similar to the clinicians themselves. Culturally sensitive treatment involves finding out about the patient's own beliefs about food, weight, and health, as well as beliefs commonly held in the patient's community. There are also direct interventions at a societal level, although these are most often implemented by public health officials and policy-makers, rather than psychiatrists or psychologists. For example, some magazines have introduced a diversity of models into their fashion pages,[19] thereby attempting to widen the definition of beauty, to include a variety of body shapes. Psy-

17. Flaws & Sionneau 2001

18. Buhrman 1996.

19. Singer 2021.

chological interventions can also help young people to increase their self-esteem and body image satisfaction.[20]

REFLECTIONS

Food and eating can be understood as biological necessities grounded in evolution, as deeply shaped by sociocultural context, and as varying across individual people depending on their temperament, family of origin, social network, and so on. Disordered eating can be understood in a similar manner. Dividing our overall story into sections—on culture and society, on mind and behaviour, on brain and genetics—makes it easier to tell.

This chapter began by considering both North American but also cross-cultural metaphors and analogies linking food and eating with expressions of longing, of pain, and of care for another. We see that human relationships with food and eating are deep and universal. These relationships bring such pleasure, joy, and facilitate connection but when they go wrong, can also be a signal that it is time to pay attention to the confluence of mind, body, and culture where suffering and healing are both possible.

> If you or someone you know needs help with an eating disorder, please visit the National Eating Disorder Information Center (NEDIC) for information and to find links for local resources.

20. Le et al. 2017.

Discussion Questions

- What are some of the common impacts of emotional stress on eating habits?
- What are the key characteristics of each of the three main eating disorders described in this chapter?
- This chapter identifies three intertwined causes/contexts of disordered eating: culture and society, mind and behaviour, and brain and genetics. How are each of these contexts/causes distinct? How are they related?
- How might an understanding of the intersection of the sociocultural, physiological, and psychological dimensions of disordered eating contribute to an integrative approach to treatment?

Exercise

Consider the following synthesis of a case study in disordered eating:

A girl in her late teens, a competitive dancer, has recently moved to Canada from abroad. She has an evolved biological tendency to seek out food and eat it when hungry; but she also has evolved biological tendencies to seek the company of others, fit in reasonably well with them, use high-status people as models for behaviour, and so on. At her new dance school, she is among the heavier dancers—and the high-status dancers are particularly thin. Unlike in her home country, she now frequently sees unusually skinny

models on billboards and in magazines. Just as frequently, she finds many more opportunities to eat food high in sugar and calories. Her dance teacher criticizes her weight; the teacher also criticizes several other students in a similar way, but this girl already has a family history of parental criticism and a temperament that is unusually likely to respond badly to such criticism.

She starts to restrict her food intake, her classmates give her some positive reinforcement for it, the teacher is still critical but starts easing up a little. But she finds it hard to resist junk food, the sugar is so readily available and helps her deal with her stress. Then she regrets it and starts to purge. The more she purges, the more she starts to like the flood of endorphins and the feeling of relief that comes. But she needs to hide her purging, so as not to alarm her parents; her parents might be critical, but mostly about school performance rather than weight, as she is normal weight where they come from. Indeed, she is normal weight outside the dance context, except that her slimmer frame is now attracting some positive feedback from her regular classmates, outside of dance. Acceptance by some of these classmates helps her feel a bit less foreign, but they also want to go out for fast food. She starts to contemplate increasing her exercise routine. A cycle of disordered eating is now well underway. And we would be hard pressed to describe what is happening as strictly biological, psychological, or sociocultural—or even where, precisely, one ends and the other begins.

Consider the etiology (causes of) of the teenage dancer's eating disorder and describe how this might lead you towards different interventions. What interventions might follow from culture, mind or brain perspectives? Given that culture, mind, and brain are intertwined, how might your proposed interventions be integrated?[21]

21. A possible response to the question above: A pharmaceutical intervention might introduce chemical alterations that include boosting her tolerance of criticism. A psychotherapeutic intervention might help her to think through ways of navigating her still-new social world, helping her to make better

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choices about how best to balance food, exercise, dance, and social approval. A social intervention might involve rethinking the easy availability of fast food in her school, or the posters on the wall at her dance studio. Importantly, the effects of any of these interventions can eventually have an impact on culture, mind, and brain. The key is to find a place in the situation where it is relatively easy to intervene, and to do so effectively. Indeed, in mild-to-moderate depression, change in diet (along with sleep and exercise) is one of the simplest ways to intervene early in a course of treatment. If we can understand disorders as vicious cycles that play out across the complex system of culture, mind, and brain, so too can we understand treatments as attempts to intervene within that system. In effect, treatment interventions represent different ways of attempting to interrupt the system, turning vicious cycles into virtuous ones.

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ANNE F. MACLENNAN AND IRENA KNEZEVIC

ADVERTISING FOOD FOR HEALTH AND HAPPINESS: BOVRIL TO SUPERFOOD

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify some advertising strategies used to promote commercial food products.
- Describe historical precursors of "superfood" advertising.
- Articulate links between food, health, and advertising.

INTRODUCTION

Many cultures have versions of the sayings, "you are what you eat," "a hungry person is an angry person," and "let food be thy medicine." Food, health, and well-being are inextricably linked, and **advertising** has long capitalized on this.[1] **Promotional mes-**

1. Due to the parallel development of print technologies and expansion of colonial trade in the 17th century, the earliest food ads featured imported spices and other non-perishable goods, and livestock auctions were frequently promoted in print as early as the 1600s. The imported goods were sometimes unfamiliar to the readers, and the ads had to convince the readers of the bene-

sages that describe food products as linked to diets, low in undesirable ingredients like added sugars, or high in desirable ones like fiber, always imply that such products improve health. While those qualities can be beneficial to human health, their impact is sometimes exaggerated as a magical solution to the pursuit of health and well-being.

In much of the world, the average person is exposed to thousands of advertisements every day. People receive information from advertising, alongside nutritional advice from news media, social media feeds, science reporting, and public health messaging. Competing interests, evolving nutritional science, and cultural trends shape the abundance and the complexity of available food information. That information is now made widely accessible with new media technologies, which have also enabled anyone—not just recognized experts—to offer opinions and recommendations to tell consumers how to choose their food. This—rather than making us more knowledgeable about nutrition—leaves us sifting through conflicting and confusing messages looking for shortcuts to wise food choices. We want simple, magical solutions to health and well-being. This desire is bolstered by promotional messages that highlight individual responsibility for personal health. Health and nutrition are often portrayed as individual choices, encouraging those practices that are deemed healthy as moral imperatives. Even for people who have little choice—for economic, mobility, geographical or other reasons—this view imposes a cultural norm of individual responsibility for managing diet and appearing healthy. Food products that promise to aid in **dietary management** benefit from this cultural norm.

fits of such foods, so even early food ads suggested these foods would support health, strength, and well-being.

THE BOVRIL EXAMPLE

In 1871, butcher and amateur food scientist John Lawson Johnston acquired the contract to supply canned meat to Paris after the Franco-Prussian War. Commercial production of his meat-extract paste commenced in Montreal in 1874.[2] The product was soon available widely and continues be sold to this day. The international promotion of Bovril in the early twentieth century offers a fascinating glimpse into the historical trajectory of food advertising that promises "health, strength, and happiness." Bovril advertising evolved, but the core message has remained consistent—this food product offers an easy, convenient path to well-being through consumption.

We have been collecting and analysing Bovril advertisements for more than a decade. The product's century-and-a-half long existence has generated hundreds of advertisements; many from the early 20th century are widely available in physical and digital archives.

A more focused sample from 1930 to 1940 was collected from major Canadian newspapers,[3] where a keyword for Bovril produced a sample of unique 288 advertisements. The decade of the **Great Depression** was a time of post–World War I recovery and unstable global politics that would eventually lead to World War II. It was also a decade of food precarity that made a meat substitute like Bovril more significant. Moreover, the early 1900s are considered the golden age of advertising, when transportation and printing technologies speedily evolved, and industrialization allowed for large-scale production and expansion of markets outside of manufacturers' local communities. However,

2. "Great British Brands" 2002.

3. Winnipeg Tribune, Montreal Gazette, Vancouver Province, Windsor Star, Calgary Herald, Saskatoon Star-Phoenix, Victoria Times Colonist, Ottawa Citizen, and Globe/Globe & Mail.

by the mid-1920s in North America, print media suddenly had to compete with radio for advertising revenue, and in response, print ads became increasingly catchy, intricate, and colourful. The archives from the decades that followed offer an abundance of diverse and clever print ads.

HEALTH AND STRENGTH

A close reading of the advertisements revealed that science, medicine, and health figured heavily in the campaigns. In the advertisement, "Yes, Doctor – Bovril is just what he needed" (Figure 1), a nurse is on the telephone. Bovril sits outside of the frame of her photograph, connecting it to the nurse and her report to the doctor. The advertisement's claim that "Bovril Gives Strength Quickly" is expanded, indicating its "unique power of enabling convalescents to get more nourishment from other foods."[4] Bovril's Human Document campaign offered testimonials attesting how Bovril improved customers' health. "Bovril helped me save my Boy" (Figure 2) chronicled a Montreal mother's story about her worries after her son's surgery, proclaiming "I would…shout to everyone 'try Bovril, when everything else fails, Bovril won't…'"[5] The campaign, with its numbered "document" entries, implied research-based evidence of Bovril's success. This was at a time when scientific innovations, acceptance of germs, and the ability of people to influence their own health through practices like exercise, diet, anti-spitting laws, and initiatives other than prayer became important. Montreal, Canada's largest city in the 1930s, was second only to Mumbai in tuberculous infections in the 1920s and 1930s.[6] Public health campaigns of the time worked to change traditional practices of sanitation and

4. Bovril. "Yes, Doctor – Bovril is just what he needed." 1933

5. Bovril. "Bovril helped me save my Boy." 1937.

6. Copp 1974; MacLennan 1984; McCuaig 1979; Tetreault 1983.

health.[7] In Canada, 1926 to 1930 infant mortality rates averaged 93 per 1000 live births, 75 from 1931 to 1935, and 64 from 1936 to 1940, making the health of surviving children a pressing concern.[8] Pablum, a prepackaged, vitamin-enriched cereal for children developed by Toronto's Hospital for Sick Children, is an example of a dietary innovation used to strengthen the body during an era when other remedies failed to safeguard children against polio, Scarlett fever, tuberculosis, measles, rickets, and other diseases.

***Figure 1**: Bovril gives strength quickly*

***Figure 2**: Bovril helped me save my Boy*

***Figure 3**: Children need Bovril*

***Figure 4**: Why children need Bovril*

Echoing the concerns about childhood health, the campaign "Why Children Need Bovril" (Figures 3 and 4) featured toddlers and older children. It promoted Bovril's "body-building powers" and encouraged parents to mix Bovril into milk and add it to their children's daily diets.[9] The promotion of the body-building characteristics of the product extended to adults emphasizing "remarkable experiments upon human subjects" and the "astonishing body-building power of Bovril proved by

7. Poutanen et al. 2009; Adams et al. 2008.
8. Statistics Canada.
9. Bovril. "Why Children Need Bovril." 1935; Bovril. "Why Children Need Bovril." 1931.

famous Physiologist."[10] The appeal to scientific research and medical authority in text was paralleled by visuals. "Realize the difference made by one spoonful of Bovril" (Figure 5) incorporated an image of Bovril being poured into a spoon like medicine.[11] While no medical claims were made in the advertisement, the daily use of Bovril was promoted. "It must be Bovril" (Figure 6) became the catchphrase of a Bovril campaign, reportedly quoting Sir Ernest Shackleton preparing for his Antarctic Expedition. Bovril was described as essential for homes and sickrooms attended by doctors and nurses.[12] The association with strength and health extended well into the 1970s with testimonial advertising from mountaineers[13] and elite athletes.[14] Health remained a constant element in the campaigns. While the imagery and text changed to reflect the sensibilities of each decade, Bovril advertising repeatedly featured notions of health, medicine, and science, over several decades.

10. Bovril. "Bovril stands alone". 1920.
11. Bovril. "Realize the difference made by one spoonful of Bovril." 1931.
12. Bovril. "When Illness Threatens." 1930.
13. Bovril. British television advertisement featuring Chris Bonington, who climbed Mount Everest. https://www.youtube.com/watch?v=LH3PHL6vTJw.
14. Bovril. British television advertisement featuring Wendy Brook, fastest swimmer to cross the English Channel. https://www.youtube.com/watch?v=u40ZhrZPOoU

***Figure 5**: One spoonful of Bovril*

***Figure 6**: It must be Bovril*

MAGIC AND TRANSFORMATION

Magical, physical, and mental transformation was always a strong component of Bovril campaigns.[15] Canadian 1930s advertising portrayed Bovril as a comforting, hot drink, especially in the winter. The power of beef in the formula was credited with great feats of strength, such as the man in office attire holding an elephant above his head (Figure 7).[16] Advertising the power and stimulating taste of Bovril was crucial in a period when regular access to protein through meat was precarious. Concentrated beef was a key selling point in the advertisements, and the bull, a symbol of strength and authority (Figure 8), was a reminder of

15. Williams 1960.

16. Bovril. "They Must Have Been Giving Him Bovril." 1940.

this ingredient and what it promised to deliver.[17] Avoiding the chills and ills of winter were routinely part of the advertising, whether it featured a sick or injured person, or outside gatherings. Further, meat was expensive and at the same time considered a necessity for nourishment and strength.[18]

***Figure 7**: They must have been giving him Bovril*

***Figure 8**: Enjoy the strength of Bovril*

In the advertisement "Keep warmer with Hot Bovril" (Figure 9) the association with the heroic continued, with two men rescuing another man, who had fallen through ice, by offering him a hot cup of Bovril rather than pulling him from the icy water.[19] The magical qualities were reinforced with the image of a large cut of prime beef hovering over the tiny bottle of Bovril to show all the "concentrated savoury goodness of the best there is in Prime Beef" (Figure 10) packed into the small bottle.[20]

17. Bovril. "Enjoy the stimulating taste of Bovril nourishing concentrated beef." 1938.
18. Steinitz 2014.
19. Bovril. "Keep warmer with Hot Bovril." 1930.
20. Bovril. "Prime Beef is tempting, tasty, and nourishing." 1938.

***Figure 9**: Keep warmer with Hot Bovril*

***Figure 10**: Bovril is Tempting, Tasty, and Nourishing*

T.J. Jackson Lears, a cultural historian, argues that **industrialization** ushered neurasthenia, a type of depression associated with changes wrought by the modern working world.[21] Bovril captured that early-20th-century concern for mental health and well-being in its "Bovril Prevents that Sinking Feeling" campaign, and in advertisements such as "…but men and women are not machines… Every Body Needs the Strength of Bovril" (Figure 11).[22] Bovril's advertisements illustrated the constant work, including women's unending work (Figure 12), and the euphemistic visualization of sinking represented by a man clinging to a buoy at sea. Along with advertisements demonstrating

21. Lears 1981.

22. Bovril. "Men and Women are Not Machines" 1940; Bovril. "Why Bovril Prevents that Sinking Feeling." 1931; Bovril. "A woman's work is never done." 1933.

physical strength to ward off physical illness, these showed how Bovril could make life brighter, as a cure and remedy, but also as a daily treat. It was promoted as an ingredient in soups and stews, mixed with milk, or as a sandwich spread (Figure 13).[23] Health, well-being, and Bovril were linked as a daily routine.

***Figure 11**: Men and women are not machines*

***Figure 12**: A woman's work is never done*

***Figure 13**: Bovril sandwiches*

DISCUSSION, IMPLICATIONS, AND CONCLUSION

Advertising equates the purchase of food with a sense well-being and overall good health. Recent promotions of "**superfoods**" are examples of promotions that echo the tone of early Bovril advertising. In recent years, many foods like acai berries products, green tea, and fermented milk, like kefir and "probiotic yogurt," have been touted as superfoods that can instantly improve health and extend lifespan. In 2021, OSU, owned by Mizkan in Japan, launched a campaign to promote its apple cider vinegar in the U.K. market. It cast three stylish **nonagenarians** from Tokyo to convey vitality and health.[24] The eter-

23. Bovril. "Tempting and Tasty Bovril Sandwiches are so delightfully different." 1932.

24. Kiefer 2021.

nal quest for health and happiness continues to feature prominently in advertising.

Social theorists have long identified the link between dietetic management and capitalism. Bryan Turner[25] proposed that dietetic management of one's body stemmed from two key characteristics of capitalism: (a) the privileging of Western science and medicine, and (b) the need for functioning, labouring bodies to participate in industrial commodity production. Mike Featherstone[26] expanded on this to include another tenet of capitalism—individualism. The emphasis on individual freedoms and responsibilities has made "**body maintenance**" both an individual responsibility and a requirement for economic participation. Together, these values have rendered dietetic management a pillar of being a good citizen.

The resulting cultural pressure on individuals to pursue "good" diets makes promises of easy solutions to healthy eating particularly appealing. Bovril's longevity on the market suggests that their messaging has resonated with consumers, serving as a historical example of successful food advertising.

Contemporary advertising for various "superfoods" is but a continuation of promotional messaging that offers shortcuts to dietetic management. Bovril's 1930s advertisements may seem laughable now, but a closer reading reveals that they were also trailblazing.

Discussion Questions

25. Turner 1982.

26. Featherstone 1982.

- How do current advertising campaigns convince consumers that their foods make them healthy and happy?
- What advertising messages have prompted you to buy a food product to improve your health?
- What do historical examples of food advertising tell us about the evolving understandings of health and nutrition?

Additional Resources

Readers can find numerous Bovril print and television ads with a simple internet search. Bovril even has its own Wikipedia page!

Product information about Bovril is available on the manufacturer's website.

John Lawson Johnston's papers are held by the City of Edinburgh Council Archives.

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JANET COLSON

BREAST MILK: THE PAST, PRESENT, AND FUTURE

Janet Colson's interest and experience in breastfeeding began during her work with the Supplemental Nutrition Program for Women Infants and Children (WIC) in rural Mississippi. After five years of teaching new mothers how to feed their babies with WIC, she transitioned to university teaching. Currently, she is a professor at Middle Tennessee State University, where she teaches life cycle nutrition classes.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Trace the history of infant feeding practices over the last three centuries.
- Explain the importance of human milk for infant survival.
- Differentiate between cross-nursing, wet-nursing, and milk-sharing.
- Identify the pros and cons of pasteurizing human milk.

INTRODUCTION

Shortly after my father's birth in 1918, his mother developed the Spanish flu, requiring her to be hospitalized for several weeks. During my grandmother's absence, a neighbor cared for my father, who was less than a month old at the time. The neighbor fed him from her own breasts, a practice known as **wet-nursing**.

A century later, the global COVID pandemic had a similar effect on newborns. Today, because wet-nursing is taboo in most countries, mothers too ill to nurse have the option to purchase another woman's breast milk. Human milk is available to buy from accredited **milk banks** or from enterprising women selling their milk for extra income. Some lucky parents may have a friend or relative willing to supply breast milk free of charge, a practice known as **milk sharing**. According to public health officials, mothers unable to nurse should only use another woman's milk that has been pasteurized, similar to the milk sold in grocery stores.[1] This type milk is known as **pasteurized human donor milk**.

How did we, as a global community, transition from a birth mother nursing from her own breasts, to outsourcing infant

1. CCD 2020

feeding to paid wet nurses, to having a market for pasteurized human milk? We can trace the history to at least 1000 BC.

MILK FOR HUMAN INFANTS

Human breast milk has always been the gold standard for feeding infants. Humanity would not exist today had our ancestral mothers refused to nurse. Perhaps one of the earliest written records of nursing is found in Exodus from the Old Testament bible. The author describes how Moses' mother hides him in a basket to prevent his execution and a princess finds the young infant and decides to adopt him. Realizing that he will need a wet nurse, Moses' big sister tells the princess that her mother is willing to nurse the babe.[2] Not knowing that the woman is Moses' actual birth mother, the princess pays her to serve as his wet nurse.

Although not common, hiring a wet nurse is still an option for today's parents, but there are several other methods. As shown in Table I, the World Health Organization (WHO) recommends human milk, fed directly from the natural mother's breasts, as the best method.[3] If an infant is too weak to nurse from the birth mother's breasts, the woman should pump and feed her milk through a bottle or other feeding device. If the birth mother cannot produce enough milk to meet the needs of her infant, use of pasteurized human milk from an accredited donor milk bank ranks third. Fourth in this ranking is the use of a wet-nurse. Because it is not socially accepted in all cultures, WHO clarifies their stance: "Wet-nursing may be an option depending on acceptability to mothers and families, availability of wet nurses, and services to support mothers and wet nurses."[4] **Commercial**

2. Exodus 2:1-9.
3. WHO 2021.
4. WHO 2021.

infant formula is the least favorable method of infant feeding and should only be used if other methods are not feasible.

Table 1: The World Health Organization's hierarchy for infant feeding

Rank	Type of Milk and Feeding Method
First	Human milk fed directly from the birth mother's breast
Second	Human milk pumped from the birth mother and fed through a bottle or other feeding device
Third	Pasteurized human milk from an accredited donor bank
Fourth	Wet-nurse if acceptable to mother and family
Last	Commercial infant formula

(source: World Health Organization[5]*)*

Most commercial formulas are made from cow's milk—with vitamins and minerals added to make it resemble human milk—or from soy protein formulated in a similar way. In 1981, after WHO's concern about the global decrease in breastfeeding, the organization published the "International Code of Marketing Breast-Milk Substitutes."[6] Their aim was "to contribute to the provision of safe and adequate nutrition for infants, by the protection and promotion of breast-feeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary."[7] The same year, the **Codex Alimentarius** established regulations specifying the minimum content of 29 nutrients in infant formula.[8] The regulations have been updated several times to coincide with advances in research on nutrient needs of infants. The Codex requires that infant formula labels include a state-

5. WHO 2021.
6. WHO 1981.
7. WHO 1981.
8. FAO 2007.

ment describing the superiority of breastfeeding such as "Breast milk is the best food for your baby."[9]

INFANT FEEDING AND GROWTH DURING THE EARLY MONTHS

Ideally, breast milk should be the only source of food given to infants for the first six months of life, with continued breastfeeding as the baby begins eating cereals and other solid foods. The American Academy of Pediatrics[10] recommends breastfeeding until age one and beyond, whereas WHO[11] and the Canadian Pediatric Society[12] both recommend continuation to two years of agin and beyond. Some mothers define "beyond" as five or six years, a practice criticized by mainstream parents, but acceptable to less traditional parents.

Human milk has the perfect nutrient content for optimal infant growth. Table 2 includes a few of the nutrients found in various mammalian milks. Human milk is much lower in protein and minerals than milk from other mammals, which is the ideal amount needed for a human baby's growth pattern. Humans grow much more slowly than other mammals, gaining about one ounce per day in the first few months of life, whereas calves add an extra two to three pounds a day, topping out at 500 to 800 pounds by twelve months. A healthy human infant may weigh a mere twenty-one or twenty-two pounds by their first birthday.

Table 2: Comparison of nutrients in mammalian milks per 100 grams

9. FAO 2007.
10. CDC 2020.
11. WHO 2021.
12. Critch 2014.

Nutrient	Human Milk	Cow Milk	Goat Milk	Buffalo Milk
Energy (kcal)	70	64	69	97
Protein (g)	1.03	3.28	3.5	3.75
Fat (g)	4.38	3.36	4.14	6.8
Carbohydrate (g)	6.89	4.65	4.45	5.15
Calcium (mg)	32	119	134	169
Phosphorus (mg)	14	93	111	117
Sodium (mg)	17	49	50	52
Vitamin C (mg)	5	1.5	1.3	2.3

(source: USDA Food Data Central[13]*)*

Background on Preterm Babies

Weight and gestational age at birth reflect the health status and survival rate of newborns. Infants born at or after 38 weeks of gestation are considered full term; those born earlier are preterm. Birth weights vary by stage of gestation, as noted in Table 3.[14] Based on 2019 U.S. data, slightly less than two percent of infants are born at very low birth weight (less than 1,500 grams). These very small preemies frequently do not survive. Eight percent are low birthweight, weighing less than 2,500 grams.[15] Those weighing at least 3,000 grams are the healthiest, with few complications.

Table 3: Typical infant birthweight by gestational age of infants

13. USDA 2019.
14. Utah Dept. of Health 2021
15. Martin 2021.

Birthweight Category	Birthweight (g [lbs.])	Gestational age (wks.)	
Very low birthweight	1000 (2.2)	28	(pre-term)
	1500 (3.3)	31	
Low birthweight	2000 (4.4)	33	
	2500 (5.5)	35	
Average birthweight	3000 (6.6)	38	(term)
	3500 (7.7)	40	
	3700 (8.2)	42	

(Adapted from the Utah Department of Health Fetal Growth Chart[16]*)*

Until neonatal intensive care units (NICUs) became common in the 1970s, preemies weighing 1,500 grams or less had a very low chance of surviving. Today, necrotizing enterocolitis (NEC) is a life-threatening intestinal condition occurring in about 10% of these very small infants. The condition, characterized by intestinal inflammation and perforations, often results in death.[17] Neonatologists recognize that giving these babies infant formula worsens NEC; survival is much greater if infants are fed human milk. However, many women who deliver prematurely are unable to produce an adequate amount of milk. Survival of these infants improves when given pasteurized human donor milk.

NUTRITIONAL NEEDS OF YOUNG INFANTS

Infants' bodies are unable to digest and metabolize the high amounts of protein, calcium, phosphorus, and sodium in milk from cows and other large mammals. Commercial infant formula mimics the low protein and mineral content of human milk. Before the availability of commercial infant formula, infants given cow's or goat's milk developed severe diarrhea and

16. Utah Dept. of Health 2021.
17. Quigley 2014.

eventually died due the damage it caused in their immature bodies. Today's infants should not be given cow's milk until at least age one because of this high protein and mineral content.

A woman's breast milk fulfills her own baby's nutritional needs, not those of a baby who is older or younger than the child she birthed. Nutrients in breast milk vary by the age and needs of a woman's biological child, not for the infant of a friend, family member, or complete stranger.

Health Benefits of Human Milk

In addition to the ideal balance of nutrients, human milk is often called "liquid gold" because of the numerous bioactive substances such as hormones, immunoglobulins, probiotics, prebiotics, and oligosaccharides it contains. In addition to the immunoglobulins that are absorbed by the gastrointestinal tract, current research shows the high levels of oligosaccharides contain anti-adhesive properties that may decrease absorption of viruses and bacteria, thereby reducing infections.[18] Even though formula manufacturers claim their products are "closest to mother's milk" by trying to replicate the nutrient and bioactive ingredients, they will never be able to replicate nature's nutriment.

METHODS OF FEEDING HUMAN MILK

Although wet-nursing is rare in developed countries, the practice was common from prehistoric time until the early 1900s, when widespread use of infant formula became the norm. In fact, it was the only way to keep infants alive. Throughout history, wealthy families sent their newborns to live with a wet nurse until the child could drink from a cup and eat regular foods. Even poor

18. Moore et al. 2021.

families turned to wet nurses if the mother died at birth or was too ill to care for her own infant.[19]

Hormonal changes that occur at the delivery of a newborn stimulate milk production in a woman's breasts. Nutrients are highest in milk produced for the first few months, when infants are growing rapidly, and decrease substantially after six months. Therefore, the ideal wet nurse is one who has recently given birth, when her milk is at its prime. During the 18th and 19th centuries, slave owners throughout the Americas often forced enslaved women who had recently given birth to nurse their wives' newborns, instead of allowing the slaves to nurse their own infants. This practice often resulted in death of the enslaved infants, who were given cow's milk or dirty water. [20]

After abolition and slaves were set free, poor women took over as wet nurses for the wealthy. It became a well-organized profession, with doctors often helping wealthy new mothers hire a suitable wet nurse. Because a nursing woman needed to have recently given birth, the woman's biological infant often suffered because she gave preference to the the paying infant, similar to the fate of enslaved infants.

Today, nursing another woman's infant is still practiced, although not broadly publicized. Mothers may join an informal nursing co-op and nurse each other's children, a practice known as **cross-nursing**. A quick internet search will show the top websites for promoting wet-nurse services, and also for buying and selling expressed milk. *Only the Breast*[21] and *Breast Feeding Moms*

19. Baumgartel et al. 2016.

20. Slavery Facts 2019.

21. Only the Breast 2021.

Unite[22] are two top sites. Of the 3,500 postings on *Only the Breast*, 17 are for wet nurses.

Chestfeeding

"Chestfeeding" is term and practice that has emerged among people who choose to feed their babies from their chest, but who do not identify with the term *breastfeeding* for one of a number of reasons. Trans men who have undergone surgery to remove most of their breast tissue ("chest masculinization" or "top" surgery) as well as cis-gender women who have have experienced breast-related trauma often prefer this term. Similarly, a non-binary person may choose not to use the term breastfeeding, given the female-gendered association it carries. If a trans man chooses to retain their uterus and ovaries, pregnancy is possible, and lactation is often possible after delivery. Alternately, some trans women may want to feed an adopted baby, in which case hormone therapy with nipple stimulation can make lactation possible.

Breast Pumps and Expressed Milk

Breast pumps have been around for about 200 years. The earliest ones consisted of a syringe connected to a glass bowl.[23] These early pumps were painful and not efficient in suctioning milk, unlike the double electric pumps available today that work on both breasts simultaneously. (See Figure 1.) In the U.S., the Patient Protection and Affordable Care Act of 2010 requires insurance companies to provide a pump for breastfeeding parents and specifies that employers allow time for women to pump during the workday.[24] The U.S. does not require employers to give paid maternity leave like most other developed countries,

22. Breastfeeding Moms Unite 2021.

23. Bologna 2020.

24. Kapinos et al. 2017.

resulting in many women returning to work a few weeks after birth. Providing a pump encourages continued breastfeeding throughout the first year.

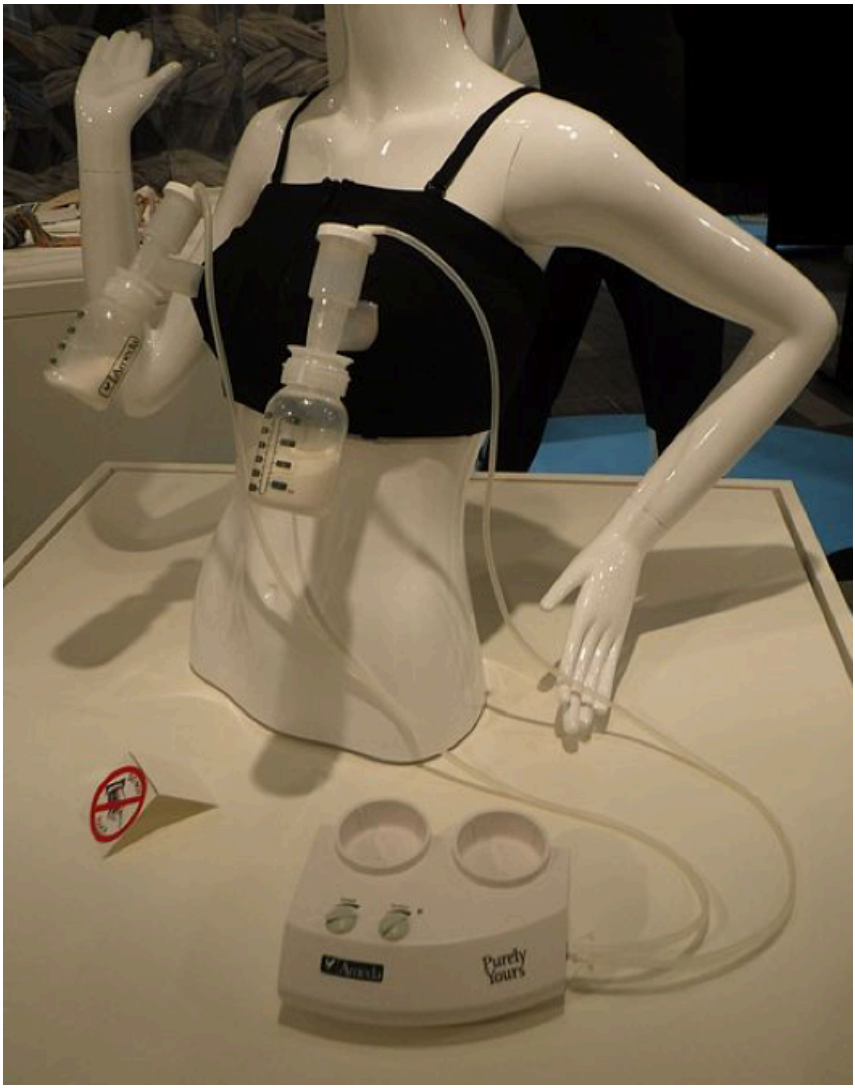

Figure 1: *A double electric pump speeds the time needed to collect milk for working mothers or for women who choose to donate or sell their excess milk. (photo: Wikimedia Commons.)*

Women vary in their milk production, with some able to pump an additional 20 to 30 ounces each day after feeding their own babies. Entrepreneurial mothers may choose to sell their surplus milk to other parents as a source of income. Based on *Only the Breast* postings, most women charge between US$1.00 and US$2.00 per ounce, with vegan milk priced slightly higher.[25] A few altruistic mothers freely give their excess milk, representing a huge savings to parents in need.

One problem with pumping and storing milk is that it loses some nutritional value. Small amounts of nutrients cling to the tube and collection container while pumping. Pouring milk into a plastic bag to freeze, and from there into a bottle for feeding, results in additional nutrient loss. An infant nursing directly from their mother's own breast thus provides the highest quality nutriment.

THE PRACTICE OF MILK-SHARING

Research has also been done on the experience of milk-sharing mothers.[26] Representing both milk recipients and milk donors, mothers from various continents shared their opinions about the bonds formed with the donor or recipient, health aspects of giving milk, and opinions of other family members. As they noted:

> "In Islamic culture, we have to maintain the relationship because me giving my milk to another baby has created a familial bond [meaning that] my children and my milk children cannot marry one another." [Donor]
>
> "It gives you kind of a lifelong connection. It's hard to explain but I look at my son's 'milk siblings' with fondness." [Donor]

25. Only the Breast 2021.

26. Gribble 2018.

"For so long I was very cynical about life and other people, but being able to be involved in the modern 'It takes a whole village to raise a baby' idea has changed my perceptions of what is going on in our society." [Recipient]

"My son gained 10 pounds in 3 months after we started receiving donor milk. He did not gain any weight his first month of life. He is healthy and happy." [Recipient]

"I think the only negative repercussions were from my family who [are] not keen on breastfeeding. I got weird looks and disgusted words." [Recipient]

UNPASTEURIZED HUMAN MILK

Health care experts frown on individuals selling or giving breast milk because it is unpasteurized. Researchers at Ohio State analyzed the microbial content of breast milk bought online. They found bacterial contamination in 75% of the samples, reflecting poor collection, storage, or shipping techniques.[27] Pasteurization would have destroyed the bacteria, making it safe for babies. In another study, the same researchers bought 102 human milk samples; a shocking ten percent contained cow's milk.[28] Parents buy human milk assuming it is 100 percent human milk, devoid of cow's milk or other additives. Infants who have a milk allergy may suffer a life-threatening reaction when given the adulterated milk. Some parents may also be tempted to water down their milk to increase profit, resulting in inadequate nutrients and calories.

While pasteurization protects against pathogenic microbes, it has its downside. The high heat processing destroys many of the bioactive substances and vitamin content. In a review of 44 stud-

27. Keim et al. 2015.

28. Keim et al. 2014.

ies that examined the nutrient and bioactive content of pasteurized human, results showed that the immunoglobulins, enzymes, and vitamin C levels were much lower in the pasteurized product than in the fresh milk. However, most other nutrients were unaffected.[29]

NON-PROFIT HUMAN MILK BANKS

Human milk banks are services that accept, pasteurize, and bottle donated breast milk and provide it to the frail pre-term babies in hospital NICUs. The first American milk bank opened in the early 1900s in Boston, after physicians realized that very small infants failed to thrive if given the cow's milk formula common at the time. The word spread and human milk banking grew steadily in North America. By the 1980s, Canada had 23 milk banks and the U.S. had 30. However, the HIV/AIDS crisis in the mid-1980s resulted in closure in all but one in Canada and the vast majority in the U.S.[30]

In 1985, the Human Milk Banking Association of North America (HMBANA) organized and now accredits nonprofit milk banks in Canada and the U.S. The Association developed international guidelines for pasteurized human donor milk. Canada has four HMBANA-accredited milk banks and the U.S. has 25, with several applying for accreditation.[31] Milk banks face several problems. In addition to health crises (such as the COVID pandemic's effect of decreasing donations), their operating cost is high. They must pay to screen the mothers, test for purity and bacterial levels in the milk, then pasteurize, bottle, package, store, and ship the final product. As a result, the banks must charge US$4.00 to US$5.00 per ounce for the pasteurized human milk to cover

29. Peila et al. 2016.

30. Paynter & Hayward 2018.

31. Human Milk Bank Assoc. 2021.

their expenses.[32] A tiny preterm infant may drink only one ounce per feeding, but as they grows, the amount increases to 20 to 30 ounces per day.

Although North American efforts are better than most other countries, Brazil is considered the global leader in donor milk banks:

> With a history of the practice dating back to the 1930s, the country also has a three decade-old public health law that stipulates all the steps required to operate a [human donor] bank, based on advice from scientists at the respected research organization, FIOCRUZ. Today, Brazil has 217 milk banks, plus another 126 milk collection points, with at least one bank in each of the country's 26 states—from Amazonas to São Paulo. Last year, 166,848 Brazilian women donated breast milk; an even larger number of infants reaped the benefits.
>
> This huge system is centrally organized; every state has a reference bank… An online portal called RedeBLH, which has won praise from foreigners, facilitates a vast data collection operation, and enables the public, as well as the government, to stay informed. FIOCRUZ's Fernandes Figueira Institute—where the national reference bank is kept—also disseminates information via a newsletter, conducts research, and runs undergraduate and graduate programs on policy and applied methodologies for milk banking.[33]

Human Milk for Profit

In contrast to the non-profit endeavors described above, two U.S. companies buy human milk, process it into human milk

32. Human Milk Bank Assoc. 2021.

33. Petherick 2015.

fortifiers, then sell if for a profit. Both were founded by entrepreneur Elena Medo. Her first was Prolacta® Bioscience, which began in 1999 and sold its first 100% human milk products to hospitals in 2006. The California-based company pays women US$1.00 per ounce for their milk, processes it into a variety of 100% human milk forms, and sells it to hospital NICUs around the world.[34] In 2009, Medo left Prolacta® to form a new company Medolac® that follows a similar model.[35]

The Future of "Human Milk"

The future of commercial ventures for human milk appears to be endless. In 2020, two visionary entrepreneurs introduced "mammary biotechnology" at their North Carolina-based Biomilq™. Their company is developing a process to grow human milk in the lab. The four-step process will include: collecting a woman's mammary cells; culturing the cells in a lab; collecting the milk made by these cells; and shipping the milk to hungry babies.[36] Their current research focuses on the protein and carbohydrate content of human milk. It will be easy to add the needed vitamins and minerals following the Codex Alimentarius infant formula standards. However, the seemingly unlimited variety of bioactive substances provided in the "liquid gold" secreted from a woman's real breasts will be more complex, if not impossible, to replicate.

Will the public accept this lab-grown substance as a new form of human breast milk, or will they consider it an artificial substitute? Will the WHO add this type milk to their hierarchy for infant feeding? Will this milk be superior to commercial infant formula or just another expensive alternative? Only time will tell.

34. Prolacta 2021.

35. Medolac 2021.

36. BIOMIQ 2021.

CONCLUSION

Human milk is the sustenance that has allowed civilization to continue; it is considered the gold standard for feeding babies. Originally, infants received the life-saving substance directly from breasts of the birthmother. Today, natural secretion serves as a source of income for some parents and a profitable venture for private industry. It is well known that processing and pasteurizing milk results in losses of many of the beneficial bioactive substances in human milk, yet pasteurization is recommended by all health organizations. Pre-term infants, at high risk of life threatening NEC, depend on the pasteurized human donor milk for survival. Wet-nursing, a practical profession and a major source of income for women in the past, has become taboo (or secretive) in many developed cultures. Is cross-nursing or milk-sharing any different? Would society be healthier if wet nurses became a new and recognized profession or should we wait until biotechnology allows growing "human milk" in a lab to replace human breasts? Although, the future of infant feeding holds many uncertainties, the one universal truth is, infants must be fed to survive.

Discussion Questions

- Breastfeeding mothers of today often produce more milk than is needed to feed one infant, resulting in a surplus of stored milk. Describe three ways a mother with excess expressed breast milk can use the milk, and the protocol she needs to follow in handling the milk.
- Tiny Treasures Milk Bank is Prolacta Bioscience's

route for women to donate (at US$1 per ounce) expressed breast milk. Using their Frequently Asked Questions, answer the following:

    - What are the steps a parent must take to donate milk to Tiny Treasures?
    - In you were lactating and had a surplus of milk, would you consider "donating" to Tiny Treasures or to your local HMBANA milk bank? Explain your decision.

- In the early 2000s, commercial infant formula in China was found to be adulterated with melamine, resulting in several infant deaths. New working mothers resorted to hiring wet nurses to feed their infants. Image that you were one of these working mothers looking for someone to wet-nurse your infant. Write a posting for the internet, specifying your requirements and the salary you would pay to the wet nurse.
- You adopt a newborn and are told about ways to induce lactation through the use of hormones. Because you work full time, you decide against it. You still want your baby to have the best nutrition possible. Discuss the pros and cons of feeding your infant by the following methods:

    - commercial infant formula
    - asking a friend who is lactating a 10-month-old to give you breast milk
    - buying breast milk from a stranger on the

internet

- buying pasteurized 100% human milk from Prolacta
- hiring a wet nurse

Exercise

Breastfeeding and paid maternity/paternity laws vary by country. Select two countries and compare their laws to those of your own country.

- Explain the food system associated with human milk that is being prepared to be sold to a hospital neonatal intensive care unit.

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MICHAEL CLASSENS AND MARY ANNE MARTIN

FROM CHARITY TO SOLIDARITY: FOOD INSECURITY AND IMAGINING OTHER WORLDS

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Mary Anne Martin *is a White settler woman and adjunct faculty member in the Master of Arts in Sustainable Studies program at Trent University. Her interests include household food insecurity, the impact of community-based food initiatives, and intersections between gender and food systems. She actively participates in food policy initiatives and is dedicated to fostering social change through campus-community collaborations..*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the systemic dynamics that contribute to food (in)security
- Understand the be able to express the limits of food charity
- Interpret new paradigms that can reframe food insecurity and support its solutions

INTRODUCTION

The global COVID pandemic has had far-reaching food systems implications, including for those experiencing food insecurity and for **food justice** organizations, advocates, and activists. Community-engaged scholars witnessed first-hand how food justice and allied organizations shifted the focus of their work as COVID descended. In a moment of acute and cascading crisis, many organizations returned (if perhaps temporarily) to a charitable **food bank** model. This case, looking at an example from

Ontario, Canada, provides reflections on a number of themes that emerged in the intervening months related to **food insecurity**, food systems change, and broader issues of social change.

SETTING THE TABLE

How we understand the problems associated with our food systems is a function, in part, of how we conceive of our food systems in the first place. For interdisciplinary food scholars and activists, understanding food systems means being attentive to a wide range of issues, including "historically specific webs of social relations, processes, structures, and institutional arrangements that cover human interaction with nature and with other humans involving the production, distribution, preparation, consumption, and disposal of food."[1] What this means in practice isn't always so clear, however. Nonetheless, thinking through food insecurity, and responses to it, can help provide some clarity and demonstrate why the way we think about food systems matters. For an illustration capturing some of the complexity of these dynamics, see Figure 1 below.

By any measure, food insecurity is a crisis in Canada, and around the world, and it has worsened during the pandemic. The United Nations World Food Programme estimates that there are nearly 700 million food insecure people worldwide, 270 million of whom experience crisis levels of hunger, meaning that they face severe calorie deficiencies and are at high risk of mortality.[2] In more stark terms, the organization estimates that between 6,000 and 12,000 people may be dying of hunger *every day*.[3] In Canada, about 4.4 million people were living with food insecurity before

1. Koç et al. 2012, xiv.
2. World Food Programme, n.p.
3. Ibid.

the global pandemic.[4] By May of 2020, just a few months into the pandemic, food insecurity had risen by 39%.[5]

It is important to keep in mind that these alarming food insecurity rates are unequally distributed across the population, so some demographic groups are much more likely to experience food insecurity than others. For example, a study conducted in Toronto found that Black households are about three-and-a-half times more likely to be food insecure than White households.[6] Indigenous populations throughout the territory known as Canada experience rates of food insecurity from as high as 33% off reserve[7] to 100% on reserve.[8] Among all income brackets, rates of food insecurity are highest for households in the lowest income bracket, and the prevalence of food insecurity declines as household income increases.[9] These numbers (and others) demonstrate that food insecurity isn't just a food issue, narrowly conceived. Food access is structured within unequal socio-economic, cultural, and ecological systems. In other words, food insecurity is an issue of equity and justice.

One of the main ways we have attempted to address food insecurity in Canada is through food banks. While they may seem like timeless institutions, Canada's first food bank opened in Edmonton in 1981 to provide *temporary* measures to support people struggling within the compounding context of high rates of inflation, recession, and scaled-back federal unemployment and provincial social supports.[10] These interventions were

4. Tarasuk & Mitchell 2020, 8.
5. Statistics Canada 2020, n.p.
6. Dhunna & Tarasuk 2019, n.p.
7. Health Canada 2006, 15.
8. Thompson et al. 2011, 24.
9. Tarasuk & Mitchell 2020, 10.
10. Wakefield et al. 2012.

always intended to be short-term, stop-gap measures, and yet, by the mid-1980s, there were over 75 food banks across Canada.[11] This was just the beginning of the normalization and institutionalization of the charitable food banking model in Canada—Food Banks Canada reports that there are now more than 3000 food banks and frontline food-serving agencies in their network.[12] The problem is, there are far more food insecure people in Canada now than ever before. So, if the point of food banks is to provide food to those in need of it, they aren't succeeding even on their own terms. In fact, research shows that only about one in five food insecure people even use food banks.[13]

In contrast to food banks, many organizations can be considered food justice organizations. These organizations don't understand food insecurity as simply the absence of food, but rather they conceive of food insecurity as a result of broader, inequitable structures resulting from colonialism, White supremacy, misogyny, and unfettered capitalism. Consequently, they also frame food insecurity as more than simply a food issue. As a result of looking at the entire food system through interdisciplinary and equity lenses, many food justice organizations understand the root causes of food insecurity as comprising intersecting social, political, and ecological inequities, and therefore propose solutions beyond food banks.

> FoodShare Toronto, a leading food justice organization in Toronto, Ontario, was founded in 1985. It was originally established as a temporary initiative to coordinate among

11. Riches 1986, 22.
12. Food Banks Canada, 2020.
13. Tarasuk et al, 2020, n.p.

the City of Toronto's 45 front line emergency food service agencies. Very quickly, the organization understood that broader systems change was required to address the systemic and root causes of hunger. Today, FoodShare is dedicated to pursuing food justice in ways that centre the experience of those most impacted by poverty and food insecurity—Black, Indigenous, People of Colour and People with Disabilities through a variety of programs and initiatives that go far beyond the food bank model.

So, for example, rather than simply providing low-quality, highly processed food to those in need, some food justice organizations offer weekly fresh-produce box programs. Some support the establishment of farmers' markets in low-income, marginalized, and racialized communities (communities that typically don't have access to farmers' markets). In some cases, these organizations buy directly from local growers, in an attempt to address food insecurity while also supporting local, small-scale growers—attending to the struggles of both marginalized eaters and growers.

Beyond providing food for those who need it, some food justice activists, organizations and networks also agitate for policy change. As an example, there have recently been various efforts by a diverse network of food justice and other organizations to compel the federal government to institute a basic income (BI) in Canada. This means that all Canadians would be provided with a sufficient and guaranteed income to meet their basic needs, including food. Research shows that when people have a reliable

and sufficient income, rates of food insecurity are significantly reduced.[14]

Other research points to the political economy of our food system, noting that food is in fact a human right, and that Canada is legally bound by international agreements to fulfill the right to food.[15] In Canada just four companies—Loblaws, Metro, Sobeys, and Walmart—control upwards of 80% of the retail market.[16] And these companies prefer establishing larger stores typically in higher-income areas, resulting in an unequal distribution of food access across Canada. Food, many advocates argue, is too important to be treated as a commodity governed by a retail **oligopoly**.

When the impact of the COVID pandemic began to be felt across Canada, and rates of food insecurity began to spike, we saw many food justice organizations—at least temporarily—adopt a food charity/food bank model. In part, this reflects the efforts of food justice organizations to respond to the increasing intensity of the food insecurity crisis during the pandemic in whatever ways they could. However, this response was also the result of the federal government nudging organizations in the food bank direction. By December 2021, the federal government made $330 million available through the Emergency Food Security Fund. These funds were disbursed through a handful of national and regional emergency food and food justice agencies to smaller, front-line serving organizations. The money was earmarked for the purchase of emergency food provisions, personal protective equipment, and to hire additional workers.[17] In other words, the Canadian federal government conscripted food banks as well as food justice and community development organizations into its

14. Tarasuk 2017.

15. Food Secure Canada 2012, n.p.

16. MacRae 2021, n.p.

17. Agriculture and Agri-food Canada 2021.

efforts to address dramatically increasing rates of food insecurity across the country through charity emergency food provisioning.

Figure 1: *This graphic was produced by illustrator Jason Wilkins at a webinar titled "Thinking outside the donation box," featuring Dr. Elaine Power and Dr. Rod MacRae. It captures some of the ways we can think about addressing food insecurity beyond food banks.*

SOLIDARITY, NOT CHARITY

The first six months of the pandemic were profoundly challenging for many food justice organizations as they adjusted to increased demand for basic food-provisioning services, a reduced volunteer base, emotionally exhausted staff, intense uncertainty, and increasingly marginalized community members. While these challenges persist, many organizations have

recalibrated within this difficult context and, in ongoing recognition of the need for food justice, are redoubling their efforts to realize broader structural social change. FoodShare, a leading food justice organization in Toronto, for example, has recently underscored their commitment to food justice, democratic control, and political mobilization as we transition out of the global pandemic.[18]

The COVID pandemic—and the spectre of new, different pandemics resulting from our corporatized and globalized food system—makes the words of feminist philosopher Val Plumwood truer now than ever before, "If our species does not survive….it will probably be due to our failure…to work out new ways to live with the earth, to repower ourselves… We will go onwards in a different mode of humanity, or not at all."[19] One way to reframe this sentiment within the context of food insecurity is to move beyond thinking about how to end food insecurity, to thinking about how we can create a world within which food insecurity is unthinkable.

As dissatisfying as it may be, there are no clear blueprints to direct us on how to do this. However, there are paradigms and ways of thinking that can inform the development of a comprehensive and integrated plan to transition toward more just and equitable food systems. The feminist economists J.K Gibson-Graham[20] illuminate how ways of *knowing* and *being* in the world are already informing how we can move beyond the need for charity. They see hope in reciprocal relationships, mutual support, care work, and myriad other everyday occurrences that exist outside of the formal capitalist economy. In this, they see the beginnings of a new economic ethic for the **Anthro-**

18. FoodShare 2020, n.p.

19. Plumwood 2007, 1.

20. See for example, Gibson-Graham 1996; 2006.

pocene—a way of reclaiming the economy as a site of equitable decision making, not simply the accumulation of profit.

The global peasant movement, La Via Campesina, similarly understands food systems as entanglements of human-nature relationships through which to advance equity and justice, a perspective that contrasts markedly with the dominant capitalist food system within which food is treated as a simple commodity. La Via Campesina advances **food sovereignty** and **agroecology**, food systems paradigms that promote equity, democratic control, and empowerment of traditionally marginalized groups of people. In various places around the world, these approaches espoused by La Via Campesina have demonstrably resulted in better overall nutrition and enhanced food security.[21]

Another paradigm that can help broaden our political imagination is the notion of mutual aid. This perspective contrasts explicitly with the charitable model by weaving ways of supporting each other into the very fabric of everyday life. It should also be noted that in contrast to some of the approaches summarized above, mutual aid assumes that it is unlikely that the state will ever substantively support food justice. However, the significant resources and policy levers of the state are still necessary for effecting change on a profound and universal basis. As the Big Door Brigade puts it, "Mutual aid is when people get together to meet each other's basic survival needs with a shared understanding that the systems we live under are not going to meet our needs."[22] The movement is gaining traction, and recently the United States Congresswoman Alexandrian Ocasio-Cortez collaborated on the development of a "how to" mutual aid strategy resource.[23] The trans-rights activist and lawyer, Dean Spade,

21. Ogle et al. 2001; Roos et al. 2003.

22. Big Door Brigade n.d., n.p.

23. See: Ocasio-Cortez.

argues that moving from charity to solidarity through mutual aid strategies "will be the most effective way to support vulnerable populations to survive, mobilize significant resistance, and build the infrastructure we need for the coming disasters."[24]

(RE)SETTING THE TABLE

That the negative consequences of the global pandemic have been so disproportionately shouldered by those who are already struggling underscores the fundamental inequities in our world. In Canada, our initial response to deepening food insecurity was to double down on a 40-year-old food charity model that we already knew was ineffective. However, this acute crisis has also inspired many food justice organizations, activists, and scholars to intensify their commitment to food justice, and to imagine new ways of organizing our relationships with each other and nature in ways that make inequity unthinkable.

Discussion Questions

- Why might one's **social location** have an impact on their level of food (in)security?
- What other food issues might be reframed by looking at them through interdisciplinary and equity lenses?
- How can we reframe our relationship with food in our everyday lives? What are the limits of individual actions on those relationships?

24. Spade 2020, 131.

Exercise

Find and compare websites of a food bank and a food justice organization in your area. How does each frame food? What activities does each organization do? What differences do you notice?

Additional Resources

Big Door Brigade

Community Economies

Food Secure Canada

FoodShare Toronto

La Via Campesina

Nourish Project

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FARIS AHMED AND TOMMY WALL

FRACTURED FOOD SYSTEM BLUES: A BLUES IN FIVE VOICES

Faris Ahmed *has been working on food, farming, and environmental issues in Canada and internationally for more than 20 years. He is an Ottawa-based consultant and policy researcher, specializing in ecosystems, biodiversity, climate resilience, and human rights. He has played leadership roles in international civil society networks, policy processes, and advocacy campaigns on these issues. Faris has a Master's degree in International Development from the University of Toronto and has worked as a writer and documentary photographer in Asia. He dabbles with music in his spare time.*

Tommy Wall *is an environmental communicator and researcher with professional interests in public education, engagement, research and writing on nature, ecology, environment, and climate change in everyday life. He currently works as a strategic communications advisor for domestic climate change policy at Environment and Climate Change Canada, consulting with federal policymakers on how to communicate to the public about subjects ranging from carbon pricing to climate change adaptation. He's still figuring out the best ways to get his fellow humans to understand the "so what, who cares" of global environmental problems.*

FRACTURED FOOD SYSTEM BLUES

In 2016, researchers from the Food: Locally Embedded, Globally Engaged (FLEdGE) partnership published ***Nourishing Communities: From Fractured Food Systems to Transformative Pathways***. The book documents many years of collaborative work focused on building towards more sustainable and more just food systems. In November 2017, Carleton University's Faculty of Public Affairs hosted an event bringing together academics, activists, and others focused on the same issues. Several people provided commentaries on *Nourishing Communities*, including Faris Ahmed, who gave his response to the book in the form of a spoken word piece.

This performance, as well as a short interview with Faris about his work at USC Canada (now SeedChange), offer a lively, alternate way of thinking about sustainability when it comes to food systems. Tommy Wall interviewed Faris and produced and edited the audio.

Listen to Faris's performance of "Fractured Food System Blues."

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=163#audio-163-1

One

They call me a small farmer, but I've got a big list of to-dos
They call me a small farmer, but I've got a big list of to-dos
Feed the world. Cool the planet. Try walking just one day in my shoes
Because I've got the fractured food system blues

Two

I'm Jamaican, but I'm kneeling down on your land
Never Canadian. No, but what you're eating was picked by these hands
No rights, no shelter, no heat in winter, and the worst kinds of abuse
I've got the fractured food system blues

Three

I'm a community garden right in your neighborhood
I can connect friends and families, young and old
Leafy greens, peppers, tomatoes of all sizes, shapes, and hues
To wash away your fractured food system blues

Four

We're food policy councils. Now, how do you put that in a song?
People's voices and ideas that make decision-making strong
But, hey, inclusive governance mechanisms will never make the news
We've got the fractured food system blues

Five

Agroecology and food sovereignty
We're more than just words, or theories, or novelty
We're the roadmap and the journey. So, go ahead and take your cues
We're transformative pathways for your fractured food system blues

FRACTURED FOOD SYSTEM BLUES: TOMMY WALL IN CONVERSATION WITH FARIS AHMED

In late 2017, Tommy Wall, a student of Communications and Environmental Studies at Carleton University recorded an interview with Faris Ahmed about his spoken word poem, *Fractured Food System Blues: A Blues in Five Voices.*

Listen to Tommy's interview with Faris.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=163#audio-163-2

Interview Transcript

[slow blues baseline plays]

Tommy Wall (TW): My name is Tommy Wall. I'm a fourth-year communications and environmental studies student at Carleton University, and I'm interested in climate change and global environmental sustainability. Agricultural sustainability and food security are important issues in Canada and around the world. In the fall of 2017, a public discussion took place about a new book that attempts to tackle some of the problems associated with food and agriculture. *Nourishing Communities: From Fractured Food Systems to Transformative Pathways*, was published by Springer and focuses on community-based practices that can mend fractures in the food system. One of the participants in the public discussion that marked the release of the book, was Faris Ahmed from USC Canada. Faris leads USC's policy work and closely collaborates with ecological agriculture, biodiversity, and food sovereignty networks in the global south and in Canada. Faris joins me today to discuss his response to the book release and to speak on his own work. Hello, Faris.

Faris Ahmed (FA): Hello, Tommy.

TW: Thank you for taking the time today to talk about your work and about the issues that you deal with. Can you tell me a bit more about your work, and the work of USC?

FA: Sure. USC is an organization based here in Ottawa and our work is basically about ensuring a healthy and diverse food for everyone. And, the way we grow our food should be strengthening biodiversity and ecosystems, and not diminishing them. And we also feel that the food that has grown is determined by the choices of the people who grow the food. We work with farmer organizations in 12 countries around the world, including in Canada, and a new program we started about five, six years ago. And, essentially,

we support farmers and Indigenous people, women, youth, to grow healthy and resilient agricultural food systems. And their goal is to ensure that biodiversity—the diversity in plants, and seeds, and genetic resources in animals as well—is determined by their own research questions. So, they consider themselves researchers. And their goal is to enhance their biodiversity and seed systems because that has impact on a whole bunch of things. It has impact on their food, and their ability to eat around, around the year. It increases their resilience to climate shocks. If it's too wet or too dry, they have the varieties to, to serve their needs. It engages young people in a way that other types of agriculture do not. They are very passionate about ecological agriculture, which is what we support. And it's healthy, it's nutritious, it creates livelihoods. And so, we find that this one intervention has quite a lot of impact on a whole bunch of things, and it's driven by the farmer's own needs. And now my own work at USC is about policy and ensuring that policies support the work of farmers and not constrain them. For example, trade and investment policy or seed policy that can inhibit what farmers do, that can impose restrictions on the kinds of seeds that they can produce and save and sell. Or trade that encourages the kind of market that will not support the prices of, the kinds of prices that farmers are expecting or wanting, or imposes restrictions on them that they can't sell or exchange their own products. So, we try to create a conducive environment for farmers to really flourish in their food systems, to serve them as well as their communities.

TW: And so, you participated in the public book release for *Nourishing Communities* back in November. What's your connection to the book and to its authors?

FA: Well, I'm lucky enough to have, to know and have worked with all five of them: Irena, Alison, Charles, Phil, and Erin. I've been involved in many things that they've initiated, or I've participated in research initiatives, workshops and so on. Also, with Peter Andrée and Patricia Ballamingie, both of whom are at Carleton.

These people are leaders in their field, I'd say, I mean, they're researchers in the truest sense. They've got the academic tools and the research methodologies, but they're also grounded, and they're connected to what they're researching, whether it's, you know, the food system and food justice organizations or practitioners, or farmer organizations, food providers. And I think that they have a sense of what the community needs because of that, and it makes them better researchers. So, when I saw the book, I was quite captivated by it. And, I did, I did read quite a lot of it, and it gave me all kinds of ideas. And it's a culmination of researchers and practitioners working together. And these guys are some of the best.

TW: They come from a lot of very well-rounded backgrounds too, so, it's good to have multiple perspectives on food security and agriculture coming from a lot of different people. And the book inspired you to do more than to just simply comment as well. How did you respond to the book and to its messages?

FA: Well, I first did a traditional book review as I was asked to do. And that was, I mean, rewarding enough. But that I was inspired by the diversity of the methodologies I guess, the tools and narratives in the book that came from different peoples and communities and different ways of even gathering the information. And, given that we were, you know, quote unquote on stage in Irene's pub and my own love for music, and Irene's is known for life performing, performances, and I'd never performed there. So, I just thought that a spoken word rendition of some of the voices and narratives in the book would be fun and hopefully complimentary. So, I just sat down at the computer and it came out pretty quickly and naturally. So, I constructed a spoken-word poem with five voices. And afterwards, decided to add a bassline to it.

TW: And so you have no shortage of musical resources at your disposal down here in your studio. So, we're going to play for you, "Fractured Food System Blues in Five Voices," and we'd like to thank Faris so much for his time today. Thank you, Faris.

FA: My pleasure, thanks.

Discussion Questions

- There are five distinct voices in the poem, "Fractured Food Systems Blues." What are these voices and what are they saying about the food system?
- If you were to write a spoken word poem about your experience of the food system, which five voices would you highlight? What would those voices say?
- Each section of the poem identifies a major critique of our fractured food system or a potential "transformative pathway." What are these critiques and pathways? Can you think of other critiques/challenges? Can you imagine other transformative pathways?

Additional Resources

Ahmed, F. 2021. "Biting Back Climate Change: Let's take a bite out of climate change." *TEDxOttawa*.

Andrée, P., J.K. Clark, C.Z. Levkoe, and K. Lowitt (Eds). 2019. *Civil Society and Social Movements in Food System Governance*. New York: Routledge. https://doi.org/10.4324/9780429503597

Global Alliance for the Future of Food. 2021. *The Politics of Knowledge: Understanding the Evidence for Agroecology, Regenerative Approaches, and Indigenous Foodways*. n.p.: Global Alliance for the Future of Food.

La Via Campesina

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Knezevic, I., A. Blay-Palmer, C. Levkoe, P. Mount, and E. Nelson, eds. 2017. *Nourishing Communities: From Fractured Food Systems to Transformative Pathways*. n.p. Boston: Springer International Publishing. https://doi.org/10.1007/978-3-319-57000-6.

CREATIVE: FOOD WASTE

PAMELA TUDGE

THE EAT, WASTE, MAKE PROJECT

Pamela Tudge *is a PhD candidate at Concordia University, exploring critical design and public pedagogy as a methodology to respond to food-based waste. Her academic and creative work is driven by design, which makes her think differently about critical issues in food and the environment. Over 15 years, her writing and teaching has spanned environmental science, food studies, new media, and social movements. Pamela has worked in the fields of cartography, climate science, education, and the arts.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe food-based waste and why it is an issue in our society.
- Articulate ways critical design can increase the visibility of waste.
- Identify variation in the food-based waste in their own homes.

EXPLORING MY DOMESTIC FOOD-BASED WASTE THROUGH CRITICAL DESIGN LEARNING ENCOUNTERS

We all produce and manage waste to varying degrees, across our living environments and daily life. Discarded edible food—food waste—is gaining significant attention globally as a contributor to climate change, through the production of methane gas in landfills. The United Nations (UN) estimates that, globally, humans waste about one third of all food produced, a resource that could be used to alleviate global hunger.

Imagine you are preparing a meal at home. Think of all of the materials that you might throw out. All of the food remnants, like vegetable peels, is **food-based waste**, but so is food packaging. Few government policies limit the types of materials companies can use to package their foods. Instead, most policies target consumers, through efforts such as banning or limiting the use of plastic bags. Packages remain important because they protect food in transportation and enable promotional messaging, corporate branding, and the communication of critical consumer information (e.g., nutrition values and ingredients). However, the environmental impact from plastic pollution is significant, polluting oceans and threatening species. Little (less than 10%) of

our discarded plastics are ever recycled. How can we reduce our food-based waste?

For most of history, women's knowledge of food and their labour in the kitchen determined what became domestic waste. Contemporary studies show that responding to food-based waste remains women's work. Previous generations valued the reduction of household waste, as it was essential to the economics of North American households. A post-war cultural shift in the 1950s, however, redefined waste as a sign of privilege and modernity. The implication of this change in values and behaviour is the loss of food-related knowledge, devaluing this critical work. Today, there is little monetary incentive for households to engage in the labour needed to reduce food-based waste; instead, a renewed ethical value of care for the materials of food-based waste is called for.

Through the *Eat, Waste, Make project*, I explored my relationship to food and waste and extended my findings to teach others through public workshops. As a food studies scholar and a woman, I began researching my topic through my own practices. Designers are experts in materials, and **critical design** is an approach to design that focuses on making things that challenge the role of products in everyday life. Identifying my waste through the food I eat, and exploring the materials through critical design methods, provides a different kind of attention to what I discard, allowing me to develop a mindful relationship that extends taking care of the materials I encounter. The learning encounters I create (and depict in the GIFs below) form a method for developing care and enabling **material visibility**. Caring for materials means doing things differently, such as composting non-edible peels, repurposing glass, or limiting the use of plastics. Achieving a better practice with these materials requires enhancing my attention and acknowledging the individual waste materials that I encounter. Finally, through the learning encoun-

ters, I can identify the significance of labour and reflect on the unique care women held for generations to repurpose materials, re-use food waste, and ultimately prevent waste from entering the environment.

[animated GIF of a pair of hands tearing up food packaging waste]

Exercise

Learning Encounters at Home

For this activity, you will conduct exploratory research and respond to the questions in each step. At the end of the learning encounters, use your responses to write a reflective paragraph on your research, noting any new questions or ideas from your food-based waste exploration encounters.

Have ready the following material:

- Construction paper, poster board, or anything similar (but not foam core!)
- Wood glue
- Scissors

Step One: Collect Waste

Identify and collect ten pieces of material from your recycling bin, compost, and garbage that is are forms of food-based waste.

Lightly clean any packages and arrange the waste on a large piece of paper.

Question: What types of waste materials are in your home?

Step Two: Document Waste

Document the waste using a digital camera; take a single picture of all the materials together and separately.

Create a portrait with one chosen piece of material (e.g., a banana peel, a yogurt container)

Question: What material did you choose for your portrait, and why did you choose it?

Step Three: Break down your waste

Break down each piece of waste into smaller pieces, using scissors or your hands.

Mix the materials.

Questions: What colours, textures, or shapes can you identify with the materials together? What food products can you identify from the pieces?

Step Four: Make a Collage

Using the paper and glue, arrange all the pieces, including food waste, onto your paper.

Make any design you choose with the pieces, and allow glue and materials to dry.

Questions: How do the materials in your collage reflect your food practices around cooking and eating? What transformations to food practices do you feel you can make in your home to reduce waste?

Additional Resources

CBC News. People waste way more food than thought, UN finds. Here is how Canada compares. March 4, 2021.

Dunne, A. and F. Raby. Critical Design FAQ.

Environment and Climate Change Canada. Taking Stock: Reducing food loss and waste in Canada. June 2019.

Food and Agriculture Organization of the United Nations (FAO). Food Loss and Food Waste.

"Plastic Wars." Frontline Documentary. Produced by Rick Young, Laura Sullivan, Emma Schwartz, and Fritz Kramer, PBS, USA.

LAINE YOUNG

FOOD ENVIRONMENTS AND ACCESS TO FOOD: EXAMPLES FROM TORONTO

Laine Young *is a PhD Candidate from Wilfrid Laurier University in the Geography and Environmental Studies program. She works with the Laurier Centre for Sustainable Food Systems on her dissertation research exploring intersectional feminist analysis in urban agriculture projects in Quito, Ecuador. Laine is a Contract Teaching Faculty at Laurier and is the co-producer of the podcast,* Handpicked: Stories from the Field.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Differentiate among the concepts of food deserts, food swamps, food mirages, and food oases.
- Articulate the differences between food environments in specific urban areas.
- Identify the barriers to food access—like transportation, income, and time—and the socioeconomic, racial, and ethnic disparities in food access.

INTRODUCTION

There are many factors that influence people's access to food in a town or city. Some are specific individual barriers (e.g., income), but often there are larger structural issues (e.g., racism, discrimination, resource inequity). These barriers can be social, economic, or physical. To evaluate food access, it is important to be able to differentiate among the food environments that people belong to. Neighbourhoods struggling with food access within cities can be *food deserts, food swamps,* or *food mirages*. Those with superior access to food are considered *food oases*. The number and quality of healthful and affordable options for access to food in each neighbourhood determines which food environment the area belongs to. We differentiate between these environments because each problem is unique and requires specific solutions to improve food access. This chapter explores the different food environments in communities and how they affect access to food. It provides examples of work that has been done to mitigate these barriers to access in the city of Toronto, Ontario.

FOOD ENVIRONMENTS

While health promotion materials tend to emphasize the importance of individual food choices, access to healthy food is primarily determined by the social and built environments, including "community" and "consumer" nutrition environments. The community nutrition environment is determined by "the number, type, location and accessibility of food outlets such as grocery stores," and the consumer nutrition environment is categorized by what "consumers encounter in and around places where they buy food, such as the availability, cost, and quality of healthful food choices."[1] Food environments are affected by both community and consumer nutrition environments.

The conditions of different food environments within neighbourhoods can have an impact on access to food for the residents that live there. Negative food environments are those in which healthy food access is limited or difficult due to lack of retail options, cost, transportation and mobility, and availability of culturally appropriate foods. They have been linked to communities whose demographics indicate they have a lower socio-economic status, as well as racial and ethnic disparities. These inequities in the food environment can be partially attributed to racial segregation in neighbourhoods. For example, certain neighbourhoods in the U.S. where residents are predominantly Hispanic and Black have less access to large, chain grocery stores, and more access to fast food.[2] This is not always the case, as we sometimes see higher-income neighbourhoods without grocery stores and other nutritious food sources. The difference is that people living in higher-income communities typically have the money to purchase more expensive options close by, have vehicles to drive to buy food, and typically don't have the same time

1. Glanz et al. 2007, 282.
2. Stowers et al. 2020.

constraints or accessibility issues as those in lower-income neighbourhoods.

There are currently four examples of food environments that appear in the literature: food deserts, food swamps, food mirages, and food oases. It is important to distinguish between these environments, given that different strategies are needed to mitigate the different risks in each[3].[3] *Food deserts* are areas of a city where residents lack physical and/or financial access to nutritious food. People living in rural areas may also need to travel long distances to get their food and are often left out of the food environment literature.[4]4 In Canada, people are more likely to experience *food swamps*, areas that have nutritious food stores but also have an abundance of unhealthy options that are more accessible.[5]5

Another food environment that is important to discuss is *food mirages*. In this case, healthful food options are available, but not affordable to those with low incomes, requiring them to travel long distances for access to affordable food.[6]6 Food mirages differ from food deserts because it appears that the neighbourhood has healthful food options close by, but they are not actually usable resources for some members of the community (because they cannot afford to shop there). In addition to affordability, there are also other potential access issues for the residents of the neighbourhood. Food access is more than financial, as a household's physical ability to get to and navigate the stores (e.g., because of disability or age) can restrict their access. Many also experience *time poverty*,[7]7 for example, if they work several jobs, use public transit, or are the primary caregiver in their house-

3. Yang et al, 2020.

4. Chen & Greg, 2017.

5. Ibid.

6. Yang et al. 2020.

7. Canadian Environmental Health Atlas, n.d.

hold; in these cases, the number of hours left in their day to acquire food is much less than in other households. Finally, a *food oasis* is a neighbourhood with superior access to nutritious foods.[8]8

Table 1: Negative food environments and their characteristics (Young 2021)

Food Deserts	**Food Swamps**	**Food Mirages**
Residents lack physical access to nutritious food. They are unable to walk to find nutritious food. They must have access to transportation.	Residents have access to nutritious food, but unhealthful options are more abundant.	Residents have nutritious food options close by but they are unable to afford it.
There are few options in the community to purchase nutritious food (i.e., grocery store, healthful restaurants).	Community has nutritious food options, but the unhealthful options are more accessible (i.e., fast food, convenience stores).	Community has nutritious food options, but the unhealthful options are more affordable (i.e., fast food, convenience stores).

MEASURING FOOD ACCESS

In order to determine how to classify a neighborhood's food environment, community food assets need to be measured. A food asset is a place where local residents can go to "grow, prepare, share, buy, receive or learn about food"[9]9 through, for example, community programs, retail outlets, urban gardens, and fresh food markets. Determining the number of food assets in a community can be challenging without a tangible way to collect the data. Toronto Public Health's Food Strategy and the Toronto Food Policy Council created a way to measure the available food assets in the city, providing a tool to advocate for food environment change.

8. Yang et al. 2020.

9. Vancouver Neighbourhood Food Networks.

Toronto's *Food by Ward* project was created as a way of measuring the unequal distribution of food assets across the city's neighbourhoods.[10]10 This information was collected through grassroots organizing in each city **ward**. In each area, Food Champions led the data collection through several rounds of community consultations. Food Champions are "people who care about food, healthy communities, and economic development, and (who) are working together to protect, promote, and strengthen food assets."[11]11

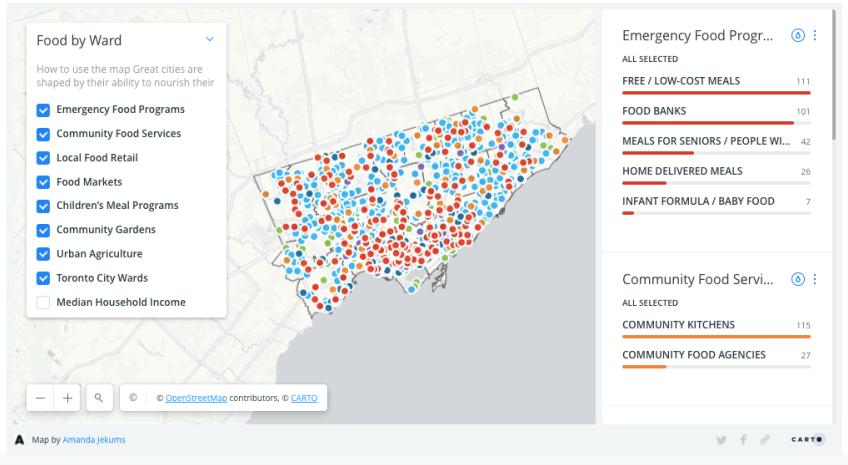

Figure 1: *Toronto's Food by Ward mapping project. (Mapping/Design: Amanda Jekums; source: Toronto Food Policy Council/Toronto Public Health [Food Strategy])*

The food asset categories that were collected within the Food by Ward project included: emergency food programs, community food services, local food retail outlets, food markets, children's meal programs, community gardens, and urban agriculture projects.[12]12 The data was collected and mapped, so residents and policy makers could visualize the assets, as well as determine which communities were lacking or had an abundance of food.

10. TFPC, n.d.
11. Ibid.
12. Ibid.

This provided community organizers with the data needed to approach City Council representatives in their specific wards and advocate for change. This project makes the case that food-related projects and development are just as important as other urban infrastructure.[13]13

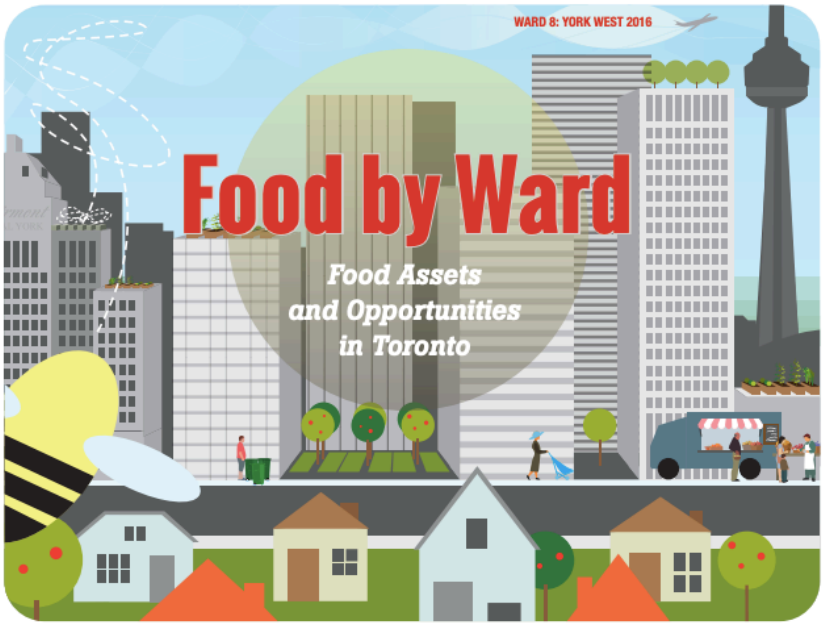

Figure 2: *Toronto's Food by Ward mapping project. (Mapping/Design: Amanda Jekums; source: Toronto Food Policy Council / Toronto Public Health [Food Strategy])*

13. Ibid.

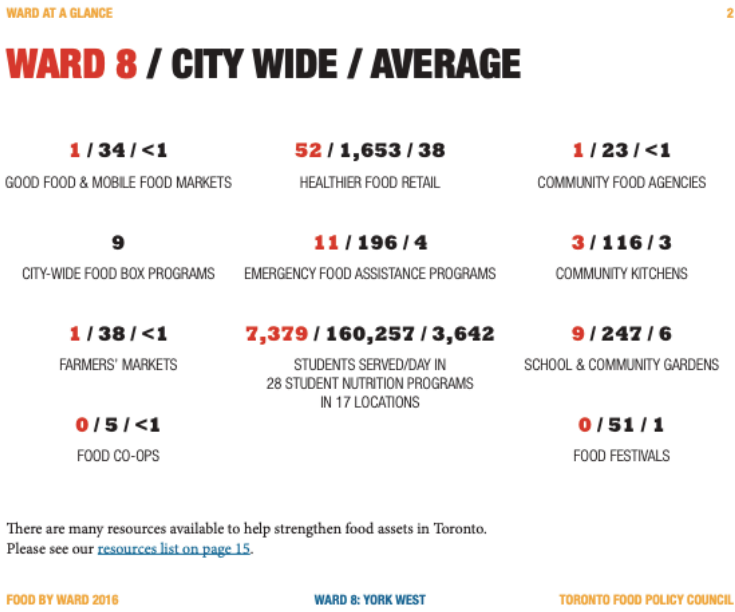

Figure 3: *Statistics for Ward 8 for Toronto's Food by Ward mapping project. (Mapping/ Design: Amanda Jekums; source: Toronto Food Policy Council / Toronto Public Health [Food Strategy])*

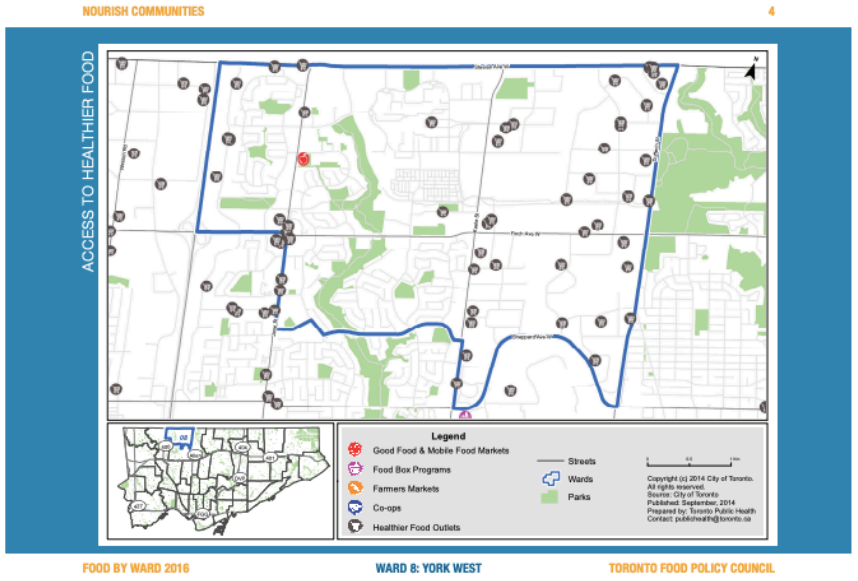

Figure 4: *Toronto's Food by Ward mapping project showing Ward 8/York West. (Mapping/Design: Amanda Jekums; source: Toronto Food Policy Council / Toronto Public Health [Food Strategy])*

Food by Ward is an excellent example of measuring food access, but is highly dependent on resources to maintain the data. Without dedicated funding, the tool is not sustainable. While the tool itself is not currently being maintained across all of metropolitan Toronto, some individual neighbourhoods, like Rexdale, have taken on their own asset mapping on a smaller scale. This allows each neighbourhood to ensure that their maps are updated and reflect their current situation. Food asset mapping has a lot of potential for measuring access to food, but there needs to be a sustainable approach, including the human and technical resources needed to maintain the data.

TORONTO'S RESPONSE TO NEGATIVE FOOD ENVIRONMENTS

Cities have the potential to mitigate the impact of challenging food environments through initiating policy and programs that increase nutritious food access in the areas that need it most. The city of Toronto has many geographic areas that fall under the above-mentioned negative food environments. Toronto Public Health's Food Strategy has implemented many initiatives to combat this in the city. The Food Strategy uses a "food-systems perspective" that focuses on nutrition, prevention of diseases, food literacy, social justice, food supply chains, economic development, environmental protection, and climate change mitigation.[14]14

Grab Some Good

In 2014, one of the key projects of the Toronto's Food Strategy was called *Grab Some Good*. This project was initiated to combat the lack of equitable access to healthy food across the city.[15]15 Many Canadian cities, Toronto included, technically do not have food deserts and, for various reasons are far likelier to have food swamps.[16]16 Grab Some Good was a partnership between the Food Strategy and community partners like FoodShare.[17]17 (FoodShare is a food justice organization in Toronto that provides nutritious food to people across the city. They collaborate with the people most affected by poverty to create long-term solutions to food problems.) The three major projects that evolved were Healthy Corner Stores, Mobile Good Food mar-

14. TPH, 2016.

15. Ibid.

16. Ibid.

17. Ibid.

kets, and Subway Pop-Up markets. The goals of Grab Some Good were:

- To offer healthy, affordable and culturally diverse fresh food to residents living in areas that are underserved by healthy food retailers.
- To provide fresh produce at convenient locations at prices that are lower than the average grocery store.
- To promote healthy and sustainable eating habits among all Toronto residents and to support good nutrition and disease prevention interventions.[18]18

The Healthy Corner Store initiative provided logistical and infrastructure support to local corner stores, aimed at increasing the healthy food available to people in the surrounding neighbourhoods and at ensuring that the owners were making profit from the endeavor.[19]19 To address the issue of minimal grocery store availability in underserved neighbourhoods, the Food Strategy and FoodShare launched mobile food markets in 2012. These retrofitted wheelchair buses were transformed into mobile food markets and served affordable, healthy food to 11 low-income neighbourhoods in Toronto.[20]20 The Toronto Transit Commission pop-up markets, another partnership with FoodShare, were established in major transit hubs and provided commuters with access to healthy snacks, as well as fruits and vegetables to take home with them without needing to stop at a grocery store.[21]21

Each of these three projects attempted to mitigate the negative effects of neighbourhoods found in food swamps in innovative

18. Ibid., 16.
19. TPH 2016.
20. Ibid.
21. Ibid.

and community-focused ways. They were successful in improving access to nutritious food in the neighbourhoods they served. They offered innovative solutions to food environment problems. Unfortunately, the overarching issue with these types of projects is the lack of financial sustainability. As they all required some degree of municipal funding, the longevity of the projects was not guaranteed and they are therefore no longer running. Nonetheless, these cases show that if municipal governments can prioritize funding to address food swamps, deserts, and mirages, or if community organizations can build self-sustainability, there is great potential to make changes to the way food is accessed in these communities.

Good Food Markets

One of FoodShare's many successful projects is the Good Food Markets. These markets are found across the city in neighbourhoods that lack access to nutritious food and are run by the community members themselves. The program trains community members on the necessary skills and information needed to run the markets and provides the tools and resources necessary for sustainability.[22][22] The Good Food Markets not only provide access to food, they work more holistically—as community hubs that engage and connect residents in their own neighbourhood.[23][23] This type of community engagement is important for neighbourhoods to build social cohesion and strengthen the residents' ties to their community. This model has great potential for success because it is sustainable and driven by the needs of those who use it.

22. FoodShare n.d.

23. Ibid.

CONCLUSION

To ensure healthy communities, it is important to measure food access within specific neighbourhoods. Identifying the type of food environments that communities reside within can help inform targeted responses by municipal governments and community organizations.

It is critical to address the racial and ethnic disparities present in negative food environments. This necessitates structural change through policy-making, planning, and development, in order to address diet quality (related to food environments) within white and minority populations.[24][24] Such efforts should address the disparities in access to healthful food in neighbourhoods to limit the impact on nutrition and health outcomes.[25][25]

Toronto Public Health's Food Strategy and FoodShare have shown great examples of engaging in innovative solutions to manage food access, but there are funding challenges that can have an impact on the capacity to help communities in the long-term. Moving towards the community hub model has great potential to improve food access and serve communities in a holistic way.

Discussion Questions

- How might systemic discrimination, based on the demographics and experiences of residents within a neighbourhood, influence their food environ-

24. Stowers et al, 2020.
25. Ibid.

ment?

- Do you notice any differences in perceived access to food between low- or high-income neighbourhoods in your community?
- What kinds of impacts related to food access might residents of diverse racial or ethnic backgrounds experience in their communities?

Exercise

Choose a neighbourhood in your city. Either walk around the area or explore it through a maps app and note all of the food stores/restaurants. Determine if they sell healthy or unhealthy food. Check out the demographics of the neighbourhood online. According to your research, decide if this area fits within one of the food environments you learned about in this chapter.

Additional Resources

FoodShare website

Food by Ward Website

Agincourt Food Asset Map

Yang, Meng, Haoluan Wang, and Feng Qiu. "Neighbourhood Food Environments Revisited: When Food Deserts Meet Food Swamps."

The Canadian Geographer 64, no. 1 (2020): 135–54. https://doi.org/10.1111/cag.12570.

CBC article, "Chinatown BIA slams study calling area 'food desert'."

Canadian Public Health Association "Mobile good food market brings healthy choices to neighbourhoods in 'food deserts'."

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Glanz, K., J.F. Sallis, B.E. Saelens, and L.D. Frank. 2007. "Nutrition Environment Measures Survey in Stores (NEMS-S)." American Journal of Preventive Medicine 32 (4): 282–89. https://doi.org/10.1016/j.amepre.2006.12.019.

Stowers, K.C., Q. Jiang, A.T. Atoloye, S. Lucan, and K. Gans. 2020. "Racial Differences in Perceived Food Swamp and Food Desert Exposure and Disparities in Self-Reported Dietary Habits." *International Journal of Environmental Research and Public Health* 17 (19): 1gx+.

"Toronto Food Strategy: 2016 update." Toronto Public Health.

"Vancouver Food Asset Map." Vancouver Neighbourhood Food Networks. Accessed June 9, 2021.

Yang, M., H. Wang, and F. Qiu. 2020. "Neighbourhood Food Environments Revisited: When Food Deserts Meet Food Swamps." *The Canadian Geographer 64* (1): 135–54. https://doi.org/10.1111/cag.12570.

CASE: FOOD RESCUE

LEDA COOKS

SYSTEMIC ANALYSIS OF A FOOD RESCUE NETWORK

Leda Cooks *is a Professor in Department of Communication University of Massachusetts, Amherst. She teaches communication and food studies courses from a critical social justice orientation. Her research addresses the ways ideas about identity, ethics, power, relationships, community, culture and citizenship intersect in spaces and performances of both teaching and learning as well as producing, preparing, consuming, and communicating about and through food. Recent work includes articles on food rescue networks and food rescuers, the communicative pedagogy of land acknowledgment statements, and the rhetorical appeal of food waste apps.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify ways in which food waste is often connected to hunger.
- Describe how food rescue networks function.
- Articulate ideas about systems theory as it relates to food systems and food rescue networks.
- Situate food rescue and food rescue networks as sub-systems of food.

INTRODUCTION

What if for every three bags of groceries you bought, you threw one in the trash? More than one third—or one trillion dollars—of the food produced in the world is lost or wasted. In the U.S., estimates of **food waste** have varied between 33% and 50%, and these numbers have only grown because of the COVID pandemic.

Along the food supply chain (production, transformation, distribution, retail, and consumption), exactly where waste occurs the most is less clear, but internationally, food waste happens primarily at the production stage, with fruits and vegetables leading the losses. In countries with higher gross domestic product (GDP), such as the U.S., U.K., Canada, and Australia, food waste occurs more often at the consumer end of the chain, where oversupply by food businesses is deemed necessary to sell their products.

Given its origins in everyday life as a material and relational byproduct of production, waste is profoundly important to the

ecosystem. And yet, especially in nations with highly industrialized **food systems**, and amongst the middle classes, waste also represents material and unnecessary excess. Waste is both unnecessary and necessary—it is both overly abundant and thus not wanted or chosen and that which is needed to survive. Food waste, especially, causes both guilt and ambivalence, because it indicates the casual disregard or devaluation of food, even as many people don't know when or where they will get their next meal.

In highly industrialized nations, food–waste reduction campaigns by governments, nonprofits, food-related businesses, and other groups have proliferated on mass and social media platforms. In conjunction with these campaigns, the excessive waste of food has become a frequent topic for news stories, documentaries, and even competitive cooking shows. The immorality of wasting food when so many go hungry is the primary theme of these shows, and it is a powerful one. In the U.S., there is an incredible overabundance of food, where piles of perfect produce are displayed in supermarkets, and seemingly endless choices over what and how much to eat are necessary to attract consumers. This phenomenon has led many scholars and activists to proclaim that we waste more than enough to feed the estimated 820 million hungry people globally. Indeed, the connection between waste and hunger has come to serve as the foundation for a very popular method of waste reduction: food rescue.

Figure 1: *Food rescue is in many ways at the intersection of food waste and food insecurity.*

Food rescue, or food waste recovery, describes the sanctioned activity of collecting food from markets, farms, educational institutions, restaurants and other food-related businesses, which would otherwise be wasted. The rescued food is then delivered or transported to food shelters or other recognized food aid providers. The terms "recognized" and "santioned" are important to food rescue transactions, as these designations are necessary for legal protection (under the Bill Emerson Act[1]) and to apply

1. The Bill Emerson Food Donation Act offers Federal (U.S.) protection from civil and criminal liability for persons involved in the donation and distribution of food products to food insecure people under certain conditions. Namely, a person must donate in good faith apparently safe and good quality food to a nonprofit organization for distribution to individuals in need to receive protection under the Act. The Act also provides protection against civil and criminal liability to the nonprofit organizations that receive such donated items in good faith. https://www.usda.gov/sites/default/files/documents/usda-good-samaritan-faqs.pdf

for tax breaks and government (or other) aid. Food donors, rescue agencies, and recipients of rescued food must work closely together to communicate about what, where, and how much food can be donated, as well as specific logistics of dates, times, and transport. Over time, these **food rescue networks** learn how to coordinate their actions to donate and rescue, in order to serve as many community members as possible. Food rescue agencies primarily serve as the hub of these networks and, as such, must match suppliers with recipients, ensure the safety and quality of the food, and calibrate amounts of food to match supply with need. In this manner, food rescue networks work as a system, communicating among themselves to ensure that food is donated, rescued, and received as optimally as possible.

SYSTEMS THEORY AND ANALYSIS

The following case looks at the systemic operations of a food rescue network in Western Massachusetts, U.S. **Systems theory** posits that everything living and non-living, from organisms to organizations to official policies, draws from and contributes to its broader environment. Systems are made up of various elements, and those parts, through coordinating processes, make up the whole. Systems analysis shows the interconnections among the various parts (e.g., roles, functions) and their relationships to the whole system's effectiveness. For instance, within food systems, there are various sub-systems of production, transformation, distribution, retail, and consumption. Those sub-systems interact with larger food systems, and all are interconnected to other systems that have an impact on each other (for instance, the health system, transportation systems, energy systems, etc.). A structural change in any of those 'other' systems (e.g., health systems during a global pandemic, or the shutdown of a natural gas pipeline) will have an impact on food systems and their various sub-systems.

Several systems principles are useful in analyzing the communication of food rescue networks. Interconnectedness refers to the relatedness of all things to each other, and to the interdependence among the various parts for the system to function. Food rescue agencies are central to food recovery, but food donations and food shelters supplying food to hungry people are necessary for food rescue to be successful. Food security means that people don't have to worry about gaining access to nutritious food. For food rescuers and shelters, achieving food security requires a constant excess of otherwise wasted food, and so the cycle begins again. **Synthesis** focuses on how parts of the system become a network and make meaning in relation to each other. It offers a bird's–eye view of both the whole and its parts, as they work together. Food rescue is made meaningful through the actions and reactions of food donors, rescue agencies, and receiving shelters and centers. As a system, food rescue also shapes attempts to reduce food waste and food insecurity. A system adjusts and readjusts itself based on *feedback* about the functioning of various elements. When a system is maintaining its normal levels of performance, **reinforcing feedback loops** sustain the patterns established by working together toward the goal. Food rescue networks have as their goal the diversion of otherwise wasted food to feed hungry people, and that goal is constantly reinforced by rising levels of food waste and food insecurity. **Balancing feedback loops**, however, use feedback to change reinforcing loops, in order to alter or correct systemic relations at a larger level, such as addressing environmental issues caused by food waste at the point of production. Finally, **causality** describes the ways parts of the system influence each other and how systemic processes (relationships, feedback loops) lead to various consequences.

FOOD RESCUE IN WESTERN MASSACHUSETTS

In what follows, I apply these concepts to better understand how the network functions as a system. A research assistant and I conducted 30 interviews with food donors and staff at rescue agencies, food pantries, and shelters in the network. We conducted five of the interviews twice, before and after the start of the COVID pandemic, to evaluate how the network managed such a massive event. Members of the network expressed interconnectedness through being able to understand and respond to the logistics of everyday food rescue. This appeared in the ways they communicated about what was expendable and needed for donation, and how to get the product from one place to another safely. For instance, one staff member at the local food bank told me that she was in frequent contact, twice a week, with the most regular donating organizations and shelters, to determine needs and supplies. She regularly received data from shelters about what kinds of food was most needed (fresh vegetables, meat), and went about trying to secure consistent sources for supply.

Synthesis was expressed by members of the network in comments about how food rescue acquires meaning, not through individual actions, but through members' relationships with one another and the community. Speaking shortly after the 2020 pandemic shutdowns led to difficulty maintaining the network, one shelter director stated, "The number of checks that we've gotten, the amount of calls, people that have dropped off masks or supplies we couldn't get. You ask for it, they [community members] give it to you." Food rescue is therefore meaningful not only in terms of the various parts of the network, but also as representative of the community.

Reinforcing feedback in the network is heightened by increases in the amounts of food donated (either through outreach or government incentives) and the need for food donations as food

insecurity continues to increase in the U.S. These feedback loops strengthen the motivation to continue to rescue food. As a food shelter director noted, "I think something else to take away from [COVID] is the flexibility aspect… Just having the ability to go with the flow, to make those adjustments accordingly." Where flexibility allows for greater latitudes of adjustment and reinforcement to the system, *balancing feedback loops* do not occur. As food insecurity has risen during the pandemic, food waste has grown in tandem. On the consumer end of the food chain, studies in the U.S. and U.K. showed that in the first months of the pandemic, when there was chaos and uncertainty over food supply, household food waste decreased, but then increased again as the food supply became more normalized. Further up the food chain, when farms and other food purveyors shut down or lost employees due to illness, food was not sold and waste increased. In a crisis, the donation of otherwise wasted food provides the easiest and quickest route to feed hungry people, and food banks and shelters now rely more than ever on food rescue to help with the increasing numbers of people who need food.

The increased need for food rescue has resulted in continuous changes to the food networks we studied. These changes, such as increasing government incentives for large-scale food producers and suppliers to donate/divert their food waste, recruiting more volunteers, and adding a third shift at food banks (to allow them to be open longer), have helped to strengthen the network and increase rescue activities. For donations to match the needs of a food shelter, more waste (non-retail food) needs to be constantly donated. Causality, then, ensures that food rescue is a functional short-term solution that will resolve neither food insecurity nor food waste reduction in the long run. Using the logic of causality and the reinforcing loop, we will (perversely) need to waste more to feed more hungry people.

However, causality within systems theory is dynamic and multi–scalar, and there are systemic consequences to food rescue and its networks on the relational and community level that are more beneficial, and which raise community awareness of food insecurity, if not food waste. Before and after the pandemic began, as one food rescue agency director stated, "We were seeing some creative partnerships happening. The one that comes to mind is a restaurant that wants to keep their staff engaged, so they were making meals using the product they couldn't normally serve to customers and making them for the local food bank." Similar, informal initiatives to help combat food insecurity, such as mutual aid, indicated the presence of grassroots motivation to help others, perhaps for the first time.

CONCLUSION

Systems theory and systems tools are helpful in describing relationships, patterns and functions in organisms, networks, and organizations. For our food systems, and food rescue in particular, systems thinking allows us to see what's working, diagnose problems, and see consequences. Systems thinking about food rescue foregrounds cyclical processes where food rescue often focuses on linearity (e.g., the diversion of food waste from point A to point B), structural problems (unemployment), and other ways to focus on feeding (literally and figuratively) the immediate issues. Systems theory also allows us to see how systems (and not just parts of the whole) are interdependent on each other, as the food system depends on other environmental, economic, and political systems. Finally, systems analysis points to consequences of reinforcing feedback loops, or of systemic interdependencies of which we may otherwise be unaware. Food rescue networks then, communicate systems theory in action, as a sub-system working within the broader food systems and the constellation of systems that contribute to their functioning and consequences.

Discussion Questions

- Why is waste unavoidable?
- How do principles of food rescue systems function within our overall food systems?
- How does food rescue reduce food waste?
- How is food rescue related to other options for reducing waste?
- How or does food rescue address food insecurity?
- What (if any) food rescue organizations operate locally?

Additional Resources

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PHOEBE STEPHENS

FINANCIALIZATION IN THE FOOD SYSTEM

Phoebe Stephens *is a SSHRC Postdoctoral Fellow at the University of Toronto where she studies the role of finance in the food system and is particularly interested in assessing the potential of alternative financing mechanisms to support transitions towards more sustainable and regenerative food systems. Phoebe has published a number of book chapters and peer-reviewed journal articles on this topic. She holds a PhD in Social and Ecological Sustainability from the University of Waterloo and is a 2018 Pierre Elliott Trudeau Foundation Scholar.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain the context for the rise of financialization in the food system.
- Outline the core debates amongst scholars of financialization
- Identify the main manifestations of financialization in the food system and how they impact social and ecological outcomes

INTRODUCTION

Have you ever wondered how decisions made in the abstract world of financial markets affect something as intimate as the food you eat? Did you know that the investment landscape of food and agriculture has significantly changed in the last two decades, in ways that influence your choices at the grocery store? The reality is that we live in a highly financialized era, that is, profits made through financial markets—rather than productive activities—are taking on a greater share of our economy. In big and small ways, our food systems are being shaped by financial investment patterns. It is important to understand such structural forces in our food systems, as they profoundly shape realities on the ground, often in unsustainable ways. If we want to have any hope of changing those realities, we must know how the system is structured and which levers to pull.

The academic literature on financialization gained momentum after the 2007–08 financial crisis, and has grown rapidly in the last decade. It is a broad area of scholarship that originates predominantly from political economy and geography, but is also informed by other disciplines, including sociology, anthropology, and development studies. Mainly, scholars of financializa-

tion seek answers to and explore the implications of the increasing role of finance in the economy. At its core, the literature on financialization contributes to the study of contemporary capitalism.[1] Its primary contribution is to challenge the belief in the neutrality of money, that is, the literature on financialization critically analyzes the financial system.

There are many definitions of financialization. A common one is by economist Gerald Epstein, who describes financialization as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of domestic and international economies".[2] Another, by historical sociologist Greta Krippner, emphasizes the abstraction from the real economy: "Financialization is the tendency for profit making in the economy to occur increasingly through financial channels rather than through productive activities".[3]

Scholars identify different causes for the increased financialization of the economy from macro-, meso-, and micro-levels. A macro-level interpretation relates to the crisis of **capital accumulation**. Since the 1980s, capital has accumulated increasingly through financial rather than productive means, as Krippner's definition suggests.[4] The thrust of the argument is that declining profits in the manufacturing sectors of industrialized countries encouraged financial deregulation, which was meant to stimulate the stagnant economies of the 1980s and gave rise to finance-led growth.[5] **Globalization** is one of the primary drivers of this structural shift, as companies in the Global North increasingly moved their production off-shore and began to control foreign

1. van der Zwan 2014.
2. Epstein 2005, 3.
3. Krippner 2011.
4. Arrighi 1994.
5. Clapp 2015.

supply chains in order to keep costs low and remain competitive internationally.[6] Rather than reinvesting profits into the business, they were increasingly distributed to shareholders or invested in financial products.[7]

The meso-perspective relates to the shareholder revolution that arose in the 1980s. At this time, non-financial companies began acting more like financial firms, in the sense that they re-oriented their strategies to maximize shareholder return. The revolution of shareholder activism tied business performance to the compensation of executives through stock options, which tends to result in more short-term value creation, rather than long-term investments in innovation.[8] By the late 1990s, the shareholder value model of corporate governance became conventional wisdom and spread around the world, gaining prominence not only in North America, but also in Europe, Japan and emerging economies.

A final, micro-level aspect is the concept of the financialization of daily life. This refers to the fact that, increasingly, people must resort to financial products to manage life stages and life goals.[9] Other themes that fall under the financialization of daily life include discourses around risk-taking and self-management, and the way that state policies influence everyday habits of savings and borrowing. While the 2008 financial crisis helped to expose the interconnection between households and global financial markets, the financialization of daily life was already well underway. The first factor relates to the erosion of the Fordist social contract prevalent in the United States and Canada, starting in the 1970s, whereby employers provided certain forms of security

6. van der Zwan 2014,104.

7. Ibid.

8. Schmidt 2016.

9. van der Zwan 2014, 109.

through living wages, meaningful pension, and health insurance. The second factor occurred around the same time, when the Keynesian-inspired welfare state started to dismantle, pushing many citizens around the world to turn to financial products to underpin their livelihood security.

DEBATES

Since financialization scholars attempt to make sense of a host of complex interactions, it is no wonder that there has been such a wide variety of empirical studies on the topic. This mushrooming of the financialization literature has come under scrutiny, however. For instance, Christophers views financialization as the "buzzword of the 2010's," arguing that it is both conceptually and empirically limited.[10] His critique largely stems from the lack of analytical clarity of the concept of financialization and he cautions scholars researching the topic to be conscious of its theoretical limits.[11] Lawrence and Smith wrote a response to Christophers' arguments, defending financialization as a "concept-in-the-making."[12] Their main rebuttal was that rather than viewing financialization as intellectually vacuous, more rigorous studies of financialization are needed to better understand the phenomenon. As financialization has gained traction among a variety of scholars, there has been more research into how the process of financialization incorporates 'non-financial' actors. Financialization in the food system is one such example, and represents an important body of literature for contextualizing how large-scale financial investment patterns and the rise of shareholder value influence social and environmental outcomes in food systems around the world.

10. Christophers 2015.

11. Ibid.

12. Lawrence & Smith 2018.

Financialization in the food system

The activities of the financial sector have become increasingly enmeshed in food and agriculture. Just over a decade ago, the financialization of the food system captured scholarly interest when it first became widely apparent in the area of agricultural commodities. From 2002–08, the FAO Food Price index rose by 125 percent, spiking dramatically between 2007 and 2008 at the height of the food crisis.[13] Although a confluence of factors contributed to this situation (including rising energy prices, increased costs of agricultural inputs, and droughts around the world), many pointed to the dramatic increase in speculative financial activity in **agricultural futures markets** as a core driver. The high food prices of the food crisis hurt many poorer communities around the world as they struggled to afford to feed themselves. Exorbitant food prices incited riots in different parts of the world, including Egypt, Haiti, Bangladesh, and Mexico. The far-reaching impacts of the food crisis demonstrate how financial investments can have very real repercussions for people's lives.

Financialization in the food system is demonstrated in part by the involvement of a new group of actors such as pension funds, private equity firms, hedge funds, and sovereign wealth funds in food and agriculture investments.[14] Spurred in part by the food price crisis, new financial actors in the food system also moved swiftly into farmland investments. Though financial investors had long dismissed the agricultural sector as unpredictable and unprofitable, they turned their focus to *farmland*, and agriculture more broadly, during the 2007–08 financial crisis, as higher commodity prices and the prospect of stable, risk-adjusted returns provided a promising alternative to traditional invest-

13. Schmidt 2016.

14. Lawrence & Smith 2018, 31.

ments, which were floundering at the time.[15] Other factors, such as a rising global population, greater demand for meat, and biofuels made agricultural land an appealing investment. The interest in farmland has stuck, and between 2005 and 2017, institutional investors (e.g., private equity funds, hedge funds, pension funds) and high-net worth individuals invested an unprecedented forty-five billion dollars (US) in farmland.[16] However, it bears noting that investor interest in farmland ebbs and flows depending on a variety of factors, including changing regulations around which actors are allowed to invest in farmland. For example, in response to dramatic price increases of agricultural land in Saskatchewan, in 2015, pension funds and trusts of more than ten people were banned from acquiring farmland in the province.[17]

Initially, the land rush predominantly took place in emerging economies and prompted concerns around tenure rights and land access for small-scale farmers in these countries. One egregious example involved South Korea's Daeweoo Logistics, which was negotiating a 99-year lease of half of Madagascar's arable land.[18] Had the deal gone through, the company could have exported all of the produce grown on the Malagasy land and imported all labour from South Korea, as the governance stipulations were weak. The scale and nature of the deal caused public outrage and was a primary cause for the ousting of the president at the time. Though this one deal did not move ahead, Africa is a popular target of land grabbing by foreign entities, which raises many concerns regarding African countries' food security and food sovereignty. Over time however, higher income countries such as the United States, Canada, and Australia have also

15. Schmidt 2016, 105.

16. Laperouse 2016.

17. Magnan 2018, 110.

18. Wittmeyer 2012.

attracted private and institutional investment in farmland.[19] This has served to drive up the cost of rural land in these countries, making it difficult for new or small-scale farmers to enter the market.

Such investments in agricultural land tend to entrench the industrial model of agriculture, as they target large tracts of land destined for commodity and monoculture farming. This type of agricultural production is highly mechanized and involves the use of chemical pesticides and fertilizers, and is a significant contributor to global greenhouse gas emissions—among other negative environmental externalities.[20]

At the institutional level, non-financial firms such as agrifood businesses—like seed and agrochemical companies, food manufacturers and processors, and grocery retailers—are being reshaped by financialization while also profiting from it. For instance, agricultural trading firms such as Cargill are increasingly involved in financial activities to generate profit. Cargill is made up of a number of business units and subunits. The company produces and trades seed, feed, fertilizer, and agrochemicals. It is also a "landowner, cattle rancher, maker of transportation vehicles, biofuel producer and a provider of financial services," through subsidiaries such as Black River Asset Management.[21] Black River acquires private equity in agricultural companies, indirectly controlling land in various countries around the world, which demonstrates the connection between agricultural companies and farmland.

Another way that financialization affects business behaviour is by motivating firms to participate in mergers and acquisitions in order to generate value for shareholders. There is therefore

19. Magnan 2018.

20. Foley et al. 2011.

21. Salerno 2014, 1710.

an indirect connection between rising financialization and rising corporate concentration along the food value chain. These activities have led to a situation in which four companies dominate the global grain market, a handful of supermarket chains in advanced economies control the vast majority of food sales, and the top five seed companies have massively increased their market share in the last twenty years.[22] As fewer and fewer companies control the food system, the influence of the few remaining firms becomes more powerful. This growing power allows them to shape rules, regulations, and practices along the food chain to their benefit.[23] Some of the results of rising corporate control in the food system include jeopardizing small farmer livelihoods, environmental quality, food safety, and consumer sovereignty.

Consider the unprecedented acquisition of Whole Foods by Amazon in 2017, which has not only expanded Amazon's reach offline but has also pushed the entire grocery industry towards online shopping and delivery services. Moreover, there are concerns about how the acquisition will affect sustainability outcomes on the ground. As the leadership at Whole Foods changed with the acquisition, many wondered if the new management would uphold the same values of prioritizing local and sustainably produced food. Four years on, it seems as though Amazon has maintained many of Whole Foods' original commitments to sustainability and traceability, but it is perceived as less nimble from an innovation standpoint and less able to support local companies, now that it has centralized its buying practices.[24] This reality limits its ability to support more diversified, regional food systems, which is understood to support greater resilience and sustainability.

22. Bonny 2017.

23. Fuchs et al. 2013.

24. Cox 2021.

CONCLUSION

Ultimately financialization makes it difficult for more sustainable, alternative food systems to develop and thrive. In particular, the prioritization of shareholder value—whereby maximizing shareholder returns are sought over long-term or ethical goals—tends to increase corporate concentration through mergers and acquisitions (because these activities generate strong dividends). This trend crowds out chances for economic diversity in the food system and limits opportunities for smaller and more sustainable alternatives to scale up and out.[25] In-depth research on the power dimensions of the food system has demonstrate how **neoliberalized markets** have a tendency to become dominated by a handful of corporations.[26] When markets become skewed in this way, companies have the power to shape outcomes to their benefit and the already disadvantaged end up bearing the brunt of costs.[27] The financialization of agricultural commodity markets have hurt consumers around the world as food prices rise and become increasingly unaffordable. The meteoric rise in farmland investments has also had profound repercussions for social and environmental justice. For instance, many of the crops grown on land bought by foreign investors in poorer countries are exported, instead of feeding local and often food-insecure communities. Moreover, these investments tend to entrench the industrial model of agricultural production, which is heavily dependent on fossil fuels, degrades soil fertility, and is highly polluting.[28]

Inconspicuous, structural forces like financialization can often go unexamined in daily life. To bring about food system change,

25. Clapp & Isakson 2018.

26. Howard 2016.

27. Ibid., 2.

28. Ibid.

however, it is necessary to make the invisible visible, so as to understand the leverage and pain points in a system. Reading and learning more about financialization at the macro-, meso- and micro- levels is one way of advancing your knowledge of the barriers and opportunities that exist for transforming food systems, towards more sustainable and regenerative outcomes.

Discussion Questions

- What are the three levels of financialization and how are they connected to the financialization of the food system?
- How do you see the presence of financialization in your daily food provisioning practices?
- Who owns the farmland in your region? Does it matter who invests in farmland? How might farmland ownership impact social, economic, and environmental outcomes in your region?

Exercise

Land Grabbing Role Play

In groups of approximately six students, engage in a role-playing game to understand the perspectives of various stakeholder groups associated with large-scale farmland investments (also known as *land grabbing*).

Scenario: A large land deal is being negotiated in which institutional and foreign investors are poised to acquire 100,000 acres of

some of the most fertile land in your region. There is significant opposition to the deal, but it promises to be very lucrative. A town hall meeting is being held to discuss possible ways forward.

Roles:

- pension fund manager
- foreign state investor
- provincially elected government official
- farmer
- domestic food consumer
- environmentalist

Assuming one of the roles identified above, present your arguments for or against the deal and identify possible areas for compromise. Once everyone in the group has had a chance to present, discuss the issues, tensions, areas of agreement or conflict, and anything else that piqued your interest. Be prepared to share and discuss your observations with the rest of the class.

Additional Resources

ETC Group Reports: The ETC Group is a non-profit organization that investigates and reports on ecological erosion; the development of new technologies, and global governance issues including corporate concentration. They often focus on the food system.

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ANNIKA WALSH

FOLLOW THE SPOONS

Annika Walsh is a transdisciplinary artist who was born in Chuzhou, China and adopted at 11 months of age by her family in Canada. She works with a variety of ingredients, materials, and collaborators to form her conceptual pieces. Her practice ranges from exploration of cultural identity to participatory food performances, and everything in between. Striving to blur the lines and push the boundaries, Annika makes a habit of traversing many disciplines, including sculptural installation, performance, and media.

FOLLOW THE SPOONS (OCT. 2020)

"Follow the Spoons" is a non-invasive public intervention that invests in the community and advocates for the importance of

people. During COVID pandemic-related shutdowns, Wellington Village in Ottawa, Ontario began to shift and suffer. The local food establishments are very dependent on everyone in the neighbourhood and were in need of public engagement. This intervention served as a reminder to the community that these businesses needed help. Leveraging the flow of people going in and out of the newly built Tunney's Pasture O-Train transit station, I placed flattened spoons in the area, labeled with the names of restaurants and food shops, and pointed in the general direction where they were located. During difficult times, I encourage this initiative to spread throughout the city, with many people participating in a movement of collective solidarity.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=577#oembed-1

Exercise

Grab some paper, tape, and spoons!

Then write down a list of local restaurants or food businesses that deserve some love and attention from your neighbourhood. Cut out the list of names and tape them onto your flattened spoons. If you do not have a hammer to flatten out the spoons, don't worry about it! Concave surfaces work too, or you can use chopsticks or any other utensil you have access to! Take your labelled spoons and tape them onto a signpost in a semi–high traffic area, wherever they will be easily and frequently seen.

EEFJE DE GELDER

FAIR TRADE

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain fair trade practices and how these relate to underlying ideological debates.
- Explain what fair trade mainstreaming is and the main topics of debate around it.
- Articulate potential future directions for the fair trade movement.
- Formulate an informed position on fair trade practices and ideologies.
- Review and compare the fair trade practices of different organisations and businesses.

FAIR TRADE

While doing your daily grocery shopping, you may have wondered about the **fair trade** labels you see on certain products. Fair trade is a form of *ethical commerce*, embodied by a movement that mobilizes the idea of **food justice**.[1] The goal of the movement is to provide justice to marginalised, small-scale farmers in supply chains that typically do not have equal access to international markets and/or have low bargaining power in exchange relationships. Ideally, direct and long-term relationships between producers and buyers are established, eliminating the middlemen who often take a large part of the profits. The movement aims to pay higher prices than those already established on the world market, and establish better exchange conditions for producers, for example by including pre-finance options and fixed interest rates when contracts are set up. Better wages, fewer working hours, prohibition of forced and child labour, and better protection against toxic material are among the ways that work-

1. Maseland & De Vaal 2002, 253.

ing conditions of labourers are improved. In this way, fair trade aims to make producers less dependent on the mercies of world markets and middlemen. In other words, it is believed that compliance with fair trade principles improves and stabilises the socioeconomic situation of producers and labourers and the communities in which they live.

These additional requirements do not come without costs for consumers. Over time, different fair trade organisations and businesses have supplied fair trade products to Western consumers, who in turn pay a higher price for these products. The higher consumer price is intended to ensure the well–being of producers. At the same time, with descriptors, labels and marketing campaigns around their products, fair trade organisations aim to create greater awareness, explaining why fair trade products cost more. At a higher level, fair trade organisations want to change the rules of the game, where conventional international trade practices are perceived as unfair.[2] For example, the Fair Trade Advocacy Office in Brussels is dedicated to bringing fair trade and justice to the fore in EU policies.

When fair trade principles are applied in practice, there are a couple of basic premises for the partners involved in the exchange. Small-scale producers of handicraft or **commodities** such as coffee and bananas—with the production organised democratically in producer communities—receive a guaranteed higher price than the world market price. If the world market price is higher than the fair trade price, the world market price holds. On top of the fair trade price, a social premium should be provided, which producer communities should spend on community development, for instance on education. Organically grown commodities receive an additional premium. For example, since 2019, the guaranteed fair trade price for cocoa has been

2. International Fair Trade Charter 2018, 7.

US$2400/metric tonne (MT), with a social premium of US$240/MT and an organic premium of US$300/MT. At the beginning of 2021, the cocoa price was US$2604/MT, meaning that fair trade cocoa producers would receive the world market price plus the social premium, which amounted to US$2844/MT. Organic cocoa producers would receive a US$3144/MT. Besides the payment of fair trade prices, pre-finance arrangements should also be made with producers who often lack the financial means to invest and/or face high interest rates. On their side of the bargain, producers must apply sustainable production methods and forbid child labour in the production process.

The efficacy of fair trade certification programs has been found to be mixed and multi-layered. **Fairtrade certification** by Fairtrade International may function as a safety net in cases where world market prices are low, but in those cases where world market prices are high, the relative benefits of fair trade certification may disappear. Results depend on the context, and may reflect the way in which the fair trade certification program is applied and the type of producer group involved. It is also hard to control how the auditing of small-scale producers functions, as well as how transparent these processes are. Furthermore, the poorest small-scale producers—those suffering mostly from power imbalances in exchanges—may not be reached by its program, since a yearly certification fee is charged to co-operatives, which the poorest are unable to pay. While generally it can be said that fair trade certification programs such as Fairtrade are beneficial to producer and worker communities, fair trade cannot be regarded as a panacea for the structural challenges that continue to exist at the international level. For example, it would be more effective to lower or eliminate U.S. subsidies for cotton farmers that serve to keep world market prices artificially low, and allow prices—and therefore incomes—for cotton producers to rise worldwide.

This raises the question of how the fair trade movement as a whole approaches the market, with fair trade organisations and companies having different ideas about how fair trade works in practice. A major issue is the extent to which the movement's ideology fits the markets it operates in. Should fair trade focus on enlarging its market, or focus on greater international justice? Do fair trade practices exist completely separately from conventional market operations, or can they be integrated? The history of the fair trade movement reveals the tensions between different approaches and different actors in the movement, and these differences have caused debate that continues today.

Table 1 shows different fair trade principles that virtually all actors in the movement adhere to, more or less.

Table 1: Overview of fair trade principles and the specifications of each (Source: World Fair Trade Organisation 2016).

Fair trade principle	Specification
Creating Opportunities for Economically Disadvantaged Producers	Poverty reduction by making producers economically independent.
Transparency and Accountability	Involving producers in important decision making.
Fair Trading Practices	Trading fairly with concern for the social, economic, and environmental well-being of producers.
Payment of a Fair Price	Paying producers a fixed price by mutual agreement, ensuring socially acceptable wages depending on the location.
Ensuring no Child Labour or Forced Labour	Adhering to the United Nations (UN) Convention on children's rights.
Commitment to Non Discrimination, Gender Equity and Women's Economic Empowerment, and Freedom of Association	Respecting the trade union rights and rejecting discrimination based on gender, religion, or ethnicity.
Ensuring Good Working Conditions	Providing a safe and healthy working environment for producers and workers in line with the International Labour Organization (ILO) conventions.
Providing Capacity Building	Seeking to develop the skills of producers and workers so they can continue to grow and prosper.
Promoting Fair Trade	Raising awareness for the need of greater justice in world trade by trading fairly with poor communities.
Respect for the Environment	Caring for the environment by maximising use of sustainable energy and raw materials, while minimising waste and pollution.

THE HISTORY OF FAIR TRADE

Fair trade has a longer historical track record than is immediately obvious. The fair trade movement began already in the 1940s, when consumer groups in the U.S. and Europe started to import products from handicraft producers. The American Edna Byler, for instance, formed the basis of what is now the retail chain Ten Thousand Villages, by importing handicrafts from Puerto Rico, starting in 1946. In the 1960s and 1970s, these

consumer groups were joined by people aiming to change the international trade system entirely. Shops selling products coming from decolonising countries started to appear in commercial districts, encouraged by **alternative trade organisations** (ATOs). An example of these are the so-called World shops in the Netherlands. These outlets were regarded as alternative, and often functioned as centres of political action, where fair trade's market approaches and actions were discussed. They paid special attention to producers from countries that were in the process of decolonisation and their participation in equal exchanges at the international level.[3]

Differences over how to operationalise the movement's ideals became very obvious with a new exchange practice in 1988. The birth of the first fair trade certification program, by the Dutch foundation Max Havelaar, implied the start of a market-based strategy. Conventional companies could now join the movement more easily, without being involved in the politically sensitive issues with which the ATOs were associated. Products could be fair trade–certified if producers and companies complied with fair trade standards, audited by an independent organisation (such as the European **FLOCERT**). Over time, fair trade certification became common ground in different European countries, as well as in the U.S. and Canada. The rise of fair trade certification programs enlarged the impact of fair trade among producers because more companies could join. Sales of fair trade products increased as consumers more easily and frequently encountered fair trade products during grocery shopping. At the same time, fair trade producers faced extra costs in terms of certification fees and associated administrative costs.

As fair trade–certified sales increased, the fair trade movement became more institutionalised, with the overarching body of the

3. See also Van Dam 2020.

fair trade movement, Fairtrade International in Bonn (Germany), leading the different national European and American fair trade initiatives from 2007. This organisation is responsible for setting the Fairtrade Certified standards and management of the surrounding process. Currently, various fair trade suppliers, companies, certification programs, and organisations have emerged, including industry- and firm-based programs such as UTZ Certified and the Nestlé Cocoa Plan. UTZ Certified was introduced in 2001, as the certification program "Utz Kapeh" ("better coffee") by the multinational Ahold, and fitting the desires of the industry better than the Fairtrade International certification program. The main difference was the guaranteed minimum price, which UTZ Certified does not offer. The emergence of different types of certification programs and industry involvement has meant that the concept of fair trade has increasingly been contested, with internal conflicts in the movement leading to a split in the American fair trade movement in 2011. At stake, among other things, were the percentage of fair trade certified ingredients in fair trade certified products and plantation certification.[4] Essentially, the discussion was about who fair trade policies were about: the marginalised, small-scale producers, or companies engaging in fair trade.

MAINSTREAMING FAIR TRADE AND THE CLASH OF TWO STRANDS IN ONE MOVEMENT

Disagreements over the goal of the movement have led to intense discussions between people and organisations. Some fair trade movement actors have said that entering mainstream distribution channels would hollow out the movement's ideals. Indeed, up until today, the debate about being a movement and a market at the same time has been an important thread in **mainstreaming fair trade**, that is, the process in which consumers and com-

4. For a discussion on plantations, see Raynolds 2017.

panies are increasingly buying and selling fair trade–certified products. Two main ideological positions in the fair trade practices of organisations and companies can be distinguished.

On the one hand, fair trade is regarded as a practice *over and against* conventional market practices. Activists advocate an entirely new, alternative international trade system. Based on Marxist ideas on exchanges, personal relationships between consumers and producers, and direct, long-term transactions are regarded as the embodiment of just trade. According to Karl Marx, commodities in an exploitative system focused on profit-maximisation hide the situation of marginalised producers and labourers. **Commodification** thus prevents consumers from seeing the true circumstances under which a product is produced. Following this logic, consumers should be enlightened about the precarious position of producers and labourers, and aim at the eradication of inequalities at the international level. By working *in* the market and with conventional market players, the movement would lose these values and no longer be an alternative for the impersonal market systems. Again, this argument suggests that such systems aim at profit-maximisation only, and may start to undermine fair trade principles. The fear is that cooperation with the same firms whose practices the movement has been trying to fight would cause the same problems to re-emerge, given that their motivations would not have changed fundamentally. Consumers, aiming to establish personal and long-term relationships in supply chains, or to acknowledge the producers' situation, would have no incentive to buy. Instead, consumers would be extrinsically motivated and focus on other features of the products. This would undermine the movement's objective of having a dedicated consumer base with a focus on international justice.

On the other hand, adherents of fair trade certification proclaim that the idea of just trade *should* be operationalised in the market.

By means of certification programs, both market share and impact for producers and workers would increase. Moreover, working with bigger multinationals such as Starbucks and Nestlé would accelerate this process. The success of fair trade certification could stimulate these firms to apply fair trade principles in their other supply chains too. From a business perspective, a certification mark on their product packages implies added value to their products. A label may persuade consumers to buy not just a commodity, but a product that reflects fairness for producers. Having a certification mark could thus be a market strategy to differentiate, and give businesses a competitive advantage compared to other (not yet certified) products typically traded as commodities. In addition, larger businesses can often achieve economies of scale, making it easier to offer fair trade products at a lower price. Staying 'alternative' would mean that the (often more expensive) fair trade products remain a niche in conventional markets, restricting the overall improvement of producer livelihoods. Fair trade–certified products in conventional outlets would thus allow consumers to find fair trade products easily by their certification marks and labels, increase awareness of fair trade producers and workers, and allow high–quality products to be bought at affordable prices.

MAINSTREAMING FAIR TRADE AND THE PRACTICAL CONSEQUENCES

The mainstreaming of fair trade has raised three main issues about operationalising just trade. Essentially, these reflect the roles of three actors in the fair trade movement and their effect on beneficiaries: the larger companies entering the movement, consumers, and the fair trade movement itself.

First, it has been feared that the entrance of larger businesses may violate or not fully comply with the standards set by Fair-

trade International.[5] For instance, in the U.S., Starbucks violated the Fairtrade requirement that 5% of total coffee consumption should be bought as fair trade–certified.[6] Larger companies may start their own certification programs, requiring compliance with lower standards and thus diluting fair trade's overall message. For consumers, distinguishing between the significance of different certification marks on products may become increasingly difficult. Connected with this, larger companies and multinationals often source from larger plantations, rather than small-scale producers, so the original fair trade beneficiaries would face competition. Due to overall low demand, they already face difficulties in selling their harvest. Moreover, power imbalances may continue to exist, to the detriment of small-scale producers, due to lack of transparency about how and to what degree standards are complied with. The voice of the producer may not be voiced sufficiently and, as can be imagined, a two-day, on-site audit of farm operations does not necessarily provide an accurate portrait of what happens in the day-to-day. Such developments raise the question about the intended beneficiaries of fair trade certification programs and about the transparency of the certification process.

Second, increased competition within fair trade in Western countries may result in the disappearance of Alternative Trade Organisations in commercial districts, an outcome already seen during the last decade. This is important, as these organisations typically embody the more 'alternative' current of the movement, conveying fair trade's core message and identity, as well as functioning as a benchmark for fairness. ATOs also stand for establishing long-term personal relationships, which are hard to quantify but of importance to the producer groups they work with. The existence of certification programs would only further

5. Doherty et al. 2013.

6. See Fridell 2009.

increase the anonymity of standardised market transactions, making producers again dependent on the mercies of the market.

Third, consumers' stances on the different fair trade certification marks remains an open question. Consumers do support fair trade goals but do not always buy fair trade–certified products. Consumers can also differ greatly on which aspects of just trade are important and how they should be operationalised in conventional markets. The different fair trade labels that have emerged, such as UTZ-certified, may furthermore lead to confusion for consumers about what fair trade really means. A parallel example is the appearance of other sustainability-related labels (e.g., organic, carbon-neutral, climate-friendly, etc.), which may lead to label fatigue among consumers. For the fair trade movement, this is a risk, as consumers may no longer notice the fair trade–certification and/or consider its added (social) value. Further, media treatment of both the original fair trade certification program and conventional firms' involvement in fair trade may undermine the trust in certification marks. At the same time, such attention can give consumers a better understanding of the difficulties in operationalising just trade.

Finally, the relationship between the Western fair trade organisations and the producers has also been questioned. Fair trade producers do not always have an equal say and/or impact on the strategy to be followed within the development of fair trade (certification) programs. This may hinder critical reflection and exclude the views of fair trade producers' on fair trade standards, mainly developed in Western countries. Over time, Fair trade International has increased the voting power of producer organisations to 50%, but not all certification programs have such systems in place.

The consequences of mainstreaming are crucial to the legitimacy of fair trade in the conventional market. For both companies and

consumers, successful and effective fair trade standards would legitimise paying a higher price for fair trade products and result in more engagement. If fair trade certification marks do not live up to expectation, consumers may lose belief in fair trade. The latter may also happen if fair trade practices are misused by companies, that is, were 'fair–washing' to occur, or were fair trade programs set up that in practice make little or no difference to the producers. For producers, importantly, their well–being depends on fair trade standards being effective. If fair trade does not sufficiently increase socioeconomic well–being, producers will stop working through it. However, there are other ways of fighting the structural inequalities that small-scale producers and workers face. More equality could be established in international trade if, for example, import tariffs and quotas were changed structurally, to the advantage of non-Western countries.

THE FUTURE OF FAIR TRADE

The future of the fair trade movement is closely related to the mainstreaming of fair trade. Practice and understanding are shaped by the way fair trade is operationalised. This has become increasingly varied, now that more companies and organisations have entered the market. It remains questionable to what degree ATOs such as Ten Thousand Villages and World shops will be able to attract consumers and convince them of the added value of the fair trade products. Enterprises that do not necessarily identify as ATOs or fair trade–certified will also become important transmitters of the fair trade message and even compete with ATOs. This could create confusion for consumers. At the same time, this and increased media attention could increase attention to the cause. For example, in the Netherlands, the company Tony's Chocolonely has focused on improving the situation of cocoa producers, making this the reason for its existence and the core of its marketing campaign. (It was nonetheless heavily criticised for being unable to guarantee that its cocoa beans are

'slave–free'.) More recently, there were media reports that this firm is no longer on a U.S.-based list of 'ethical companies', due to its co-operation with a conventional cocoa processing company. Clearly, with mainstreaming, fair trade organisations and companies are increasingly under public scrutiny. Such discussions may pave the way for new and more effective avenues for key actors to mainstream fair trade.

One option may come from companies that opt for having no certification label at all, in order to be more effective in reaching social responsibility and environmental goals. The main aspects of just trade these companies adhere to are establishing direct and long-term relationships with farmers, providing community support, and supporting environmental-friendly production. Moreover, these companies give the producer organisations a price that may be beyond the minimum price as set by Fairtrade International. Being transparent to the public about their on–the–ground practices—even if it includes difficulties in operationalising fairness locally—is often another goal. As such, these companies can be regarded as a new type of ATO, operating in often–specialized niche markets. If these companies are able to succeed in establishing socioeconomic well–being for producers without needing certification programs, they showcase a new way of operationalising fairness to actors in the mainstream. To succeed, however, these companies will need a dedicated consumer base that understands and engages with the issues they aim to address, including a willingness to pay a higher price for products (compared to conventional and fair trade–certified products).

Fair trade certification organisations, in turn, are increasingly aware of the consequences of mainstreaming, as well as the limits of their own certification programs. They tend work together more, lobbying for (inter)national legislation, as they believe that market-based strategies do not work quickly enough, and con-

sumer commitment is too weak to achieve real change. In this way, a level playing field for all companies might be established, forcing those that are lagging behind to start implementing **human rights and environmental due diligence**. This entails that companies address all the social and environmental risks and impacts within their supply chains. They would have to make the risks of carbon emissions and pollution visible, but also make the pay and working conditions of workers transparent and, in doing so, respect human rights. The United Nations Human Rights Council initiated guidelines for company and government responsibilities and duties in 2011.

Currently, these frameworks are mostly voluntary for companies, although some countries are in the process of making mandatory the prohibition of forced and child labour. Because of mainstreaming, companies and consumers are increasingly aware of these issues, and at the present moment, there is greater openness to this type of enforced regulation by governments that have, until now, not actively put into place such regulation.

Table 2: *The benefits and challenges of the mainstreaming of fair trade (based on/adapted from Doherty et al. 2013, 179.)*

Benefits of mainstreaming	Challenges of mainstreaming
Sales of fair trade products increase: • more opportunities for consumers to participate in fair trade • more commitment to fair trade principles by companies • increase in awareness of the relation between producers and consumers	Fair trade products start resemble conventional commodities: • consumer awareness decreases, resulting in disengagement • fair trade becomes instrumental to firms' profit-maximization principles • no direct relationship between consumers and producers
Number of fair trade beneficiaries increases.	Competition between fair trade small-scale producers and plantation workers increases.
Fair trade organizations and companies cooperate more: increased cross-fertilisation of ideas and practices.	Alternative Trade Organizations face increased competition and may disappear.
More media coverage.	Fair trade principles may be hollowed out: • limited commitment of companies in the longer-term • lower compliance with fair trade standards • no direct trade relationships
Fair trade organizations can professionalize and build and/or extent markets.	Certification charges and increased administrative burden for producer groups.
Proof that markets can be vehicles of socially just production and exchanges.	Producers become subject to the mercies of Western markets and companies. Producers do have a limited say in development of certification programs . Consumer confusion increases due to number of certification programs.

Figure 1: *Fair trade organizations supporting alternative trade. Fair Trade Federation and World Fair Trade Organization are membership organizations, SERRV International and Ten Thousand Villages are examples of American outlets, and Wereldwinkel ("World shop") is an example of a Dutch alternative trade organization.*

Figure 2: *Fair trade certification organizations in mainstream markets.*

SYNTHESIS

Fair trade products that consumers encounter during their grocery shopping reflect a world of organisations and firms that struggle over bringing just trade into practice. The balance between movement and market has been a continuous struggle in the historical trajectory of fair trade. The mainstreaming of fair trade products in conventional distribution channels makes clear that the operationalisation of just trade has become increasingly difficult, especially since 1988, when certification was introduced as a new way to approach the market. Certification was a radically different way of establishing fairness, meaning that more organisations—with different interests and motivations than the original, alternative shops—have entered the fair trade market. For fair trade, mainstreaming entails that the movement think through *who* it wants to benefit from its certification systems: small-scale producers, who may not always be so efficient and are the most vulnerable? Or the plantations of the

newly joined, larger companies? And is fair trade only a safety net when world market prices fall, or does it represent a panacea for producers? Other questions revolve around the credibility of the fair trade certification programs that have emerged. Companies and consumers may have different motivations for joining in the movement, bringing along different understandings of fair trade. This could create confusion for consumers about what should be understood as fair trade. At the same time, these developments also force the fair trade movement to re-identify and react to the increasingly competitive environment of which they are a part. That implies that co-operation between actors has emerged, as well as new initiatives to operationalise fair trade without needing certification. To most fair trade actors, however, the time seems ripe for a legal enforcement of fair trade's standards on the (inter)national levels at which they operate. The fair trade movement may be about to enter into a new arena in which 'just trade' becomes the standard for all products.

Discussion Questions

- Which stores in your neighbourhood would you classify as an Alternative Trade Organisation (ATO), and why?
- Thinking about the products you buy regularly in the supermarket, to what degree are you aware of the companies' policies regarding fair trade principles?
- Discuss how political convictions relate to the fair trade movement's two main ideological positions.
- Do you see your consumption choices as a political act? Why or why not?

Exercise

Pick a product of your choice (for example, coffee, tea, chocolate, spices) and then go to a supermarket where it is sold. Find the product on its shelf and list all the fair trade certification marks you can find on the different brands. Then search for more information regarding each certification program on your list and compare them with the help of the principles as outlined in Table 1. In your opinion, which fair trade certification program looks like 'the fairest of them all'?

Additional Resources

Fair Trade Advocacy Office

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COURTNEY JANE CLAUSE

ACCESS TO INFORMATION IN THE AGRI-FOOD SECTOR: CAN BETTER COMMUNICATION HELP PROTECT MIGRANT WORKERS?

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify and explain the key information needs of migrant workers.
- Describe the implications of information quality on worker well-being.
- Consider how these concepts relate to broader labour and food studies areas, such as neoliberalism, disposable workforces, and community-based approaches to food systems.

INTRODUCTION

The **Seasonal Agricultural Worker Program** (SAWP) is a labour program negotiated between Canada and twelve participating countries intended to combat labour shortages in the agri-food sector. Workers reside in Canada for up to eight months while cultivating, planting, harvesting, sorting, and packing produce. Studies on SAWP show that, overall, the program requires significant overhaul. Workers often suffer through inadequate housing conditions, increased health concerns, unsafe working conditions, social isolation, and arbitrary dismissal and deportation, among other challenges. Most research around SAWP focuses on ways to resolve these issues, rather than abolition of the program, as it represents a vital source of income for many workers.

When studying SAWP, scholars, activists, and community organizations have often called attention to what may be termed the **information barrier**—poor, unclear, or sometimes entirely absent communication around key issues. These include translation options, legal rights, program processes, job training, pub-

lic awareness, social integration, health resources, and navigating Canadian systems and services. The information barrier also includes unequal access to the internet, language and literacy constraints, and related concerns beyond information resources.

Studies increasingly recognize that workers require information beyond program processes, as they not only work in Canada, but also live in Canada. Healthcare workers, for example, express that there are difficulties in making workers aware of services, which can have an impact on whether they even seek access to healthcare services at all. Increased risk of sexual illnesses among SAWP workers, as another example, has been tied to information and communication failures among these specific populations.[1]

This disparate access to information exists alongside increased vulnerabilities across many areas of life and work—unsafe working conditions, frequency of arbitrary dismissal, increased health concerns, and so on. Successful information sharing around these areas is therefore especially important. For example, advocacy groups report that many workers are not sufficiently aware of their legal rights in the workplace, and thus cannot fully exercise these rights.[2] In these examples, quality of information has important consequences for worker awareness, self-advocacy, and decision-making when it comes to their safety during program participation and life in Canada. Lack of information can affect the avenues that workers have to exercise their rights, seek advocacy and services, and demand better working and living environments for themselves. In this way, access to information is considered by several advocacy groups to be a right in and of itself, as it is a tool for actively creating the type of safe, beneficial program we hope to see.

1. Rapid Response Service 2013.
2. Government of Canada 2019.

Figure 1: *Salinas, California, USA – June 19, 2015: Seasonal farm workers pick and package strawberries. (photo: istock-486128216.jpg)*

THE COVID PANDEMIC

The COVID pandemic is one of many instances in which we have seen how crucial communication can be for SAWP workers' well-being. As information changed rapidly, clear recommendations on how to navigate pandemic risks were difficult to obtain for many people. This was especially true for migrant workers. As SAWP workers tried to gain access to information and follow guidelines surrounding the pandemic, we have come to see how COVID has highlighted the existing information struggles within the program.

We can thus ask: How has the COVID pandemic intersected with the SAWP's information barrier? What information do SAWP enrollees need to make safe decisions about their lives and labour during a health crisis? How does this relate to the types of infor-

mation that SAWP enrollees need to make safe decisions about their life and labour in general?

COVID-19 and the Continued Lack of Information

"Nobody told us what COVID-19 really is...we deserve to be treated better...our families expect us to come back home."

In a report co-authored by two workers' rights groups,[3] SAWP enrollees voiced their experiences with gaining access to information around the disease. In their words: "Nobody told us what COVID-19 really is…we deserve to be treated better…our families expect us to come back home."[4] Similar stories appear in news outlets, as workers reveal that, in some cases, "neither the government nor [their] employer[s] provided information on workers' rights during the pandemic."[5] In the case of Spanish-speaking workers, many additionally struggled to find information and COVID testing options in their language.

Literature has demonstrated that, for decades, SAWP workers have been particularly vulnerable to abuse and, as a result, require robust information support on knowing and exercising their legal, health, safety, and mobility rights.[6] Workers have included increased access to information among their concerns in several program reviews.[7] During the pandemic, these information needs were compounded by social distancing and quarantine requirements, new protective equipment protocols, and increased sanitation recommendations. Reports suggest that

3. United Food and Commercial Workers, and Agricultural Workers Alliance 2020.
4. United Food and Commercial Workers, and Agricultural Workers Alliance 2020, 22.
5. Mojtehedzadeh 2020, para. 2.
6. Mysyk et. al. 2009; Basok et. al. 2014; Cohen & Caxaj 2019.
7. Government of Canada 2019.

information on these areas has not reached workers in timely or comprehensive ways.[8]

Seeing Information as a Safety and Self-Advocacy Tool

"Most workers do not have access to the timely/detailed information about health risks or living and working conditions needed to weigh the risks of coming to Canada during a health crisis."

Without safe, transparent, and complete information, workers are making constrained decisions within high-risk environments. Within pandemic contexts, informed participation in the program is not possible if workers do not have clear understanding of the state of COVID in Canada, safeguards in place for SAWP enrollees, and current good practices for the public. Instead, workers are returning without adequate education on how COVID has affected health, housing, and work conditions within the country, and within the program more specifically. Research finds that "most [workers] do not have access to the timely/detailed information about health risks…[or] living and working conditions needed to weigh the risks of coming to Canada" during a health crisis.[9]

Well-informed decision-making regarding these risks is important—especially as, for SAWP populations, safety risks are heightened. Reports find that SAWP workers face greater risk of exposure and greater risk of infection.[10] Though statistics are likely conservative due to underreporting issues,[11] some local groups suggest that, as of August 2020, between 1,000[12] and

8. Migrant Worker Health Expert Working Group 2020.
9. Migrant Worker Health Expert Working Group 2020, 3.
10. Cole 2020.
11. Cole 2020, 4.
12. Baobeid 2020, para. 4.

1,300[13] workers had contracted the virus in Ontario, with three reported deaths.[14] Both the positive cases and the number of deaths escalated in 2021. For example, one report shows five deaths since mid-March.[15] A second report records a death in April and one in June.[16] A third announcement in May adds another death.[17] These represent only a portion of COVID-related deaths. Vague communication regarding COVID has left many workers tolerating unsafe conditions to avoid being sent home. As advocacy groups attest, in the absence of clear guidelines, "…many workers wonder what to do to ensure that their health is taken care of, but it's this idea that if they speak up, they won't be able to return to Canada."[18] Workers are required to weigh employment needs against health needs and, as in the above case, often feel they must continue working without adequate health and safety information.[19]

Many advocacy groups have identified clear communication and comprehensive information as important protections for SAWP workers. Within pandemic contexts, this might look like increasing "…available and consistent information…to evaluate health, safety, livelihood, and mobility implications of participating…" in the program during the pandemic. Here, good information and communication practices are understood to contribute to free and informed decision-making for workers.

Beyond COVID-related contexts, information-sharing recommendations have been wide-ranging: increased translation ser-

13. Pazzano 2020, para. 7.
14. Baobeid 2020, para. 4.
15. Grant & Bailey 2021.
16. Rodriguez 2021.
17. Taekema 2021.
18. Rodriguez 2020, para. 3.
19. Paz Ramirez 2013; Cohen & Caxaj 2019.

vices, literacy and language classes, health and safety information, and education around legal rights, to name a few.[20] These are intended to equip workers with the necessary resources and skills to participate more safely in the program and in local Canadian communities. Each of these recommended areas recognize communication and information as tools towards empowerment, self-advocacy, and protection within SAWP contexts.

What Has COVID Taught us About the Future of Information-Sharing within SAWP?

Access to adaptive, prompt, and comprehensive information is a necessity, but it has proven challenging to provide it within a program lacking strong, well-supported information exchange. Details on health, safety, living conditions, and new workplace protocols have been, according to the examples above, sparse, unclear, and infrequently updated.

This is not a new phenomenon within SAWP. Information sharing around important topics like health, safety, communication needs, socializing, and community services have been lacking within the program for some time. Studies show that workers experience increased health risks, unsafe work conditions, lack of meaningful inclusion in program input or review, isolation and depression, and barriers to accessing community services and events.[21] We can speculate that poor education and awareness around these areas contribute at least partially to these challenges experienced by workers.

Disposable Workers vs. Community Members: How Might Access to

20. Mysyk et. al. 2009; Nakache & Kinoshita 2010; Paz Ramirez 2013; Basok et. al. 2014; Vosko 2018; Cohen & Caxaj 2019.
21. Justicia for Migrant Workers n.d.; McLaughlin et. al. 2017; Preibisch & Hennebry 2011.

Information Play a Role?

Studies on SAWP often connect the program to **neoliberalism**, which relies increasingly on market values to guide thought, action, and policy. These values are favoured over community approaches to well-being and, as a result, promote individual responsibility and reduce the availability of collective social protections. Studies argue that neoliberalism creates disposable workforces, which are valued for their ability to maximize productivity. Workers within disposable workforces are often not valued beyond these labour contributions. Turning workers into disposable workforces means that we "import workers, not people," and their overall well-being often suffers.[22]

When this is applied to information sharing, it becomes clear that the concept of "workers, not people" would affect the type and quality of information available. When we believe that SAWP participants are only here to work, it is easy to see how, for example, literacy, social belonging, and personal health information are not made into significant parts of discussions, promotions, and education efforts. However, advocates have called for the valuing and care of workers as *community members*, rather than using them solely for the labour they provide. This includes ensuring they have access to well-rounded information that will help them work and live well. For example, information on upcoming social events and community organizations may reduce feelings of depression, isolation, and lack of belonging. Transparent information on program risks may help worker have a sense of choice and freedom, so that they feel less coerced in entering the program. Information on health services and legal rights may help them better safeguard their well-being during their time in Canada.

22. Preibisch 2010, 432.

For many years, community groups, such as Justicia for Migrant Workers and Niagara Migrant Workers Interest Group, have been implementing these ideas in their local areas. In their daily work with SAWP migrants, they provide honest and caring information about program risks, social events, mental health supports, legal rights, communication needs, and even weekly grocery discounts or bus schedules. This approach to information treats worker well-being as a shared, community responsibility, and sees workers as people, not just units of labour.

CONCLUSION

"Though COVID-19 has brought these issues to light, they are neither new nor likely to disappear soon...workers may very well continue to lack information...under existing program structures which see them as disposable labour sources."

The COVID pandemic provides a pertinent context for examining communication techniques within parts of our food systems, in this instance, as they relate to the migrant workers who sustain these systems. Though COVID has brought these issues to light, they are neither new nor likely to disappear soon. Workers may very well continue to lack information on their many, varied needs under existing program structures which often see them as disposable labour sources.

When we understand migrant workers to be vital members of our food systems and community networks, we can expand the type and quality of information we provide them, towards truly supporting full personal and work lives. Community efforts that affirm their full existences, see them as vital community members, and attend to their information needs as such, are contributing to ongoing efforts to reform SAWP into a safe, healthy, and beneficial option for workers.

Importantly, well-rounded information is one aspect of a complex and layered issue. Without, for example, balanced work schedules, safe transportation, and effective translation services, information regarding healthcare does not necessarily enable access to healthcare. Attention to information-sharing should therefore always be considered alongside other reform efforts that seek to address the varied issues noted above.

Discussion Questions

- What do agricultural workers contribute to our food systems? How is the well-being of workers related to other parts of our food systems?
- What are the key information needs of SAWP workers?
- What are some examples from the chapter in which access to information affected worker well-being?
- What is another example in which having the right information would help migrant workers?
- In addition to information, what other resources do migrant workers need in order to access rights and services?

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CASE: POLLINATOR ECOLOGIES

D. SUSAN WILLIS CHAN AND JENNIFER MARSHMAN

A SOCIO-ECOLOGY OF POLLINATION

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the concept of reciprocity as it applies to interspecies relationships.
- Explain the ongoing reciprocal relationship among humans, cucurbita crops, and hoary squash bees, and how it is advantageous to partners.
- Examine why and how healthy native pollinator populations are important to sustainable food systems.

A CASE STUDY IN RECIPROCAL THINKING: HUMANS, CUCURBITA CROPS & SQUASH BEES

In this case, we examine the **reciprocity** that has existed for millenia between humans, cucurbita crops (pumpkins, squash, and gourds), and squash bees, and discuss how that reciprocity can be threatened or strengthened by the actions of humans.

Beginning 10,000 years ago in Meso-America and again 5,000 years ago in what is now the American mid-west, Indigenous peoples began domesticating wild cucurbita, especially the wild buffalo gourd (*Cucurbita foetidissima*)[1]. Buffalo gourds are perennial vines that produce thick-walled, inedible bitter fruit that were initially used as containers for water, storage, and floats[2]. Over time, domestication resulted in five species of pumpkin or squash crops grown for their large, nutrient-rich, edible fruit, and which continue to have cultural importance among Indigenous peoples[3].

Cucurbita domestication can be considered a co-evolutionary process between plants and humans that resulted in crop plants

1. See Smith 1997; Smith 2006; López-Uribe 2016.
2. See Hart et al. 2004.
3. *Cucurbita pepo*, *C. moschata*, *C. argyosperma*, *C. maxima*, *C. ficifolia*

that are incapable of thriving outside of human influence and humans that are dependent upon crops for food[4]. Modern agriculture enjoys access to hundreds of cultivars of pumpkin or squash crops with different sizes, shapes, colours, growth habits, maturity times, and uses[5]. The crops are growing in importance globally and are used for food (e.g., fresh vegetables, processing, oil production, snack food), cultural expression (e.g., Thanksgiving, Hallowe'en, artisanal crafts, musical instruments), and medicinal purposes[6].

A group of wild pollinators known as squash bees[7] **coevolved** with wild cucurbita species and are the most important pollinators of these plants across the Americas.

What is the relationship between squash bees and humans?

Unlike most other bee species, the hoary squash bee (*Eucera pruinosa*) is a truly agricultural bee that has formed a strong, successful, and enduring relationship with humans through their food production systems. In fact, the expansion of the hoary squash bee's range across North America is the direct product of the human movement and trade of pumpkin and squash seeds, and subsequent cultivation of the plants by both Indigenous and more recently by settler peoples.

Humans, pumpkin/squash crops, and the hoary squash bee thus provide a fascinating example of an intimate, three-way, mutually beneficial exchange known as reciprocity. Over history, humans moved pumpkin and squash seeds across the continent. Initially this was done by planting and tending them in Indigenous growing systems such as the **Three Sisters**. These seeds

4. See Bleed 2006; Landon 2008.

5. See OECD 2013.

6. See OECD 2013; FAO 2017; Mailvaganam 2018; Salehi et al. 2019.

7. Eucera, sub genera Peponapis—15 species or Xenoglossa—7 species.

are also planted in home and community gardens and, more recently, in large **monocultural** agricultural systems, all of which have expanded the crops' range enormously. However, seed set and fruit production in pumpkin/squash crops is entirely dependent upon bees to move pollen from the male flowers to the female flowers that produce fruit (Figure 1).

Movement of pollen

Pollination happens when pollen grains are transferred from the male anther to the female stigma of flowers. On the stigma, pollen grains grow a pollen tube that allows the genetic material in the pollen to be transferred to the ovules in the ovary, thereby producing fertilized seeds that ensure survival of the species. In some crops, the seeds then stimulate the growth of a fruit. Plants are either **self-pollinated**, or they may need cross-pollination. Cross pollination requires the assistance of a vector (usually wind or an insect) to move the pollen from the male anther of one flower to the female stigma of another flower. The movement of pollen grains is unintentional. In fact, bees are manipulated by flowers in this process. For example, the hoary squash bee has a hairy body that picks up pollen as it unintentionally contacts the anthers of a male pumpkin flower while feeding on the nectar in the flower. When the bee visits a female flower for nectar, it lands first on the stigma of that flower and then walks down to the nectaries in the base of the flower. As it does this, pollen is unintentionally transferred from its body to the sticky surface of the stigma, resulting in pollination.

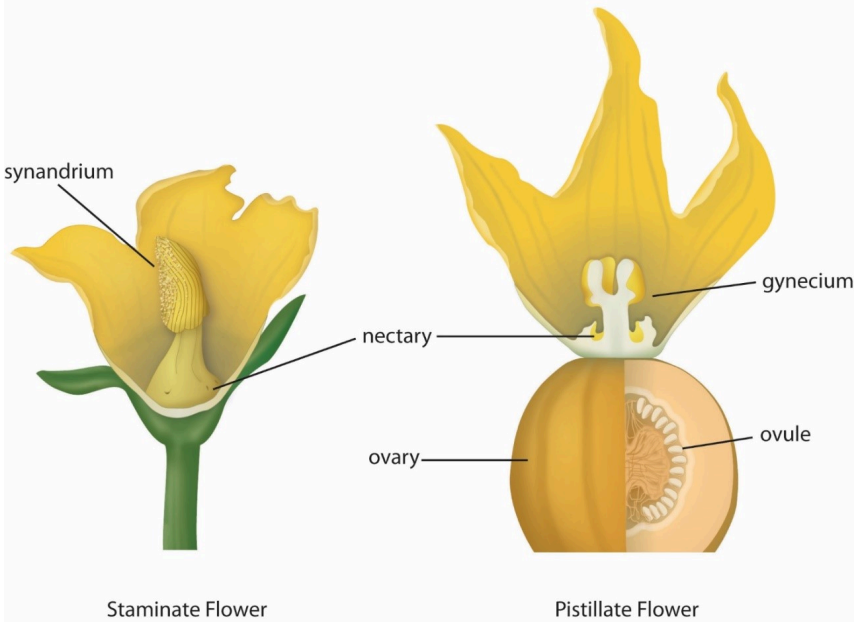

Figure 1: *The flowers of cucurbita crops (pumpkin or squash) showing the staminate (male, pollen bearing) and pistillate (female, fruit bearing) flowers. Bees must move the pollen from the staminate flowers to the pistillate flowers for pollination to occur. Diagram designed by Susan Willis Chan and drawn by Ann Sanderson (www.annsciart.com)*

Cucurbita crops attract bees by providing copious amounts of nutrient-rich nectar and pollen. As the range of cucurbita crops expanded, hoary squash bees followed, in pursuit of those nectar and pollen resources. As they foraged, hoary squash bees pollinated the cucurbita crops, allowing the plant to produce seeds and develop fruit (squash or pumpkins), which humans then harvested as a crop (Figure 2).

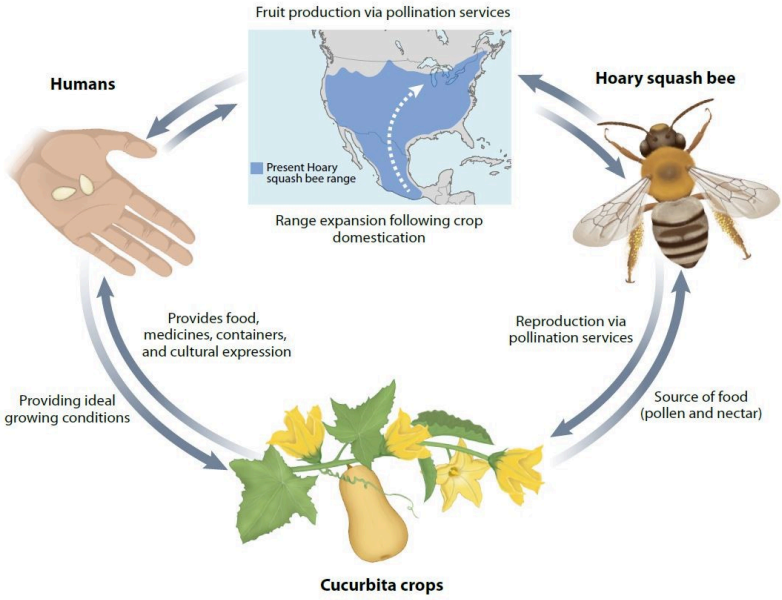

Figure 2: *This diagram shows the reciprocity between hoary squash bees, cucurbita crops, and humans. Diagram designed by Susan Willis Chan and Jennifer Marshman and drawn by Ann Sanderson (www.annsciart.com)*

What do squash bees use pollen for?

Like people, squash bees require a healthy diet containing carbohydrates, protein or amino acids, fatty acids, and micronutrients. Nectar produced in both male and female cucurbita flowers provides the carbohydrates and micronutrients[8]. The pollen, produced only in the male flowers, provides fatty acids, protein, or amino acids[9]. The flowers of cucurbita are vital for the survival of squash bees because unlike most bees that forage on a wide range of plants, squash bees are strict **dietary specialists**, using

8. See Nepi et al. 2001.
9. Chatt et al. 2018.

only cucurbita pollen to provision the nest cells where they raise their young[10] (Figure 3).

Squash bees are found in North, Central, and South America, and one species, the hoary squash bee[11], is found across the continental United States and in Canada as far north as southern Ontario and Quebec (Figure 2). Interestingly, across most of the present range of the hoary squash bee, there are no wild cucurbita occurring naturally, making the hoary squash bee entirely dependent upon human cultivation of pumpkin and squash crops for its pollen supply.

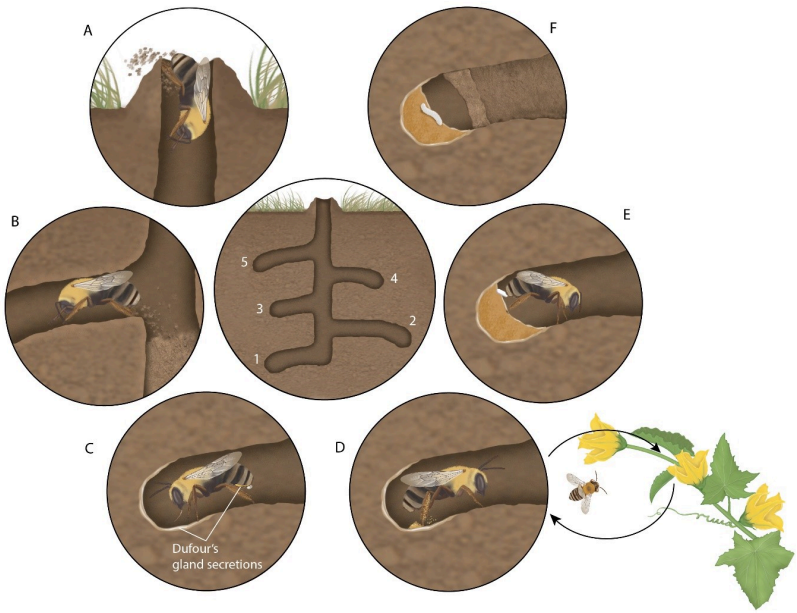

Figure 3: *A hoary squash bee nest in the centre showing the steps involved in the construction of the vertical (A) and lateral (B) shafts of the nest, waterproofing the nest cell (C), provisioning of nest cells including foraging for nectar and pollen (D, E), and laying of eggs and sealing off the nest cell (E, F) around the outside. Diagram designed by Susan Willis Chan and drawn by Ann Sanderson (www.annsciart.com)*

10. See Hurd & Linsley 1964; OMAFRA 2014) Stephen et al. 1969.
11. *Eucera* (*Peponapis*) *pruinosa*

The importance of hoary squash bees in pumpkin and squash production

Because they have separate male and female flowers, pumpkin and squash crops are entirely dependent on insects for pollination and ultimately seed and fruit production. As such, hoary squash bees *are a vital part of our agricultural landscape.* They are the most abundant flower visitors to cucurbita crops and are ubiquitous on farms growing pumpkin and squash in eastern North America. Their populations are reliably abundant from year to year, and the timing of their foraging activity corresponds well to the crop's pollination window (6:00 a.m. to 8:00 a.m. daily, from mid–July to mid–August). Hoary squash bees are active on the crop flowers as soon as they open at dawn, when pollen supplies are greatest, and they remain active until the crop flowers wilt at noon. Seasonally, the bees emerge from their natal ground nests around the time that pumpkin and squash crops begin to bloom and begin to forage on the flowers immediately (Figure 4).

The bees' unique behaviour and biology also contribute to the tightness of their relationship with cucurbita crop flowers. Besides foraging on the crop flowers, hoary squash bees also mate on the flowers, and males and unmated females sleep in the wilted flowers during the afternoon and evening after the nectar resources are exhausted. Other aspects of the biology of the hoary squash bee are linked to pumpkin and squash crops. To effectively collect cucurbita pollen, which is spiny and oily and not favoured by other bees such as the Western honey bee or bumble bees, hoary squash bees have evolved specialized hairs (scopa) on their hind legs.

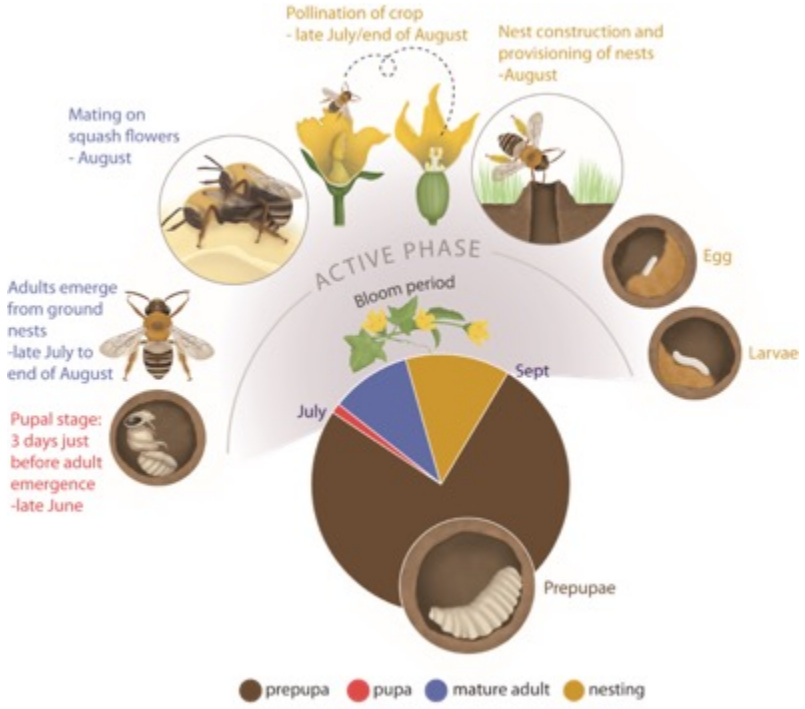

Figure 4: *The lifecycle of the hoary squash bee in Ontario, Canada showing how it coincides with flowering in the cucurbita crops that the bee depends upon for its pollen supply. It takes one year for a hoary squash bee to develop from egg to adult. Diagram designed by Susan Willis Chan and drawn by Ann Sanderson (www.annsciart.com)*

Unlike the familiar Western honey bee, which is a social insect that lives in a colony with tens of thousands of other bees, squash bees are solitary. This means that each mated female builds her own nest in the ground (often within or close to pumpkin or squash crops) and raises her own offspring within cells in that nest (Figures 3 and 4). However, like people in an urban neighbourhood, many of these bees will live close to each other, creating dense, expanding nesting aggregations, sometimes with thousands of individual nests in a small area. (Watch this video of a hoary squash bee nesting aggregation.)

If large, stable populations of wild bees, such as the hoary squash bee, are maintained on farms, they will provide reliable, free **pollination services** to crops, reducing an overreliance on honey bees, which are under increasing pressure from pests, diseases, and **overwintering losses**.

What is the threat to hoary squash bees?

Known threats to bees generally include habitat loss, a changing climate, pests and diseases, pesticide use, and the interaction among these threats. For the squash bee, we will focus on pesticide use.

The hoary squash bee, because of its close association with pumpkin and squash crops across most of its range, may be at risk of exposure to insecticide residues in agricultural soil if those crops are treated with insecticides to control insect pests. Indeed, exposure to crops treated with a common soil-applied **neonicotinoid** insecticide causes hoary squash bee populations to construct fewer nests and harvest less pollen, resulting in greatly reduced offspring production. This puts cucurbita crop pollination at risk over the long term. This is ironic because it is precisely the hoary squash bee's enduring relationship with human crop cultivation that has supported the bee's large population and range expansion[12]. In fact, by applying this neonicotinoid insecticide to soil, we are causing harm to the very pollinators that help with successful food crop production, thereby harming ourselves.

An Ethic of Reciprocity

Reciprocity describes a mutually beneficial relationship among organisms or groups. The reciprocity of the human–cucurbita crop–hoary squash bee relationship is obvious, and a salient

12. See Willis Chan & Raine 2021.

example of what the best (and worst) outcomes can be for all relational partners in human-grown, pollinator-dependent crops. As such, it is a reminder of the ways in which human actions can affect less-studied or less-understood relationships among bees that pollinate food crops for humans and other living things. Reciprocity implies that the choices humans make that have a positive or negative impact on pollinators also have a positive or negative impact on human well-being. Although bees and crops may have little agency to protect themselves, humans can act to protect bees and their own crop yields in several simple but effective ways. This can be illustrated within cucurbita growing systems.

First, growers can acquaint themselves with hoary squash bees. These bees are easy to identify on pumpkin and squash flowers, rarely sting, and are considered to be quite endearing. Information about the bee is readily available online, including photos, videos, and diagrams. A greater awareness of this bee, and familiarity with its behaviour, biology, and ecology, can help strengthen this important relationship through respect, empathy, and understanding.

A real-life example of this enduring and endearing relationship is found on Strom's Farm & Bakery near Guelph, Ontario. The Stroms have understood the importance of hoary squash bees for their pumpkin growing enterprise. They have educated themselves about the nesting behaviour of hoary squash bees and have allowed hoary squash bees to build nesting aggregations in lawns outside their cropping areas. In these lawns, the nests and the female bees who build them are protected from tillage and exposure to agricultural pesticides used on the crops. As a result, the nesting aggregations on that farm are expanding, ensuring pollination services from the bees into the future.

Next, growers can choose not to apply systemic pesticides to soil to avoid the demonstrated ill effects on hoary squash bees. On Stellmar Farm near Lindsay, Ontario, the farm owners have learned about the effects of neonicotinoids on hoary squash bees by supporting research activities on their farm. As a result, they have stopped using these pesticides in their production practices because they were shown to reduce hoary squash bee nesting and foraging behaviour, resulting in declining populations.

Other growers such as Lunar Rhythm Gardens near Janetville, Ontario have adopted alternative approaches to pesticide use including physical barriers against pests, such as row covers. The row covers are applied after planting, and are removed once flowering begins. This gives the hoary squash bees access to the flowers. Alternately, "trap crops" can be used to draw insect pests away from the cash crop, or less–harmful pesticides can be used, which are applied only in reaction to pest pressure using **integrated pest management (IPM)** principles.

CONCLUSION

Clearly, maintaining a healthy reciprocal relationship among humans, cucurbita crops, and hoary squash bees is advantageous to all partners. Humans gain reliable access to cucurbita fruit (pumpkin or squash) or seeds for food, medicine, or cultural expression. Cucurbita crops are planted widely and tended by humans and receive the pollination services that they need to set seed and reproduce. Hoary squash bee populations have reliable sources of the only pollen that they feed to their young, as well as mating and sleeping sites. As the members of this relationship with the most agency, humans hold the responsibility to recognize, value, and protect the integrity of this reciprocal relationship for the benefit of all.

Discussion Questions

- List and explain some of the reasons is it problematic to lump together all pollinators into one group, using the squash bee as an illustrative example.
- Considering the information presented in this case, what are some of the problems associated with an over-reliance on the domesticated Western honey bee as a primary pollinator of food crops?
- Explain the reciprocal relationship among humans, cucurbita crops, and the hoary squash bee to illustrate the nature of reciprocity in food systems.
- How can human action negatively or positively affect our reciprocal relationship with cucurbita crops and hoary squash bees? How can reciprocity drive positive actions?

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JENNIFER MARSHMAN AND D. SUSAN WILLIS CHAN

POLLINATORS, PEOPLE, AND THE PLANET

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe pollination and name several bee species.
- Discover that there are diverse species that provide pollination services.
- Reframe pollination as a product of diversity.
- Recognize that a healthy relationship between people and bees is one of reciprocity.

INTRODUCTION

Humans depend on the cultivation of a wide variety of crops for their food, fuel, fibre, medicines, and cultural expression[1]. Some crops are wind **pollinated** (grains, many nuts) but many require pollination by animals, including insects such as bees. A biological imperative of living organisms is to reproduce—to create offspring for the next generation. Without this, species would simply cease to exist. In plants, reproduction involves passing genetic material through pollen to ovules[2] to set seeds, which may stimulate the production of fruit.

The **diversity** of plants is reflected in the diversity of animals that pollinate them including bees, wasps, flies, beetles, moths, butterflies, birds, bats, or other small mammals. Humans consume a large variety of seeds and fruit, some of which are produced and eaten globally (coffee, mango, avocado, tomato, cucumber, squash, apple, strawberry, pear, melons), and some of which are more regional (feijoa, durian, kiwano, cherimoya). Although the diversity of animals that acts as pollinators in natural systems is extensive, agricultural systems, where most

1. See the assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination, and food production (2016).
2. The ovules are plant structures that form seeds when they are fertilized.

human food is produced, are disproportionately dependent on a single group of insects: bees.

Bees pollinate plants by inadvertently transferring pollen between the sexual organs of plants (male stamens and female pistils) as they visit flowers to collect their food. Like humans, bees fuel their activities, maintain their physiological processes, mature sexually, and feed their offspring through nutrients consumed as food. For bees, the essential nutrients (carbohydrates, proteins, fats, vitamins, minerals) are consumed in the form of pollen, nectar, and oils. Both plants and animals have **coevolved** a complex system of rewards, deterrents, deceptive manipulation, and structural elements that make the system work to the advantage of all involved[3].

BEES AND PEOPLE

Some bee species are more intimately connected to human behaviour than others. When people think of pollinators, they often think of the Western honey bee (*Apis mellifera*). Humans have a long history with the honey bee, with evidence of honey harvesting as far back as 15,000 years ago[4]. The modern human reciprocal connection to honey bees is so strong that there are professional beekeepers who manage honey bees to produce honey and beeswax and to provide crop pollination services, in much the same way as people manage domesticated animals such as cows, sheep, pigs, chickens, and horses.

3. Rewards include nectar, pollen, or oils that attract pollinators; deterrents include flower shapes that admit some pollinators but not others; deceptive manipulation includes the production of foul smells that attract flies as pollinators; structural elements include pollen packages or hidden pollen that is only accessible when bees behave in a certain way.

4. See The Canadian Encyclopedia 2006.

Some bees can be considered **charismatic microfauna**, or species that stimulate action and awareness in humans. For example, the giant panda (which is commonly referred to as charismatic megafauna), has become a well–recognized symbol for the World Wildlife Fund. For insects, bumble bees are often pictured as cute, fuzzy creatures that elicit similar positive responses from people. This intimate human-bee interconnection is deeply felt and forms the basis for the strong reaction to such slogans as "Save the Bees."

When people think of bees, they may have a mental image of a fuzzy bumble bee. One study, however, found that for many Canadians, the honey bee is something of a stand-in for all bees[5] and has become a symbol for conservation and environmentalism, despite the fact that honey bees in the Americas are more like domesticated animals than wild, native animals, and are not on any formal species-at-risk lists.

In tropical climates, although they produce far less honey, stingless bees are also managed by beekeepers for their pollination services[6] and to produce honey valued for its medicinal properties.

5. See van Vierssen Trip et al. 2020.

6. Pollination services is a term often used to describe the services provided by managed bees or wild bees as they interact with flowers and move pollen from male to female flower parts. Pollination services aid in plant reproduction (i.e. seed set) in both wild and crop plants.

Figure 1: *Tetragonisca angustula, a small eusocial bee found in Mexico and Central and South America. These photos show guards hovering to protect the nest entrance. Their honey is used for medicinal purposes in Bolivia, Guatemala, Mexico, and Venezuela (Grüter, 2020). These bees are very small, each bee is approximately 5mm long. Photos by J. Marshman (2019).*

Not all bees produce honey. Besides honey bees, bumble bees, and stingless bees, there are other solitary bee species that have longstanding reciprocal relationships with humans, often around the provision of specialized crop pollination services that surpass the efficiency of honey bees[7]. These include: alfalfa leafcutter bees (*Megachile rotundata*) and alkali bees (*Nomia melanderi*), both important for alfalfa seed production[8]; blue orchard bees (*Osmia lignaria*), important for orchard crop pollination[9]; and squash bees (*Eucera* [*Peponapis*] species and *Eucera* [*Xenoglossa*] species), which are important pollinators of pumpkin and squash[10].

In these cases, we have a three-way **reciprocity** with bees. Rather than interacting through a product like honey or beeswax, the

7. See Greenleaf & Kremen 2006; Garibaldi et al. 2013.
8. See Bohart 1958; USDA 2018.
9. See Woodcock 2012.
10. See Willis Chan et al. 2019; Willis Chan & Raine 2021; Tepedino 1981; McGrady 2020.

primary exchange occurs via a human-grown crop that the bees pollinate. The crop provides forage and provisions—and sometimes sleeping and mating habitat—for the bees, and pollination results in a successful crop for people.

COMMERCIAL BEEKEEPING

Social honey bees are the most abundant bees on Earth, primarily due to the global breeding programs for extensive use in agriculture, and their large colony size: about 100,000 individuals per colony, as compared to 300 individuals per colony for bumble bees, and about 5 offspring per nest for solitary bees.

The pollination services of honey bees in their constructed, mobile hives have long been thought to be critical for conventional agriculture that relies on large swathes of monocultural crops. However, increasingly, even in commercial systems, the important role of wild bumble bees, solitary bees, and stingless bees is being recognized, in some cases as more important than honey bees[11].

Commercial beekeepers use the honey bee's easy mobility and large numbers to deliver commercial pollination services to food crops across the United States. For example, every year in February, about 1.7 million honey bee colonies[12] are taken to California's Central Valley to pollinate the more than 800,000 acres of almond trees (Figure 2). After almond pollination is complete, the movement of managed honey bees across the United States by commercial beekeepers then continues to cherry, plum, avocado, apple, alfalfa, sunflower, clover, clementines, tangerines, squash, cranberries, and blueberries, across Washington, Texas, Florida, the Dakotas, Wisconsin, Michigan, and Maine (Figure 3).

11. See Garibaldi et al. 2013.

12. A managed honey bee colony can range from 30,000 to 100,000 bees.

Figure 2. *Rows on rows of almond trees in bloom in this California almond orchard. Image by Maria Teresa Martínez from Pixabay, Pixabay License.*

Globally, crop pollination has an estimated market value of up to US$577 billion annually, far more than the value of honey. However, the movement of so many bee colonies to crops causes physiological stress to bees. Bees require a varied diet from a wide range of plants, in much the same way as humans need a diversity of foods to maximize nutritional intake. When generalist bees[13] are forced to visit a single crop species instead of visiting a wide range of plants for their food, they, too, may experience reduced nutrition[14]. Furthermore, at pollination hubs such as the California almond crop where millions of colonies are concentrated, pests and diseases are easily spread from one colony to another, and there is increasing evidence of pathogen spillover from managed bees to wild bee species[15].

13. Most bees fall into two categories of pollen preferences: generalists and specialists. Generalist's pollen needs are not restricted to a specific flower host, whereas specialist bees have coevolved with a specific plant or plants to feed only from those flowers.
14. See St. Clair et al. 2020; Klein et al. 2007.
15. See Otterstatter & Thomson 2008.

Figure 3: *Commercial honey bee hives being loaded onto a transport truck to move from South Carolina to Maine to pollinate blueberry crops. Image courtesy of Pollinator on Wikimedia Commons, Creative Commons Attribution 2.5 Generic license.*

The term **colony collapse disorder** (CCD) became part of the mainstream narrative during the first decade of the 21st century when entire managed honey bee colonies began to mysteriously disappear from their hives in the United States, baffling beekeepers and scientists alike. Colony collapse disorder has become a catch-all term for all mysterious, undiagnosed deaths of colonies and it is likely that it has many causes. While colony collapse is not currently a significant problem, high rates of seasonal honey bee colony losses, especially in winter, are still of great concern to commercial beekeepers and anyone who enjoys insect-pollinated food.

Many management practices, including best practices for agricultural pesticide use, often dictate that honey bee colonies should be moved before spraying pesticides or that pesticides should be applied in the evening or early morning when honey bees are not active. These honey bee–centric guidelines do not protect wild bees that nest in or above ground, on or around these sites, and which cannot be moved. Unlike honey bees, many wild bees are active in the early morning or evening and so risk

exposure to pesticides if spraying occurs at those times. In addition, there is a growing literature on the negative impacts of pesticide residues at sub-lethal levels for both managed and wild bees.

Honey bees are also used as surrogates for all bee species in risk assessments of agricultural pesticides, despite the fact that they are highly unusual compared to other bees. This surrogacy approach[16] in risk assessment and best management practices does not consider the unique needs, behaviours, or habitat of native, wild bees, who do not live in mobile hives that can be moved during pesticide application.

BEE DIVERSITY

Bees are a vastly diverse group of living organisms, with an estimated 20,000 species that have been identified on Earth—nearly the same number as all the mammal and bird species combined[17]. These diverse bee species also have diverse foraging needs and food preferences. Bees are intimately involved in pollinating roughly 75% of the most productive crops, accounting for 35% of global crop volume[18]. This is where the notion of "one in three bites of food" is derived, which is commonly cited as the contribution of bees to human food crops. While all bees forage on plants to collect their food, bees vary greatly in biology, behaviour, food and habitat preferences, sometimes based on millenia of coevolution with the plants they feed from and hence, pollinate.

The differences in social behaviour, food preferences, and living conditions of these myriad species are many—some are social, others semi-social, most are solitary.

16. Franklin & Raine 2019, 1.

17. See Barrowclough et al. 2016; Burgin et al. 2018.

18. See Klein et al. 2007.

Figure 4: *[Left] Along with the Western honey bee (Apis mellifera) and stingless bees (Tetragonisca angustula), the common Eastern bumble bee (Bombus impatiens) is an example of a social bee. [Middle] This metallic green sweat bee (Agapostemon virescens) is an example of a semi-social bee and is the official bee of the City of Toronto. [Right] A leaf cutter bee (Megachile) is an example of a solitary bee. Photos: J. Marshman.*

Most bees collect and eat nectar and pollen in unprocessed form. Others, such as honey bees, process nectar into honey and form **bee bread** from pollen, while still others collect and consume plant oils instead of nectar. Not all bees can fly the same distances from their nests to food sources. Honey bees can forage at distances up to 8 kilometers from their hives, whereas bumble bees are restricted to a radius of about a kilometer, and many solitary bees can only access nectar and pollen from plants within a range of 100 to 500 meters from their nests. This raises further questions about the effects of commercial honey bee migration and introduction of millions of managed honey bee colonies into **agroecosystems** at crop pollination hubs (such as the California almond crop). While evidence is still lacking in this area, the potential for managed honey bees to spread parasites, pathogens, and outcompete native, wild bee species in these contexts is clear.

In terms of nesting sites, some bees live in large cavities or constructed hives, others live in the hollow stems of plants or other small cavities, and some bees are nest parasites: instead of mak-

ing their own nests, they insert their eggs into the nests of other bee species and have no role in provisioning those nest cells, much like the behaviour of cuckoo birds[19]. Most, however (about 70%), build their nests in the ground.

POLLINATORS IN PERIL

Beyond concerns for the Western honey bee, there is evidence that other pollinators are in peril. In North America, of the native bee species with sufficient data to assess, more than half are in decline with nearly one in four at risk of extinction.[20] The emphasis on only a couple of bee species, and the lack of understanding of the diversity of bees, has significant implications for conservation efforts and action campaigns. Unfortunately, due to a lack of research, the extent of threats and population declines in many species is not known.

In contrast to a positive reciprocal relationship, humans may also contribute to the decline of bee species. This takes place in several ways: by degrading and fragmenting landscapes so that there is less habitat for bees; by driving climate change that may create inhospitable conditions for bees or the plants that provide them with pollen or nectar; by inadvertently introducing invasive species, pests, or pathogens, often via managed bees such as honey bees or bumble bees; and by exposing bees to pesticides used to control pests in crops.[21] Our own food system, which need bees, is also putting them in peril.

These **anthropogenic** pressures may lessen the strength of the reciprocity of the **human-bee-crop relationship**. Increasingly, humans have become aware of the connection between bees and

19. The common cuckoo bird is a brood parasite, meaning that it uses the nests of other bird species to lay eggs to be incubated (and later fed) by the host bird.

20. See Kopec & Burd 2017.

21. See IPBES 2016.

food and the human role in bee declines. As such, initiatives to address these concerns (e.g., World Bee Day and Bee City) are growing in popularity, including increasing and enhancing education and creating pollinator habitat in a wide variety of ecoregions and contexts.

One example of such an initiative is Bee City (Figure 5). The Bee City movement began in the United States in 2012 in Asheville, NC. In 2016, it established itself in Toronto, ON, with a growing number of Bee Cities being created each year. As the American and Canadian programs expanded, they merged with the Xerces Society for Invertebrate Conservation (June 2018) and Pollinator Partnership Canada (December 2020), respectively.

To get Bee City certification, municipalities (and First Nations communities in Canada) commit to pollinator education and habitat creation. The ways that each Bee City chooses to do this is determined at the local level. Every Bee City has unique characteristics that help to inform decision-making processes and interventions, making Bee City a truly place-based initiative. For example, municipalities containing a significant amount of agricultural land may focus on different interventions than those with a lot of urban green space or those with primarily residential properties.

Figure 5: *Bee City logos and the logos from the Xerces Society and Pollinator Partnership.*

CONCLUSION

Human food systems currently depend on the mobility of one species of bee, the Western honey bee, to pollinate vast swaths of monocultural crops. This is a precarious dependency that has negative outcomes for both bees and humans. Honey bees are stressed by traveling long distances on trucks, and then become exposed to a melting pot of disease and parasites at each stop (as they mix with other transported colonies). Humans are also at risk, potentially losing all crop pollination services should this single species collapse under a devastating disease or disorder such as colony collapse disorder (CCD).

A better approach would be to recognize the value of the diverse pool of insect pollinators available to pollinate crops and then create systems that support those insect pollinators in the localized areas where they are needed. This includes protection from exposure to pesticides and maintaining flowering plants outside of the period when the crop needs to be pollinated. The very cropping systems that depend upon pollinators thus have the potential to support those pollinators or to harm them, depending on whether humans regard pollinator diversity in the context of reciprocity or resource exploitation. True reciprocity requires adjustment, but provides long–term sustainability to the plant systems that humans and bees alike depend on for food.

Discussion Questions

- What are some of the ways that you benefit directly or indirectly from pollination?
- What are some of the key differences between

managed honey bees and native, wild bees?

- Why might using honey bees as surrogates in best practice guidelines for things like pesticide application be problematic?
- What are three reasons that bringing awareness to native, wild bee species is important?

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ANDREA ELENA NORIEGA

ODE TO POLLINATORS

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ODE TO POLLINATORS

Sometimes being still is the best way to see not only the world around us, but also our own selves. Focusing on what is small can make us feel big, dominant, and powerful. Yet it can also bring us into a new sense of appreciation for the ways in which size matters less than intention does. Small can be powerful too. In many

ways, this is denied by the language we use, which often conflates *large*, *tall*, and *massive* with *grand*, *beautiful*, and *strong*. At the same time, small things—whether microbial or insectile—often become associated with danger, fear, and risk.

In the video below, artist Andrea Elena Noriega reflects on her first encounter with a small-but-not-risky creature, the humble and mighty bumblebee. Learning to respect and value what is tiny, and to come into a more equitable relationship with it, often means taking the time to observe and remain, rather than reacting and running away.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=465

HOWARD ROSING; BEN HELPHAND; AND AMY DELORENZO

COMMUNITY GARDENS COUNT: MEASURING CHICAGO'S HARVEST

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ing community managed open spaces in Chicago. NeighborSpace owns a large network of growing spaces across the City so that community groups can focus on gardening and community building. He holds a BA from Wesleyan University and a MA in the History of Religion from the University of Chicago.

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain how urban community gardens address social and economic challenges to food access while building greater community cohesion.
- Examine the importance of community gardens in supporting food security and food justice.
- Compare the case of community gardens in Chicago with a case in their own city or town.
- Describe the role of community gardens in improving the health and wellbeing of urban communities.

INTRODUCTION

Building sustainable food-producing communities requires a complex set of skills and talents that go far beyond technical knowledge and science. This text offers a multifaceted perspective on the practice, debates on, and process of producing and sustaining community gardens in North American cities. Drawing from research on community gardens across Chicago, the study highlights how community gardens offer an important mechanism for creating resilient, socially cohesive communities that can respond to social, economic, and environmental challenges. The study sheds light on gardeners as neighborhood assets in urban sectors where access to fresh food is challenged by historical patterns of racial segregation and social exclusion. Given insufficient availability and/or increasing cost for healthy fresh food for large segments of Chicago's population, researching how people organize to cultivate fresh food, how much food they produce, how and where their yields are distributed, the nutritional value of their crops, and the meaning of gardens for gardeners, offers a holistic understanding of what it takes to build sustainable community food systems in large cities.

Chicago is an ideal city to study community gardens in the 21st century. The city's historical motto, *Urbs in Horto* ("city in a garden"), symbolizes longstanding horticultural practices among residents across neighborhoods and social classes.[1] Notwithstanding the city's rich garden history, for much of Chicago's recent past, community gardening has been primarily a grassroots effort with little in terms of municipal government investment. Starting

1. Maloney 2008.

during the 1990s, Chicago created the job training program GreenCorps, which provided resources to community gardens, but the effort that was cut by the subsequent mayor. Until 2011, there was no legal land-use code for urban agriculture in Chicago, meaning community gardeners would in many cases be doing so outside zoning laws governing land use. This policy, or lack thereof, had particular impact on neighborhoods that lacked proximity to fresh food resources. For decades, Chicago's racist urban planning practices, combined with discriminatory mortgage lending and real estate development, resulted in **neighborhood divestment** and property devaluation on the south and west sides of the city. By the 1990s, the outcome was a shortage of supermarket retailers in economically distressed neighborhoods, largely populated by Black and Latinx residents.[2] Nonprofit and grassroots efforts to organize community gardens in these neighborhoods were thus partly a **neighborhood resilience strategy** in response to limited access to fresh food, and partly about community building and **self-determination**.

The label "**food desert**," or what some authors describe as "**supermarket redlining**s,"[3] was ascribed to many southside and westside Chicago neighborhoods by the early 2000s, due to a lack of full-service supermarkets.[4] The label misrepresented decades of growth of community gardeners, who offered food assets in their neighborhoods. Indeed, the vast majority of the 260 community gardens researched in this study were located on the south and west sides of Chicago. McClintock describes

2. Block, Chávez & Birgen 2008; Gallagher 2006.

3. Eisenhauer 2001.

4. Gallagher 2006.

this urban growing movement as having an "emancipatory role," a type of active resistance through "ecological stewardship with social justice."[5] Rather than constructing community gardeners of color as passive victims of racial and economic marginalization, resulting in significant **health disparities**, community gardeners in segregated cities like Chicago are better understood through their own agency and diverse ways and reasons for producing food. This study emerged out of an effort to highlight the importance of community gardens, especially for Chicago neighborhoods with limited access to fresh food.

There is no one metric by which to evaluate what makes a community garden successful. Laura Lawson in *City Bountiful* states that the dominant narrative tends to link community gardens to community food security, but given the numerous reasons people state as to why they garden, food security should not be the only measure of success.[6] The enormous harvest and nutritional yield from gardens in Chicago dispels a popularly held notion that community gardens do not produce significant amounts of food. Yet community gardeners have diverse motivations for organizing collectively to produce food from year to year. Understanding these motivations requires deeper inquiry into what people think about their gardens: that is, why gardens matter to gardeners. While this study illustrates that community gardens "count" both at neighborhood and city levels in respect to building greater food security, there are numerous other reasons for community gardens, not the least of which is creating ecologically sustainable and aesthetically pleas-

5. McClintock 2008, 6-7.

6. Lawson 2005.

ing spaces that build pride in community and positive relationships with neighbors. Documenting the values attached to community gardens in urban spaces, especially in those spaces marked by racially motivated divestment, helps to identify ways that cities can invest in neighborhood-based food production as a means for building more equitable urban food systems.

RESEARCH PROCESS

One of the first tasks in researching community gardens in a city as large as Chicago is to define what is meant by the term "community garden." The definition for this study was developed by the organization NeighborSpace, a nonprofit urban land trust charged with protecting community-organized and managed growing spaces across Chicago.[7] The organization takes on land ownership and assists gardeners with insurance, access to water, and other resources. Gardens on land protected by NeighborSpace are no longer susceptible to removal as a result of, for example, more powerful, capital-intensive development interests. Equipped with a definition of community gardens, researchers for this study visited 260 gardens across Chicago, of which 208 fit the definition during the 2013 growing season.

Researchers defined community gardens in Chicago as growing sites that presented both internal and external community-fostering properties. Internal community fostering properties refer to the development of social

7. The project was built on partnership between NeighborSpace, DePaul University, University of Illinois at Chicago, University of Pennsylvania, Angelic Organic Learning Center and E.A.T. This research was made possible by a generous grant from the Consortium to Lower Obesity in Chicago Children and from a charitable donation made by the Walton Family Foundation.

ties among people who work together at the garden. External properties refer to the potential impact that the garden has on the outside environment in the form of neighborhood improvement, beautification, food access, violence prevention, increase in property values, youth development, health benefits, and more. The study did not include sites where the majority of produce was sold, where there were paid employees, where the site was used exclusively for social service and/or educational programming, and/or where the site was in a private, for-profit housing establishment exclusive to those residents and inaccessible to the public.

Fieldwork for the study consisted of seven distinct components: (a) identifying community gardens; (b) counting square footage of food crops grown in the gardens during spring, summer, and fall; (c) sampling 29 sites that broadly represented a cross-section of Chicago's community gardens; (d) sampling seven gardens representing seven distinct neighborhoods and diverse growing conditions where gardeners agreed to weigh their harvest; (e) measuring the replacement value of foods produced in the gardens through documentation at retail food outlets; (f) interviewing gardeners about their garden's history, organization, distribution, and use of food; and (g) calculating nutritional values of the foods produced.

At all 260 community gardens initially visited, detailed information was recorded about the garden and its food crops, including the total size of garden properties, the number of plots, water sources, evidence of support organizations, and other data. Researchers recorded the total area (square footage) of each crop. These tabulations, along with the weight of crops at the seven selected community gardens, enabled researchers to estimate the yield

(pounds per square foot) of vegetables and fruits within the areas under production. In order to provide a basis for estimating the productivity by weight, dollar value, servings, and nutritional scores, researchers arranged with gardeners and support organizations at the seven gardens to weigh their harvest. These gardens were in different neighborhoods with diverse soils, growing conditions, gardeners, and institutional affiliations, and constituted a fairly representative cross-section of Chicago's community gardens. Gardeners weighed their harvest by crop and researchers employed the results of the tallies to estimate the average productivity of different crops and to arrive at yield estimates for the production of all community gardens surveyed.[8] To calculate replacement value or cost of these foods, researchers visited twelve retail outlets, representing a wide range of grocers (luxury, mid-priced, and discount) and farmers markets in different Chicago neighborhoods. At each of the outlets, prices were recorded for the various vegetables, fruit, and herbs grown in the gardens.

To understand garden distribution processes and the underlying meanings of community gardens for gardeners, researchers interviewed 53 gardeners at 32 gardens about garden history, organization, and especially distribution and use of the food. The interviews helped explain what people do with food grown in the gardens, how community gardens affect the community, and the role of gardens in community-building, youth development, food access, beautification, and the nutritional well-being of residents.

FOOD PRODUCTION IN CHICAGO

8. Vitiello & Nairn 2009.

COMMUNITY GARDENS

The study estimated that 517,157 pounds of food was produced on 43.56 acres of community gardens during the 2013 Chicago growing season. Most of this food was produced in low- to lower-middle–income neighborhoods. Nutrient rich fruits and vegetables went directly into gardeners' households and were in many cases redistributed through neighborhood social networks to other households multiplying the impact on food access for Chicagoans who might otherwise not regularly have access to fresh, healthy foods. As can be seen in Figure 1, the vast majority of community gardens are clustered in non-white areas of Chicago; as noted in Figure 2, these are also the lowest-income areas of the city.

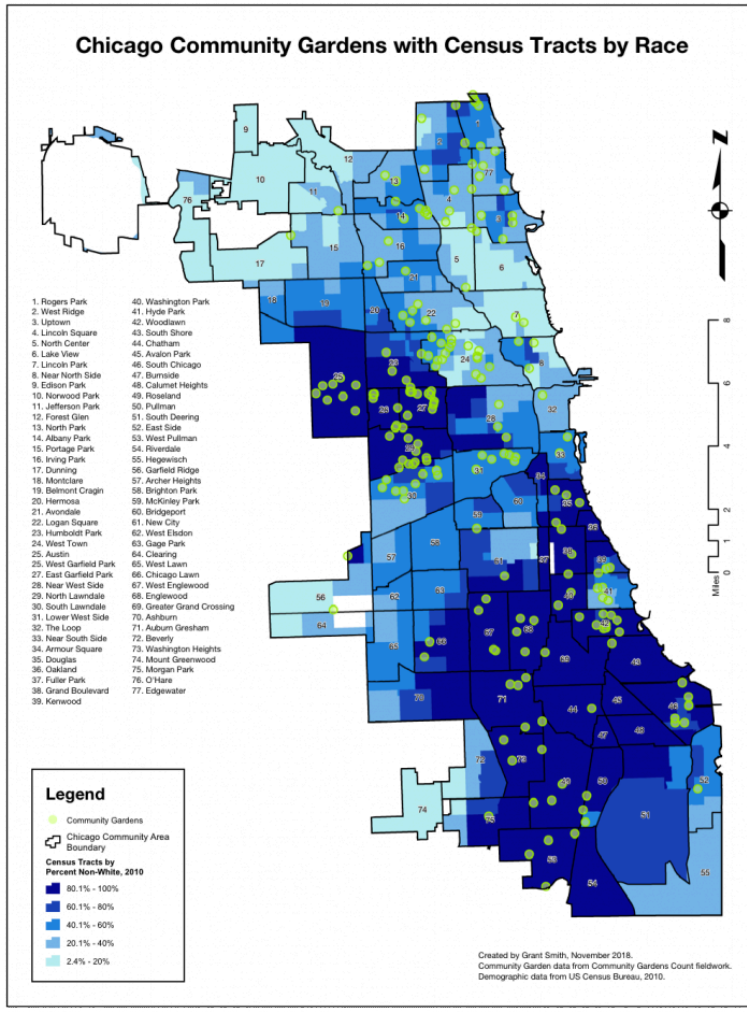

Figure 1: *Community Gardens and Racial Demographics in Chicago*

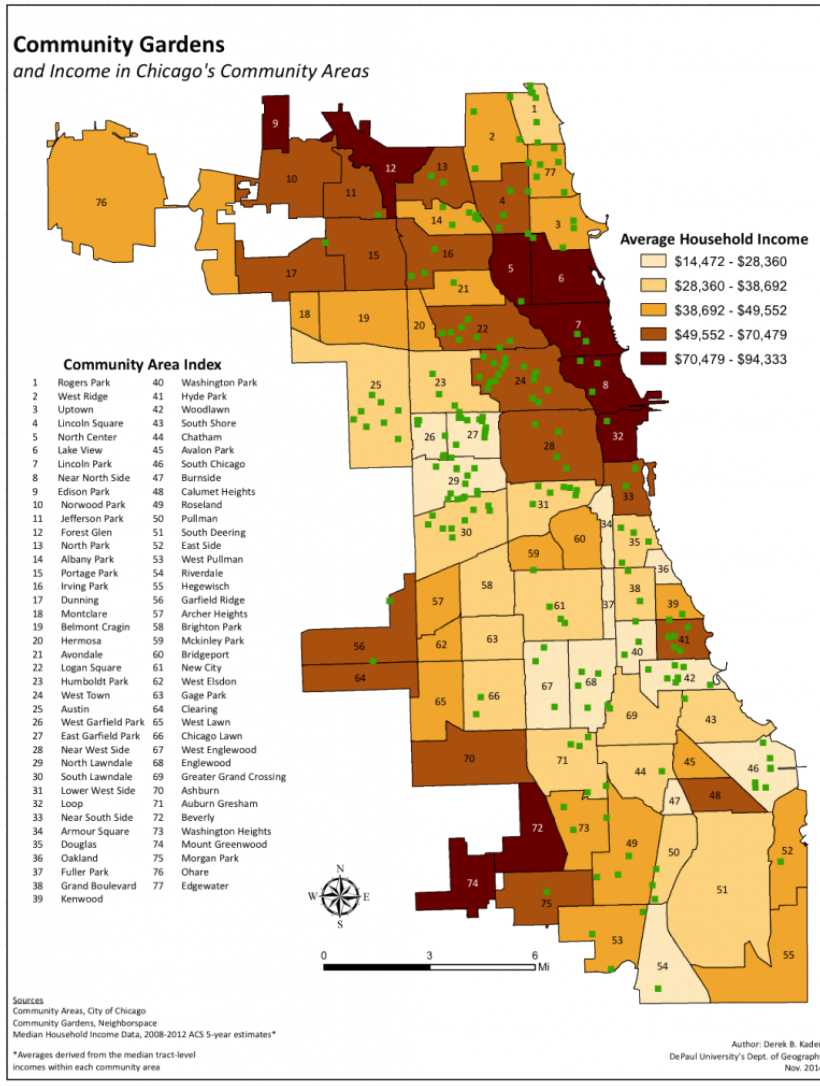

Figure 2: *Community Gardens and Income in Chicago*

Among the many crops produced by Chicago community gardens, 20 stood out as yielding the highest poundage. (See Table 1.) Mapping these 20 crops by Chicago's 77 community areas spatially revealed the cultural and economic importance of crops across neighborhoods with

diverse demographics. For example, more than 5,000 pounds of collard greens were produced in the southside neighborhood of Washington Heights, a neighborhood populated by more than 95 percent Black or African American residents, and most of which was classified in research studies as a food desert.[9] Community gardens thus also provided neighborhood access to culturally important, nutrient-rich food, the economic value of which can be seen in Table 2.

Table 1: Highest yield crops grown in Chicago community gardens

Highest yield crops by weight	**Poundage per crop across all gardens (lbs)**
Tomato	101,639
Squash	56,460
Beans	50,579
Swiss Chard	32,844
Collards	23,508
Peas	21,131
Peppers	17,296
Corn	16,481
Lettuce	14,863
Onions	14,437

Table 2: Dollar value of top 10 crops grown in Chicago community gardens

9. Gallagher 2006.

Highest value crops	Replacement costs across all gardens ($)
Tomatoes	204,294
Beans	112,791
Peas	112,415
Collards	97,792
Chives	91,093
Chard	90,979
Mint	84,279
Squash	79,609
Berries	66,114

FOOD DISTRIBUTION, YOUTH ENGAGEMENT, AND COMMUNITY BUILDING

Distribution of food from Chicago's community gardens is a complex, informal, and often ad hoc neighborhood provisioning process described by gardeners through interviews. For example, gardeners described how many gardens are openly accessible to neighbors, as one interviewee explained: "The neighbors take some, ain't nobody sellin' it, somebody might come by and take some, but most people come by and do it like they would from the store—put it in a box." Interviewees were asked whether they distribute portions of their yield to friends and neighbors. Most described that they would give surplus produce away to family, friends, and others who they knew needed it. Many mentioned harvest days or cook-out days, when neighborhood residents would assist with the harvest and/or cook and eat together. Permanent or impromptu meeting spaces with furniture and cooking resources were often visible at gardens, reflecting how the sites offered neighborhood social gathering points that encouraged community building. Indeed, as one gardener described, some gardens were highly accessible to neighbors: "So, for the most part, we're eating what we grow. And if we're not eating

what we grow, people who walk by and pick it are eating what we grow." Other gardeners emphasized the ethos of food sharing at the gardens: "We gave food to people, anybody we see. Cause we couldn't use all that. We couldn't use all the food!"

Community gardens in Chicago were also important for encouraging positive youth development. As one interviewee noted, "I think we really want kids to eat healthy. I mean we want families to eat healthy, but obviously starting with children. You know, teaching them why you're supposed to eat fruits and vegetables. I think we technically live in a food desert, where there is not a lot of access to fresh produce, so wanting kids to have that access, but also just wanting kids to know like, this is how broccoli grows, break it off and eat it." Other sentiments by gardeners highlighted how gardens provide important educational resources not offered in formal schooling. Youth learned about communal production, food sharing, and the origins of food. As another gardener noted, "We also have kids who just—they'll take a pot of greens and take it home with them. And kids really, really love it because I have this one kid who, two months ago, he was like, 'Hey, are we gonna grow those things that are orange and long?' I was like, 'A carrot.' He was like, 'Yeah, a carrot. Are we gonna grow those?'"

In general, gardeners explained how community gardens offered a safe space for local youth to engage with one another and intergenerationally to learn gardening and civic skills and the importance of mutual aid and care within neighborhoods. "I have a lot of neighbors who have kids who help me garden," explained one gardener. "they help me plant the seeds, they help me water. When I go out of town, I ask them to water, they love it. So, yeah, it's reaching a lot of, a lot of families."

NUTRITIONAL IMPACT FROM CHICAGO COMMUNITY GARDENS

The far-reaching nature of community gardens within many Chicago neighborhoods, especially for households that lack proximity to full-service grocery stores, illustrates the relational process of communal food production. The informal social processes described above have an impact on the physical well-being of residents through nutritional intake. Using the estimated production yields, researchers calculated the number of servings of specific foods per garden, as well as related nutritional data such as fiber content (See Tables 3 and 4). For example, gardeners produced an estimated 588,516 servings of collard greens, averaging 6,848 servings per garden, and delivering some 905,410 grams of fiber. Along with the significant health benefits of such leafy green vegetables, these findings provide evidence for advocacy, planning and policymaking in support of gardens, especially for neighborhoods marginalized by the retail food sector.

Table 3: Mean number of servings of select vegetables per garden (daily requirement: 3 to 4 servings per day)

Item	N	Minimum	Maximum	Mean
Beans	166	0.24	23,564.39	382.4
Beets	5	0	16.14	6.25
Asparagus	5	0	2.08	0.44
Broccoli	111	0.87	12,823.98	319.1
Bok choy	5	0	38.53	11.4
Brussel	37	1.37	6,472.12	344.4
Cabbage	107	4.87	57,183.66	1,363.5
Carrot	127	5.32	49,594.54	949.6
Celery	54	10.78	88,334.27	2,904.8
Collard	152	5.73	588,516.51	6,848.4
Cowpeas	6	1.62	32.95	14.8

Data Analysis by Angela Odoms-Young, University of Illinois at Chicago

Table 4: Mean grams of fiber for selected vegetables grown in Chicago community gardens

Item	N	Minimum	Maximum	Mean
Alfalfa	5	26.12	1,206.29	572.8
Beets	5	0	27.88	10.79
Artichoke	9	12.23	2,927.75	481.4
Beans	166	8.82	883,664.68	14,341.5
Broccoli	111	2.99	43,967.93	1,094
Bokchoy	5	0	7.1	2.11
Brussel	37	4.25	20,149.07	1,072.2
Cabbage	107	4.59	53,890.36	1285
Carrots	127	12.76	119,026.91	2,279.1
Celeriac	8	4.07	879.27	169.7
Celery	54	4.04	33,125.35	1,089.3
Collards	152	8.82	905,410.02	10,536.1
Corn	101	6.13	296,986.88	7,870.6

Data Analysis by Angela Odoms-Young, University of Illinois at Chicago

THE VALUE OF COMMUNITY GARDENS IN CITIES

Research on the yield from Chicago community gardens, combined with gardeners' descriptions of how food is distributed across neighborhoods, counters popular perceptions of community gardens as spaces that do not produce significant amounts of food. The study shows that Chicago community gardens are essential public health assets for providing highly nutritious foods that are often not otherwise locally available. The estimated 517,157 pounds of food produced by Chicago community gardens during the 2013 growing season had an estimated value of US$1,665,698, demonstrating the economic value of communal food production. Some gardens were so successful that they had explicit goals of being community food distribution hubs, creating direct supply chains to food pantries or through large distribution events and community meals.

No matter the manner in which food is distributed from gardens, the process of growing, harvesting, and distributing food nurtures positive relations among neighbors and especially for youth. Recurrent themes among interviewees included "feeding" the community spiritually or mentally, and that gardens provide a beautiful space of respite in a hectic, busy city. Gardeners described gardens as "a community backyard," a place for children to play safely, and a point of pride for their neighborhood. In some neighborhoods, gardens act as a bridge between newcomers to an area and long-time residents, who come together with a common vision of a more beautiful neighborhood, reducing potential for conflict, and further emphasizing why community gardens are important assets that should not be overlooked by policymakers and planners.

Urban policymakers would do well to recognize the intrinsic value of gardens in feeding and healing communities and creating safe, educational spaces for children and adults alike. In Chicago, the study determined that 20 percent of all Chicagoans (547,360) live within two blocks (1/4 mile) of a community garden. Extrinsically, these gardens hold value in that they feed both the gardeners themselves and residents across neighborhoods. For some Chicago neighborhoods, the gardens are the only local place where people can have access to fresh, culturally appropriate produce. While gardens cannot be the primary solution for food insecure neighborhoods, they should be recognized as an important piece of a larger process of systematically addressing disparities in urban food access.

There are a variety of ways that cities can support community garden development. Interviewees noted the necessity of gaining access to land in proximity to water sources, such as water lines or fire hydrants, that are permissible to use by gardens. In addition to land and water, access to soil is critical, since creating food-producing gardens on what are often toxic and/or paved spaces requires building raised beds. To keep people safe from harmful contaminants, purchasing high-quality soil is an expense often difficult for gardens to maintain. Policies can be implemented to support composting and environmental remediation of publicly owned vacant land suitable for gardening. In sum, gardeners recommended easing financial burden and removing barriers to entry for creating and maintaining gardens.

Chicago's community gardens were described by gardeners as places where people "are seen as equals," where there is "no hierarchy" between new and long-term residents. Investing in these spaces is an investment in promoting peace, and can be weighed against the cost of policing cities. Community gardens support **self-governance** and self-determination, neighborhood beautification, and caring for neighbors. Building sustainable food-

producing communities thus requires an approach that goes far beyond applying technical knowledge. This study highlights how community gardens offer an important mechanism for creating resilient, socially cohesive communities that can respond to social, economic, and environmental challenges. As neighborhood assets in racially segregated cities like Chicago, gardens offer a community response to insufficient availability and/or increasing cost of fresh food in a changing global economy and environment. Reducing the costs of gardening, and making community gardening as easy as possible, is thus a valuable investment in public health. Prioritizing community gardens in urban planning, policymaking, and development ensures that these spaces count and will lead to the development of more socially, economically, and environmentally sustainable food systems that are less reliant on importing food to feed cities.

Discussion Questions

- Why are community gardens important for public health in North American cities and towns?
- Should governments invest tax dollars in community gardens? Why or why not?
- In what ways can community gardens respond to racial injustice?
- How does your city or town support community food production? How can you get involved?

Exercises

Visit a local community garden

This exercise should take about four hours of time.

Visit an existing community garden in your city or town. If possible, choose a garden close to where you live. Answer the following questions about the garden in a notebook, laptop, or tablet:

What did you see when you visited the garden (physical, social environment)?

Does the garden seem like it is well taken care of?

Do you get a sense that the garden is an active growing space? Why?

Is there something that makes this garden distinct from others?

Did you talk to anyone at the garden? What did they say?

Describe the garden in as much detail as possible. Your answer should be a minimum of 500 words, but there is no maximum limit.

Using your phone or a camera, make an audio and/or video recording of yourself while visiting the garden. The recording should describe the garden in as much detail as possible, but should be no longer than five minutes in length. In particular, identify any symbols of how community members are working together to grow food (communal growing) and ways in which the garden seems to be designed to build or support community (tables, barbecue, etc.). Make sure to avoid filming people's faces, and include the location and name of the garden in your recording.

Submit your notes and recording to a shared drive where students can review each other's submissions.

Note to instructors: Following review of all the submissions, prepare for class discussion by determining what patterns or themes you see occurring across the different community gardens visited by students in your class. What can these patterns tell you about the culture and practice of community gardening in your town or city?

Map community gardens in your town or city

Using Google maps or another mapping tool, work with your class to begin mapping community gardens in your neighborhood, town, or city. For an example of what you can map, see the Chicago Urban Agriculture Mapping Project (CUAMP), which was developed in conjunction with the Community Gardens Count study. Pay special attention to the Advanced Search features of CUAMP and explore the types of garden features that can be added to the public map. Decide as a class or in small groups what you would like your map to look like and contain. Make sure to visit the gardens that you map to ensure that they are still there.

As you add gardens to the map, discuss with the class what the geography of community gardens says about local food production in your town or city. How does the location of gardens and what they contain relate to the demographics in your region? How does racism and class play a role in where and how community gardens operate?

Engage in service-learning with a community garden

Service-learning can be defined in several ways, but in general it involves intentionally integrating relevant and meaningful service with the community with academic

and civic learning. While it involves students in service as a learning strategy, service-learning is not synonymous with community service or volunteering.

For this exercise, students will be assigned to one of several pre-arranged community gardens, where they should serve a minimum of 20 hours of service, spread out over the school semester. Students should maintain a journal of their weekly experiences. A set of guided questions should be developed by the instructor, linking student observations and reflections to course readings, guest speakers, and learning resources. During several class sessions, students and the instructor should reflect on their experiences and discuss the value of this type of learning, both for students and for communities.

Additional Resources

Anti-racism in community food growing: Signposting: An online informational resource from the London-based organization, Capital Growth.

Strengthening Equity & Inclusion in Garden Education: An online informational resource from the School Garden Support Organization.

Inclusive Community Gardens: A downloadable resource from the City of Vancouver.

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JOHANNA WILKES

MUNICIPAL POLICY AS PART OF LOCAL FOOD SYSTEMS GOVERNANCE: BACKYARD CHICKENS AND LAND FOR GROWING

Johanna Wilkes *(she/her) is a PhD candidate at the Balsillie School of International Affairs. Her dissertation research focuses on pathways of change within and between different scales of food governance. Johanna has experience in food systems research and policy development. She lives and learns on the traditional territory of the Anishnaabe, Haudenosaunee and Neutral peoples.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the role of municipal policy in local food systems.
- Evaluate the engagement and influence of different actors in the policy development process.
- Explain how policies evolve over time.
- Recognize the importance of decolonizing food systems and re-building Indigenous foodways.

INTRODUCTION

While issues of housing, transit, or waste collection can all be quite controversial, the debate on raising hens and growing food in urban spaces can really ruffle some feathers. Debates such as these are part of the public policy ecosystem. Public policy is, to use Thomas Dye's definition from 1972, "anything a government chooses to do or not do."[1] While personal policy (the rules we use to guide our actions) and organizational policy (the rules and guiding principles of a company or group of people) also intersect with our everyday lives, the focus of this chapter will be the role of municipal governments in public policy.[2]

Public policy across scales—municipal, regional, provincial, national, or international—can come in many forms and is often

1. Howlett & Cashore 2014.
2. To learn more about the basics of policy, see "What is Policy?" Food Security for All. (2005). Section 4. Available at: http://partcfood.msvu.ca/section4/4.pdf.

situated within a specific community or context as part of the larger structures of governments.

It is important to acknowledge that **municipal policy** is a form of settler-colonial governance, as it is made for and by settler communities across the United States and Canada. This chapter highlights several projects that support the revitalization of foodways and knowledges in food systems.

MUNICIPAL POLICY IN FOOD SYSTEMS

Local sites of governance, such as municipal governments, are becoming increasingly important for food systems policy transformation. Municipal and regional governance offer one of the most intimate and grounded spaces for policy implementation—narrowing the gap between the structures that govern and the people who are affected.

The following **cases** explore the role of municipal policy in food systems. To provide a more grounded view on the policy development process, I focus specifically on two areas: backyard chickens and land for growing. It is important to note that municipal food policy is much broader than just these two areas, encompassing issues from the number of food retail outlets in a community to the creation of pollinator habitats. While both cases presented are based in Ontario, Canada, links to other examples in the United States and Canada have been included to explore what is happening in other communities.

Backyard Chickens

Before beginning this section, take a few minutes to read and view this article and archived video clip from the Canadian Broadcasting Corporation (CBC).

In Toronto, Ontario, Canada, the UrbanHensTO pilot project was launched in 2018, but debate on the subject is far from new[3]. The case of Toronto shows how policy evolves, rather than being a binary decision made at a discreet point in time. Advocacy coalitions, policy champions, and policy brokers may all play a role in the outcome of the policy development process. The 1980s saw a rise in concern from both community members and policy makers (i.e., City Councillors) about the negative impact chickens could have on the health and well-being of residents. Noting odour, noise, and nuisance, the Toronto City Council supported the adoption of a bylaw banning the ownership of poultry.

This decision shifted poultry-owning policy from a more **laissez-faire** approach towards an active restriction on ownership. While there were active participants on both sides of the debate, the blunt use of a restrictive policy instrument meant that chicken farmers who chose to keep their flock would be in violation of city rules. In the decades since, advocates have lobbied, researched, and educated communities about the benefits of chickens in an urban setting, as well as researched how to mitigate the earlier risks or nuisance concerns. Using communication tools, such as sample letters, education materials, social media and online forums, and petitions, advocates have continued to fight for re-evaluation of the previous policy decisions.

In 2018, these long-fought efforts were partially recognized with the introduction of a time-limited **pilot** program that would run in specific **wards** of the city. Coverage of the decision also notes

3. See: "The battle over backyard chickens that hatched in 1980s Toronto." Posted on May 2nd, 2019 (filmed in 1983). Available at: https://www.cbc.ca/archives/the-battle-over-backyard-chickens-that-hatched-in-1980s-toronto-1.5100066 and "The battle over backyard chickens that hatched in 1980s Toronto." Posted on May 2nd, 2019 (filmed in 1983). Available at: https://www.cbc.ca/archives/the-battle-over-backyard-chickens-that-hatched-in-1980s-toronto-1.5100066

the importance of policy makers as advocates from within the governance structure[4]. For UrbanHensTO, a set of city councillors were supportive and championed the efforts of advocates at the municipal level. In addition, a broader coalition of individuals and organized networks created a system of information sharing and advocacy. Urban chickens—and urban farming more generally—are both a way to grow food in city settings and are activities that highlight the role of municipal governance in **food sovereignty**. In addition to the municipal-level, policy at all scales can create enabling frameworks that allow for community-led and community-informed decisions.

Table 1: The phases and processes in the evolution of policy

Phase	**Processes**
Organizing Opposition	Moving from a 'policy of doing nothing' to a restrictive policy often evolves through advocacy. In the case of backyard chickens in Toronto, residents were concerned with the odour, noise, and nuisance that flocks brought with them.
Implementation of Restrictions	Beginning in the 1980s, raising backyard chickens went from being relatively unregulated to being banned through a bylaw adopted by City Council. Since then, the battle over whether or not chickens should be allowed within backyards has continued to evolve.
Organized Advocates	While those in favour of backyard chickens have been engaged since before the 1980 bylaw, advocates formed a broader coalition including City Councillors, City Staff within the Food Policy Council, and food sovereignty leaders.
Nuanced Pilot Programs	The renewed attention to the issue led to a City Council vote in support of a pilot project. This decision took into account earlier concerns of odour, noise, and nuisance during development and included elements such as a time-limited approach with a review and a clear definition of scope.
Policy Review	UrbanHensTO pilot project will be reviewed, at which time councillors will be able to make further decisions on the program. The options could include extending the pilot, modifying the terms, or creating a more permanent program.

4. Langford 2020.

City Lands, Bylaws, and Urban Growing

Before beginning this section, take a few minutes to read this 2019 CBC News article or watch the City of Hamilton's 2016 video about the McQuestern Urban Farm.

Urban food growing can occur on both private and public property, given the right conditions and rules are in place at the municipal level. In Hamilton, Ontario, policy makers and advocates have been working to create an **enabling environment** for growing food in communities across the city. In this case, a key report was submitted to the City of Hamilton by the Urban Agriculture Working Group ("the Group") that became the basis for change. The Group brought together members of housing, health, public works, and other departments to study how **local food** systems could be enabled across the municipality. By providing a wide range of recommendations, the Group was able to tackle the role of different policy tools across the municipal government. The Group used their report to outline the benefits of urban growing as well as the different changes necessary to create an enabling policy environment. These recommendations included using policy planning tools (e.g., official plans and zoning) as well as other policy levers (e.g., food strategies, land inventory, and supportive policies and programs).

One of the largest success stories in the city has been McQuesten Urban Farm. Building on the lands behind a former school, this Urban Farm grew from the efforts of community advocates, city officials, and local community members. In addition to land identification, the location of this project was tied to more systemic challenges of food insecurity, including limited access to fresh fruits and vegetables in the community. Key to McQuesten Urban Farm's success is both access to land and support (financial, community, and knowledge). By identifying a parcel of public land that was ideal for the community's vision, advocates

worked with policy makers and policy brokers to identify the needs of communities and the requirements to realize the project.

While this project is symbolic of a shift towards an enabling framework for urban growing, the ideal conditions are influenced by much more than this single project. Hamilton is now seen as an example of how to create urban growing environments that work for and are developed by communities. In 2016[5], Hamilton City Council endorsed the Hamilton Food Strategy that outlines goals, recommendations, and actions that help support local food systems[6]. Other examples of community advocacy and local action include those in Athens, Georgia, Denver, Colorado, Guelph, Ontario, and Halifax, Nova Scotia.

CONCLUSION

In both cases above, nuance and advocacy were key in pushing for the consideration, expansion, or reconsideration of a desired policy. By acknowledging the past criticisms and looking towards municipalities that have adopted different policy approaches, advocates were able to work with city staff to table pilot projects or programs that were thoughtful of incorporating nuance. Cross-jurisdictional learning allowed for the cities of Toronto and Hamilton to look at other North American municipalities for policy options and how communities have responded to change. For municipal food policy, these different forms of learning can be important for policy processes and advocacy within movements. The role of communication, policy champions and advocates, and knowledge sharing sites played a key

5. For more on the municipal food policy history in Hamilton, see: https://www.hamilton.ca/sites/default/files/media/browser/2016-09-01/hamilton-food-strategy-2018.pdf (starting on p. 7).

6. See https://www.hamilton.ca/government-information/news-centre/news-releases/hamilton-city-council-endorsed-10-year-food.

part in the development of the different policy components and helped source solutions. In addition, food policy councils[7]—or more broadly, food policy groups—help translate and facilitate change by working with and within municipal governments. The councils provide a dedicated space where knowledge of food and policy systems merge.

Local food policy is much older and deeper than governance of or by a municipality. Looking beyond these settler forms of local governance (such as the municipal, state, or federal systems), it is important to recognize the intimate relationship between community and sustainable foodways. Indigenous communities have been active in decolonizing food systems and empowering Indigenous knowledge through ways of growing/eating/being. See the resources below for more on how food sovereignty is growing within and across communities.

Discussion Questions

- What food issues are important to your community? Are you aware of existing municipal or regional food policies that addresses those issues? If not, why do you think there is a gap?
- What elements, people, and resources are involved in the creation of a new food policy (e.g., advocates, policy brokers, community-identified needs, etc.)? How can communication tools be used to increase engagement in food policy processes?

7. While the Toronto Food Policy Council (TFPC) is often used as a prominent example, Food Policy Groups are present across the world.

- How can community movements help decolonialize food growing and eating practices? Can you achieve one of the actions set out by the Native Food Systems team?

Exercises

Backyard Chicken Policy Comparison

Look at the list of municipal backyard chicken policies below. Read each of the policies and how policy development can differ. Note such variations as the number of chickens, the lot size of an owner's property, and the limitation or banning of roosters. What other differences can you find? Are there similarities across policies?

- Austin, Texas
- Edmonton, Alberta
- Kitchener, Ontario
- New Orleans, Louisiana
- Portland, Oregon
- Seattle, Washington
- Victoria, British Columbia
- Whitehorse, Yukon

Understanding Food Policy Groups

Food policy groups—such as councils—can bring knowledge and act as policy brokers in communities. Write a short plain language

report outlining the debate and decision of a recent urban food policy process by a city council of your choosing. To find more information on municipal food policies or groups, see the BC Food System Policy Database (for Canada) or the Johns Hopkins Center for a Livable Future's Food Policy Networks project (for the U.S.), or look for a food policy database in your area.

Use the following guiding questions to write your report:

- What is the name, area of work, and primary focus of the food policy group you chose?
- Whose interests does the food policy group serve? Who is in/employed by the group?
- What are the key topics being debated? Are there opposing viewpoints? What are they?
- Who are the key stakeholders or groups that are/will be impacted by the policy being debated? Are there any external interests influencing the debate?
- What are the main concerns about the policy? What are the potential benefits?
- If a policy decision has been made, what are the key points of that policy?

Additional Resources

Gather, a film about Indigenous reclamation of spiritual, political and cultural identities through food sovereignty.

Native Food Systems

Nourish Healthcare's Report on Indigenous Foodways

Indigenous Food Systems Network

Dream of Wild Health

Indigenous Food and Agriculture Initiative

Hamilton's McQuesten Urban Farm. (video)

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ANDREA ELENA NORIEGA

ODE TO NATURE

Andrea Elena Noriega *is an Ottawa-based artist and Carleton University graduate with an MA in Applied Linguistics, and PhD (abd) in Anthropology specializing in food discourses related to health and wellness. Her artwork explores the relationships between people and non-human beings, with particular interest in the role of pollinators and food systems.*

ODE TO NATURE

In making work about the natural environment, artists and artisans often find themselves meditating on their broader relationships with their subject. Making art about 'nature'—whether visual, textural, performative, or otherwise—also means witnessing oneself *within* nature. The division between what humans

make and what the world 'outside us' makes suddenly stops being so obvious. In this way, artists often feel deeply connected to their environments, in cognitive, physical, and psychological ways. This sense of presence can be expressed through words and images and gesture, as well as through the emotions and **affect** that both making and witnessing art bring about.

In the video below, multimedia artist Andrea Elena Noriega reflects on the reciprocity and relationality of humans, the rest of the living world, and art. It is at once an ode to nature and a recognition of that the line between nature and culture tends to disappear the closer we get to it.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=236

KRISTEN LOWITT

FROM WATER TO PLATE: MAKING FISHERIES A PART OF SUSTAINABLE FOOD SYSTEMS

Kristen Lowitt *is an Assistant Professor in the School of Environmental Studies at Queen's University. Her interdisciplinary research program is directed towards working with communities to build just and sustainable food systems in rural and coastal settings. Areas of interest include the role of small-scale fisheries in sustainable food systems, Indigenous-settler collaborations for food sovereignty, and collective action for food systems governance.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Articulate different positions on fisheries and their governance.
- Explain the ways in which fisheries contribute to food systems.
- Describe and define key concepts and terminology related to fisheries.

INTRODUCTION

From inland lakes to the world's oceans, the harvesting and eating of fish are woven into the cultural identities, values, and traditions of coastal communities. Nearly 60 million people around the world are involved in the primary sector of **capture fisheries** and **aquaculture,** with many more, especially women, undertaking related tasks such as fish handling, processing, and selling.[1] The majority of this employment is in the Global South, among **small-scale fish harvesters** and aquacultural workers, who catch a diversity of species from small boats near shore or who tend low-input fish farming systems. Most of the fish from these small-scale operations goes towards local markets and directly to feeding households, providing a culturally preferred source of protein and valuable source of micronutrients. Fisheries are also crucial to livelihoods and **food security** in fishing-dependent regions of the Global North. For example, on Canada's Atlantic coast, fisheries continue to be the backbone of regional economic development for numerous small communities called "outports," in addition to forming a vital part of local

1. FAO 2020.

foodways. Around the Great Lakes of North America, a range of Indigenous, commercial, and recreational freshwater fisheries are key features of the regional landscape. For many Indigenous peoples around the world, fisheries are integrally tied to traditional food practices and self-determination.

However, fisheries are under considerable stress. Industrialization and **consolidation** in the fishing sector are placing mounting pressure on fish stocks and aquatic ecosystems and threatening the livelihoods and food security of those most reliant on fisheries. Industrial fishing is highly uneven across countries, with a small number of higher-income countries accounting for the majority of industrial fishing activity and accruing the benefits in terms of profits and seafood supply.[2] Fishing pressure is exacerbated by broader forces such as climate change and toxic pollution. Data from the Food and Agriculture Organization of the United Nations indicate that the share of marine fish stocks within biologically sustainable levels is declining.[3]

Against this backdrop, this chapter asks, can fisheries be a part of feeding people sustainably in the coming decades? To answer this question, I begin by reviewing two contrasting perspectives on fisheries: efficiency and transformation. These are adapted from Garnett's (2014) typology of perspectives on sustainable food security.[4] I then discuss the implications of these perspectives for fisheries' roles in sustainable **food systems**, ultimately arguing in favour of a transformational perspective that resists the dominant view of fish as a **commodity**, and places the goal of providing food for people at the centre of fisheries.

2. McCauley et al. 2018.

3. FAO 2020.

4. Garnett 2014.

EFFICIENCY PERSPECTIVE: THE PURSUIT OF PROFIT

This can be considered the prevailing view on fisheries, often held by governments and large industry actors. Fish are seen foremost as a commodity to be managed for economic efficiency, meaning the key aim is to minimize fishing costs and maximize outputs and profits. The pursuit of efficiency spurred the global industrialization of fisheries that took off in the 1940s following World War II, as more sophisticated technologies expanded the speed and scale at which fish could be caught.[5] Small boats using mostly household and family labour, and bringing catches to shore at small processing plants, were deemed "inefficient" and became increasingly marginalized by a large-scale industrial sector of corporate-owned fishing vessels. These large-scale fleets sometimes fish in the same waters as smaller boats, as well as further from shore. The largest of these vessels can freeze and process fish directly on board. High-seas fishing is yet another scale of fishing that takes place beyond the jurisdiction of any individual country and is characterized by vast freezer trawlers that can process thousands of tonnes of fish while at sea.

The mantra of economic efficiency gained further credence with the publication in 1968 of a famous essay called the "Tragedy of the Commons." In it, economist Garrett Hardin wrote that "ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons."[6] This essay is based on a limited view of people as being out to maximize their own personal gain. It was nonetheless highly influential in shifting the policy landscape around fisheries, with what had long been a shared and common resource becoming enclosed through new management tools

5. Finley 2016.

6. Hardin 1968, 1244.

designed to incentivize individual ownership and stewardship. One of the most popular tools used widely in freshwater and marine fisheries today is **Individual Transferable Quotas** (ITQs). ITQs are a type of **quota** that, as their name indicates, can be transferred (i.e., bought and sold) among fish harvesters on a free market. The logic behind ITQs is that fish harvesters will be less likely to "race for the fish" and put pressure on fish stocks if they can be assured of their exclusive right to a part of the catch.[7] Following this line of thinking, ecological sustainability is promoted and fishing rights are optimally allocated, given that the more efficient can "buy out their less efficient counterparts."[8]

Of course, what may be economically efficient is not necessarily equitable or ecologically sustainable. ITQs have been critiqued for contributing to environmental **externalities,** including the practice among some ITQ holders of "high-grading"—or disposing of low-value fish—to maximize the value of their quota.[9] Another serious critique of ITQs pertains to social equity. With ITQs, those with more capital can buy up more fish to catch. In many cases, the long-term outcome of ITQs has been fewer and larger boats, leading to a concentration of wealth and power in fisheries. This has direct implications for **food systems**. My research on Lake Superior in the Great Lakes has shown that the introduction of ITQs into commercial fisheries in that region has facilitated the export of lake whitefish into large markets in the United States for use as low-quality protein; this has disadvantaged its access among local communities across the Canadian shore of the lake, where it remains a desirable, culturally appropriate, and nutritious food.[10]

7. Sumaila 2010.
8. Ibid.
9. Ibid.
10. Lowitt et al. 2019.

So far, this discussion has focused on capture fisheries. However, it is important to note that aquaculture fits particularly neatly within an efficiency perspective, because it is a more controlled form of production that lends itself well to private ownership. Unlike wild fish that cross ecological and political borders, farmed fish enclosed in a pen at sea or on land are much easier to own. As aquaculture has grown in recent decades, it is often heralded among policy makers as more advanced, forward looking, and the key to meeting food security needs by increasing fish supply.[11]

Lastly, an efficiency perspective applies not only to the harvesting and production of fish but to consumption as well. As demonstrated so far, an efficiency perspective sees markets as the most appropriate mechanism for allocating fishing rights, such as through ITQs. Likewise, markets are held up as a means of promoting environmental sustainability through consumer choices. An example is the proliferation of labels that have come to adorn fish products in the marketplace, which attempt to communicate something about the sustainability of these products to consumers. While there is some merit in promoting greater transparency in fish supply chains, a limitation of this form of sustainability is that it casts people primarily as consumers. This sidelines other possibilities for democratic engagement, such as policy advocacy or collective organizing, in favour of individual purchasing choices and buying power.

TRANSFORMATION PERSPECTIVE: PRIORITIZING PEOPLE AND COMMUNITIES

The transformation perspective is in many ways directly juxtaposed to the ideas presented above. In contrast to an efficiency perspective, a transformational view places attention and prior-

11. Belton & Thilsted 2014.

ity on the world's small-scale fish harvesters and workers, asserting that the *people and communities* most dependent on fishing for food and for livelihoods should be at the centre of decision-making. In this sense, fish is understood as much more than a commodity; it is appreciated as a vital part of foodways, local cultures, social identities, and histories. As many scholars and activists have pointed out, despite small-scale fisheries comprising the majority of livelihood opportunities and contributing the most to food security for vulnerable households[12], power and attention from governments often remains centered around corporate and industrial fleets and operations.[13] In contrast to the private property rights that characterize an efficiency approach, a transformational perspective emphasizes community-access rights and sees fish as a **commons**, to be shared and collectively governed. Here, a large body of research by maritime anthropologists, as well as foundational work by economist Elinor Ostrom, points to how communities have long governed access to resources through local institutions designed and adapted to their needs.

This perspective also sees privatization and capitalization in fisheries as the core problems that contribute to over-exploitation of fish stocks, degradation of aquatic environments, and insecure livelihoods. Wealth *distribution* is the goal of a transformational perspective, as opposed to wealth *concentration,* which is the goal of an efficiency perspective. A transformational perspective recognizes that the well-being of fish and people are interlinked, meaning that changes in the natural environment directly influences the well-being of people reliant on these ecosystems. An example of this interconnection comes from my doctoral research on the island of Newfoundland, Canada, which looked at how changes to fish stocks had an impact on the food provi-

12. Ibid.

13. Béné et al. 2015.

sioning practices of households in fishing communities. I found that what households ate closely mirrored changes in local fisheries and marine environments. This included seasonal changes in diets related to the availability of local fish, as well as shifts in the type of seafood consumed over time, such as the introduction of more shellfish (shrimp, crab) into diets, as these species started to be harvested more after cod and other groundfish declined.[14] Around the world today, multiple threats to aquatic ecosystems and fish stocks challenge the food security of fishing-dependent communities.

A transformational perspective prioritizing the needs of fishing people and communities is closely connected to the concept and movement of **food sovereignty.** Food sovereignty is understood as the "right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems."[15] Recently, policy proposals for food sovereignty have emerged from fishers' movements. For example, in 2017, the World Forum of Fisher Peoples (WFFP), a social movement organization representing ten million small-scale fishers from around the world, released the report, *Agroecology and Food Sovereignty in Small-Scale Fisheries*. This report provides an agenda for solidarity building and political organizing among fish harvesters, workers, youth, women, Indigenous communities, and related organizations and allies, in response to increasing corporate control of fisheries. The WFFP has become a key voice representing small-scale fishers' movements in international governance forums, including at the United Nations Committee on World Food Security.

14. Lowitt 2013.

15. Declaration of Nyéléni 2007.

Another key policy accomplishment encompassing both inland and marine small-scale fisheries is the *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Alleviation*, led by the Food and Agriculture Organization (FAO) of the United Nations. The Guidelines are significant as the first international instrument devoted to the sustainability of small-scale fisheries. The Guidelines adopt a human rights approach that asserts that supporting fishing communities and their empowerment is fundamental to the realization of these communities' human rights. The Guidelines were endorsed by FAO member states in 2014, following a three-year dialogue and consultation process with civil society, fishers' groups, and governments, among others. However, their implementation into national laws is ongoing and politically fraught because of some of the major policy reforms that are called for.[16] Small-scale fisheries and their sustainability have also been recognized as key to achieving many of the United Nations Sustainable Development Goals (SDGs), including poverty and food security, and directly applicable to *SDG 14: Life Below Water*.

CONCLUSION

Ultimately, these perspectives reflect different views on fisheries **governance**. Governance refers to how decisions are made, including what values and principles should shape them. An efficiency perspective on fisheries emphasizes markets and private property as key principles, and, when food systems are considered, a focus on fish supply is the key concern. However, as Béné points out, the capacity to simply produce more fish "masks inequalities and inequities in who eats the fish and who benefits from the value chains."[17] These are some of the key concerns raised by a transformational viewpoint. A transformational

16. Jentoft et al. 2017.

17. Béné et al. 2015, 271.

perspective problematizes the commodification of fish; it pushes beyond an efficiency lens to foreground questions of democracy and human rights within fisheries. This isn't to suggest there isn't a role for markets or technology, as promoted from an efficiency position. Rather, for fisheries to make meaningful contributions to sustainable food systems, the balance of power needs to be adjusted in favour of the millions of small-scale fish harvesters, aquaculture workers, and other labourers across fisheries value chains who are most dependent on fisheries for their livelihoods, culture, and food security. This balance may begin to shift as small-scale fisheries become an increasing locus of political struggle and social mobilization. Working towards sustainability in fisheries-based food systems will require the efforts of a range of actors and networks in advocating for change in support of fishing communities, from fishers themselves to governments, youth, researchers, students, and consumers.

Discussion Questions

- What coastal communities are you familiar with? What role do fisheries play in the food systems of these communities?
- What does the idea of 'fish as commons' mean to you? How might it challenge a dominant view of fish as commodity?
- How are fisheries, food systems, and social movements connected?

Additional Resources

Too Big to Ignore, a global partnership for small-scale fisheries research.

United Nations Sustainable Development Goal 14: Life Below Water

Coastal Routes Radio, featuring stories of coastal community resilience around North America. (podcasts)

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EVELYN NIMMO AND ANDRÉ E.B. LACERDA

TRADITIONAL AGROFORESTRY PRODUCTION SYSTEMS IN SOUTHERN BRAZIL: PROMOTING RESILIENCE AND FARMER AUTONOMY IN AGROECOLOGICAL FOOD SYSTEMS

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André E.B. Lacerda *holds a bachelor degree in Forest Engineering from the Federal University of Paraná, Brazil, with a specialization in Environmental Management and Engineering, a master's degree in Botany, and a PhD in Geography from the University of Reading. He is a researcher at Embrapa Forestry in the area of forest ecology and genetics. He has experience working in participatory forest management, environmental restoration, agroforestry systems, and population genetics.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain the importance of local/Indigenous ecological knowledges and histories in supporting and developing sustainable food systems.
- Describe the impact that conventional industrial food systems have on traditional food cultures and ways of knowing the environment.
- Demonstrate an understanding of how researchers can integrate scientific approaches and traditional knowledge to develop innovative solutions to food systems challenges.

INTRODUCTION

Conventional agriculture applies a one-size-fits-all approach to agricultural production and has ignored the particular connection that small-scale farmers have with their land, the crops they produce, and the ecosystems that they rely on. In Brazil, the result has been massive deforestation, **rural exodus**, extreme impacts of droughts and other weather events, a significant loss of biodiversity, and a loss of the sense of belonging among farmers.

One of the ways that farmers, researchers, and other actors have begun to address these challenges within the current food system is by using the principles of agroecology. Agroecology is an area of scientific research and a set of practices or methods that uses the science of ecology to develop, design, and implement sustainable and environmentally sound agricultural practices. Agroecological approaches also look beyond the environment and agriculture to include social and cultural aspects of food systems. One example is the consideration of people's connection and history with the land, and their traditional knowledge about native tree and crop species, as important factors in developing agricultural systems.

Traditional and agroecological *erva-mate* (*yerba mate* in Spanish) production systems refer to an assemblage of agricultural and **agroforestry** practices typical of family farming and traditional communities (such as Indigenous peoples, *quilombolas*, and *faxinalenses*) in Southern Paraná, Brazil. The dark green leaves of the erva-mate tree (*Ilex paraguariensis*; see Figure 1) are harvested, roasted, processed, and consumed as a tea, *chimarrão* (the regional name for *mate*, see Figure 2), or *tererê*, is an infusion that is consumed cold. The cultivation, harvesting, and consumption of erva-mate are practices that have deep cultural significance in southern Latin American countries, from Chile to Brazil, and

the history of production and consumption of erva-mate dates back thousands of years. These systems originated in the cultural practices of the Guarani Indigenous people, yet they continued to develop over generations through the exchange of knowledge between Indigenous peoples and settler communities.

Figure 1. *Erva-mate trees in a traditional agroforestry system with chicken and pork production (left); leaves of the erva-mate tree that are pruned for drying and processing (right). photos: André E.B. Lacerda.*

Figure 2. A gourd and metal straw used to consume chimarrão, an infusion of processed erva-mate leaves with hot water. The way chimarrão is consumed today has its roots in Guarani Indigenous cultural practices and has changed little since European colonization of Southern Latin America. photo: João F.M.M. Nogueira.

Erva-mate is a shade-tolerant species; it thrives naturally in the understory of the Araucaria Forest, a forest ecosystem that is part of the Atlantic Forest **biodiversity hotspot**. Its cultivation and management are based on **traditional ecological knowledge** and locally developed natural resource management practices. Precisely because of the way in which erva-mate is produced, in native forests and associated with traditional knowledge, it is a unique agroforestry system in Southern Brazil that integrates a variety of food crops and other non-timber forest products, such as native fruits, corn, beans, rice, and vegetables, as well as the raising of pigs, cattle, and poultry.

Since the production of traditional erva-mate is directly linked to forests, the amount of forest cover in regions where it is grown is highly relevant. This is a key point considering that the Atlantic Forest is a biodiversity hotspot, with high levels of diversity and **endemism** of associated flora and fauna, and that only about 1% of the original **primary forest** remains, with new or **secondary forests** covering between 20% and 25% of southern Brazil. The vast deforestation that occurred mainly in the 19th and 20th centuries is a consequence of an intense process of land use changes that continue throughout the country today. But in areas where traditional erva-mate production continues in Southern Paraná State, rates of deforestation have been less severe (see Figure 3).

Figure 3. *The devastating loss of forest in Paraná State can be seen in the second image, as the majority of the state was covered by forest until the turn of the 19th century. In the region where traditional erva-mate systems still occur, in South and Central-South Paraná, the loss of forest has been much less severe, as shown in the final image (forests are shown in darker green). In the north and west of Paraná State, land conversion for commodity crops, initially coffee and then later corn and soy, have left a lasting impact on the landscape. image: Google Earth, 2022.*

Despite the important role of traditional erva-mate production systems in local and regional **ecosystem services**, cultural identities and histories, and agroecological food production, they are under increased pressure to modernize. These pressures come from the industrial food sector and government agricultural outreach and research agencies, which advocate for transitioning to commodity production (i.e., tobacco, soy, and corn), or abandoning traditional agroforestry practices altogether and increasing

erva-mate yields through monoculture cultivation and heavy use of inputs, like pesticides, fertilizers, and other agrochemicals.

Nevertheless, farmers continue to use traditional systems for a range of reasons, including the **affective relationships** many small-scale erva-mate producers have with the forest and a recognition of the importance of maintaining not only the forest environment, but also the knowledge and practices associated with these management systems.

CENTRAL-SOUTH PARANÁ STATE, SOUTHERN BRAZIL

Over the past 30 years, an informal network has developed in Southern Paraná State that has been working together to support the continuation of traditional erva-mate growing systems. They help leverage and optimize these systems, to increase farmer income and autonomy, value the products that they produce, and better understand the benefits they bring culturally, ecologically, and economically. This network is made up of forest engineers, agronomists, historians, anthropologists, technicians, and outreach workers from universities and state and federal agricultural institutions (such as the State University of Ponta Grossa [UEPG], the Rural Development Institute of Paraná [IDR-PR], and Embrapa Forestry). Farmers from across the region who are engaged in agroecological production, activism, and experimentation are also involved in the network, as are other stakeholders, such as the newly created Centre for Education and Development of Traditional Erva-mate (CEDErva). The network includes people who have been working to support traditional agricultural systems for several decades, as well as newer additions, such as researchers from UEPG and CEDErva, who bring different insights and perspectives. In what follows, we focus on the recent work of this network to consider how interdisciplinary and participatory research and outreach are crucial to sup-

porting the development or continuation of food systems, and how such systems can offer strategies to build resilience in the face of a changing climate and the industrial food system.

RESEARCH METHODS

In Brazil, the majority of research and public policies support the expansion of the industrial agricultural food system, focusing on large-scale production of commodities such as soy and beef. Because of this, traditional and agroecological food knowledges are considered fringe or outdated, and tend to be marginalized in policy and practice. Therefore, evidence-based research is necessary to legitimize traditional knowledge as an important alternative. While there is much discussion concerning agroecology and sustainable food systems around the world, in Southern Brazil, agricultural research and outreach have mostly ignored these food systems, maintaining a focus on conventional, large-scale commodity production such as soy, corn, and tobacco.

Building on the long-term engagement with communities, farmers, and outreach organizations, researchers in the network are using a wide range of **participatory research** methods to better understand the historical, social, cultural, and environmental aspects of traditional practices (see Figure 4). Members of the network are conducting workshops, focus group discussions, and field-days in communities to discuss the challenges and possible solutions that farmers experience when practicing agroecological and traditional agroforestry on small-scale farms.

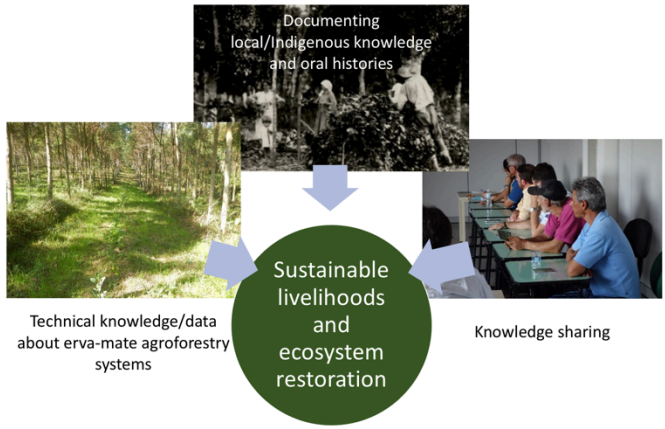

Figure 4. Methodologies based on the integration of different ways of knowing and knowledge sharing can help to achieve the goals of supporting sustainable livelihoods and ecosystem restoration.

Farmer-to-farmer and farmer-to-researcher knowledge exchanges are key aspects of these workshops and field-days, because they offer a space that values all types of knowledge brought to the discussion. This way of sharing experiences is central to participatory methods, as it ensures that farmers are active participants in the research and that the knowledge created is done collaboratively from the bottom up (rather than imposed on communities from a scientific perspective that is unaware of the realities of life on the farm). The farmers and communities who participate in these events have noted a range of opportunities, including the need to create co-operatives and other solidarity initiatives, a desire to conduct further participatory research to address gaps in knowledge, support for youth in farming, and increasing the participation of women, among others.

Researchers from the History Department at UEPG are also conducting **environmental oral history** interviews with traditional erva-mate producers to begin to document their knowledge

related to the forest. This helps understand the memories, histories, and identities associated with erva-mate and the forest. Such methods are important, as they offer insights into the cultural and historical aspects of agricultural production and environmental protection, showing that the continuation of agroecological erva-mate production is not just an economic decision, but is also tied to how farmers understand their own history and identity as stewards of the forest.

Additionally, the forest engineers and agronomy researchers who are part of the network are testing and replicating traditional production systems, so that these systems can be monitored and measured over time. As a means of addressing some of the technical issues identified by farmers in oral history interviews and workshops, traditional agroforestry systems were replicated in the Embrapa Research Station in Caçador (ERSC), a 1100 hectare experimental area that includes primary and secondary forest and abandoned agricultural fields. Agroforestry systems based on traditional practices were implemented to test a range of strategies identified and developed with farmers, as well as opportunities and techniques for forest restoration. Research that measures the growth of erva-mate and other forest species in experimental areas provides important data on productive cycles. This data includes when to harvest and how much can be produced, as well as the role of forests in promoting **ecosystem services,** such as biodiversity conservation and the provision of clean water. Research projects also provide the opportunity to improve practices, test innovations developed with farmers in workshops, and develop roadmaps for implementation beyond the experimental area.

A MODEL FOR PRODUCTIVE AGROFORESTRY

One of the outcomes of the research in the ERSC was the development of a Productive Agroforestry model that can be used

to restore degraded areas. In Brazil, there are strict legal regulations that severely limit the exploitation of forests, such as gathering fuelwood and timber, or any other type of harvesting. Legal Reserves and Areas of Permanent Protection must make up at least 20% of the land cover on small-scale properties in Southern Brazil, and any infraction is met with steep fines. These restrictions have made increasing forest cover across the landscape extremely difficult because some landowners now view forests as worthless and untouchable. Once the forest grows, farmers believe they will no longer be able to use the land or its resources. Innovative productive systems are therefore needed that not only restore diverse and resilient ecosystems, but also follow legal requirements and generate income for the farmer.

Productive Agroforestry models were developed to respond to these needs. They enable the implementation of an agroforestry system using erva-mate and other native tree and crop species that incorporate farmer knowledge, the need for return on investment, and long-term sustainability.

One such model was established in the ERSC in a degraded area that had been cultivated with corn for more than 30 years (see Figure 5). In the first year, pioneer trees species such as *bracatinga* (*Mimosa scabrella*) were encouraged to regenerate in rows and were **intercropped** with beans and soy for interim income. After 12 months, the fast-growing bracatinga trees had established themselves and were thinned out by selective harvesting to sell as fuelwood. Erva-mate was then planted among the tree rows. By the third year, a full forest canopy was created, with erva-mate thriving in the understory. After five years, erva-mate harvesting began, with a range of native species regenerating in the forest environment.

Figure 5. A model of Productive Agroforestry restoration based on traditional erva-mate systems and implemented in a degraded area that had been used to cultivate corn for 30 years. Within five years, a full forest canopy developed, with erva-mate being produced and harvested in the understory.

The Strategic Council for Traditional and Agroecological Erva-mate Systems

Another key outcome was the creation of the Strategic Council for Traditional and Agroecological Erva-mate Systems (*Observatório dos Sistemas Tradicionais e Agroecologicos de Erva-mate*) in 2019. This Strategic Council is made up of representatives from 30 institutions, including state and federal agencies, Civil Society Organizations (CSOs), universities, and local chapters of the Family Farmers' Union, as well as small-scale industries. The aims of this council include supporting research and outreach to ensure the continuation of these systems, while also incentivizing cooperative and solidarity efforts to gain greater autonomy within the production chain. The Strategic Council advocates for traditional systems, working with local governments to develop public policies that support sustainable and agroecological farming practices.

One of the most important developments of this ongoing project has been consolidating the varied individual efforts by a range of different stakeholders through the Strategic Council. Uniting these organizations into one council has helped to focus activities and actions and create a common platform through which to engage farmers, local and regional government, and international organizations. Working together across the network, the Strategic Council has developed a proposal submitted to the Food and Agricultural Agency (FAO) of the United Nations, so that these traditional systems might receive recognition as a Globally Important Agricultural Heritage System (GIAHS). The GIAHS program recognizes agricultural systems that have evolved as a result of the interaction between humans and their environment, fostering intimate ties between the landscape, local cultures, and agricultural practices. The program supports the continuation of these traditional systems through dynamic conservation and innovation within agrobiodiversity, food security, and landscape management.

By gaining recognition of traditional erva-mate systems as a GIAHS, only the second in Brazil, the Strategic Council is supporting the consolidation of a **community of practice** through which farmers can work together to address the many challenges facing the system, including price, supply chain, processing, marketing, and end products (see Figure 6). This community of practice is already working to institute a co-operative for traditional erva-mate and develop a certification system that recognizes the sustainability of the system from ecological, economic, and cultural perspectives. Through these efforts, erva-mate producers are gaining greater autonomy to negotiate prices, diversify their production, and gain recognition for the superior products they produce. This, in turn, brings greater economic stability for farmers.

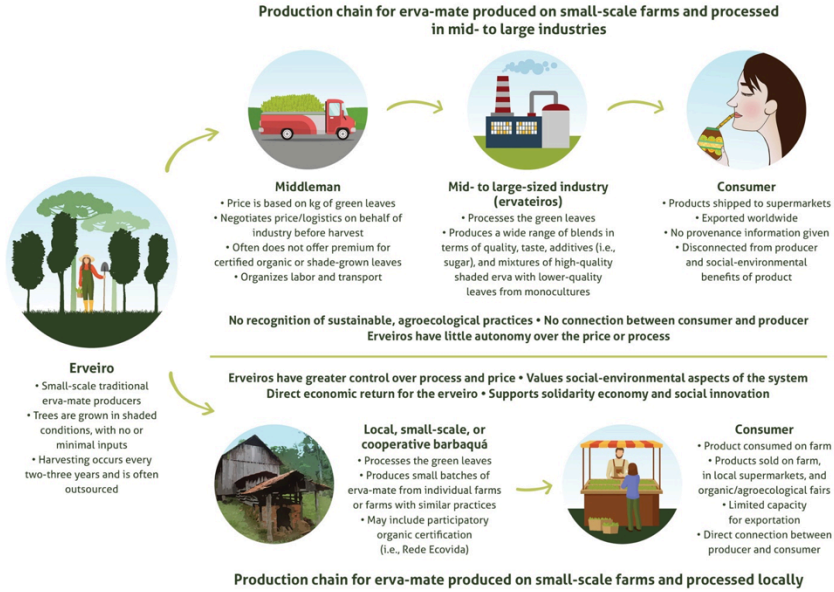

Figure 6. For most small-scale erva-mate producers, the leaves are sold in natura, or raw, to mid- to large-sized processors who often do not recognize products that are agroecological, organic, or traditional. On the other hand, consumers are generally unaware of how erva-mate is produced and the potential socio-economic benefits of their choices. Image: Nimmo et al. (2020).

Perhaps most importantly, the GIAHS program will provide increased recognition of the social, cultural, and ecological value of these systems, which builds community resilience in the face of a range of threats, including rural exodus, a lack of youth engagement, changing climate, and the pressure to modernize and integrate into the industrial food system. In particular, gaining international recognition creates a sense of pride within traditional communities, valuing the knowledge and practices that have developed for generations. As one young farmer pointed out during a workshop to develop the Dynamic Conservation Plan for the GIAHS project, this recognition helps young people envision a future for themselves using these systems, creating possibilities for the continuation of these knowledge and practices.

CONCLUSION

This research, which involves experts from a variety of scientific disciplines, is documenting and highlighting the role that traditional communities play in forest and biodiversity conservation. Traditional erva-mate producers are not the uneducated, poor, outdated rural folk that many people assume them to be, but are instead stewards of the environment with a deep understanding of the forest. While there remains a distrust between traditional communities and environmental protection agencies, the data being gathered is helping to demonstrate that traditional erva-mate production has been key to providing a range of ecosystem services and benefits for society as a whole, such as protecting the water cycle and maintaining forests.

By creating an evidence base that highlights the important roles that traditional communities play in maintaining agrobiodiversity and forest landscapes, and in continuing traditional agroecological practices, this work is helping to change the relationship these farmers have with environmental and agricultural agencies. The actors in the network and Strategic Council are laying the groundwork to build a better understanding within environmental monitoring agencies of traditional practices, thus addressing the long-standing bias that small-scale farmers cannot be trusted to protect forest resources and strict laws and fines are the only way to deter deforestation.

Through research and advocacy in collaboration with farmers, changes are taking place, with environmental agencies participating in recent events and outreach activities organized as part of this project and becoming active members of the Strategic Council. What is promising is that these agencies are looking to update regulations supported by the data and experiences that such projects are sharing. What can come from advocacy and engagement with these agencies is collaboration with com-

munities to develop public policies that recognize the value of the communities' work and support their role as stewards of the important environmental and cultural resources the country needs to create resilient and sustainable communities and food systems.

Discussion Questions

- How can traditional ecological knowledge help to diversify food systems? Why might this be important for climate change?
- What are some of the benefits of taking a participatory, bottom-up approach when working with traditional communities?
- What other benefits can agroforestry systems offer, both ecologically and socially?

Additional Resources

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MARKÉTA DOLEJŠOVÁ

PARLOUR OF FOOD FUTURES: TAROT TOOLKIT FOR FOOD FUTURES IMAGINARIES

Markéta Dolejšová *is a design researcher working across the interrelated domains of eco-social sustainability and food systems transitions. Her practice-based research seeks to connect stakeholders across food-oriented design, research, and practice who are interested in experimenting with diverse co-creative methods to foster regenerative, more-than-human food futures. She is currently a postdoctoral research fellow at Aalto University in the School of Arts, Design and Architecture (FI), researching creative practices for transformational futures (CreaTures project).*

INTRODUCTION

Food and food practices are essential elements of everyday life. The global more-than-human food web is a complex composite of substances, processes, and meanings that are woven together by diverse eaters following distinct personal, biological, cultural, and economic values and motives. The ways that nutrients and relations flow through food systems are problematic. Far from being nourishing and regenerative, current modes of food production, distribution, consumption, and disposal are causing ill health and amplifying climate change.[1] Identifying and maintaining more sustainable and just foodways is essential for life on the planet to thrive.

Food system transformation has been of a central interest of many food practitioners. To address food system issues, various methods and tools have been experimented with, frequently using technological innovation.

FOOD-TECH INNOVATION

While the use of technology in food processes is not new (think of spears, plows, butter churns), recent years have seen a rapid growth of the digital food-tech sector.[2] From AI-based kitchenware and online diet personalization services to food sharing apps and digital farming platforms, food-tech designers, entrepreneurs, and venture capitalists began proposing solutions for better food practices.[3] (See Figure 1.)

These food-tech services and gadgets carry a promise of more efficient food futures, but they also raise concerns. How are food-tech solutions having an impact on social and cultural food

1. Willet et al., 2019.
2. Emergen Research, 2021.
3. Dolejšová 2016; Lupton, 2017; Norton et al., 2017.

traditions? How are they changing eaters' creative involvements with food? Is it safe to rely on recipes and diets designed by algorithms? How is the growing food-tech innovation affecting the food job market? How could generic, universalising techno-solutions cause long-term, sustainable behavioral changes across diverse food cultures and systems?

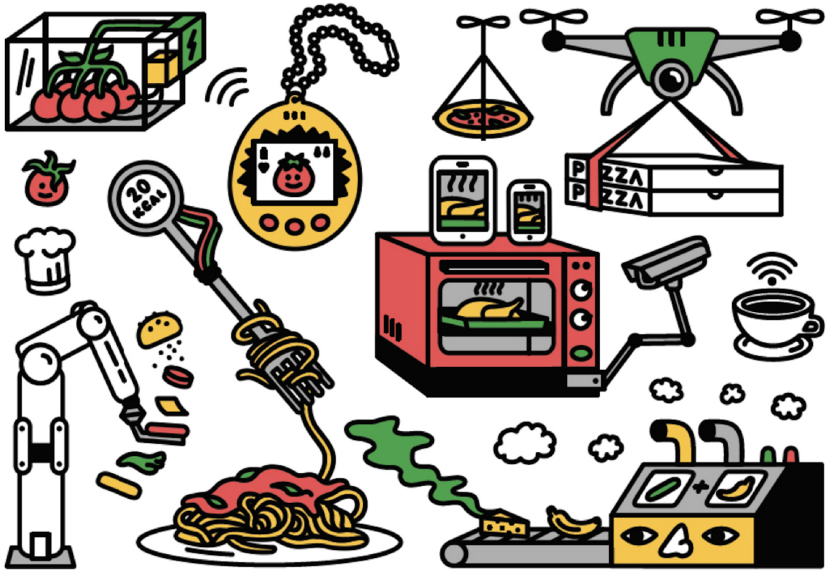

Figure 1: *Food-tech tools are common in everyday food practices of many eaters. (image: Barbora Tögel)*

THE PARLOUR OF FOOD FUTURES

Concerns about human-food-technology entanglements are at the center of the Parlour of Food Futures project, which aims to provoke future food imaginaries and gather reflections from diverse eaters. Initiated in 2017 as a series of *experimental food design research* events[4] situated in various co-creative settings, the Parlour functions as a speculative oracle that explores possible food-tech futures through the 15th century game of Tarot.

4. Dolejšová et al. 2020.

The future food explorations are performed over a bespoke deck of Food Tarot cards that present 22 food-tech 'tribes', imagining how food and eating practices might look in the near future (Figure 2). Although primarily future-oriented, each tribe refers to an existing or emerging food-tech trend. For instance, *Data-vores* refer to people who follow quantified diets and do health self-tracking. *Turing Foodies* is about the use of AI in the kitchen, and *Genomic Fatalists* refers to DNA-based diet personalisation (Figure 3).

Figure 2: *The Food Tarot cards toolkit. (image: author)*

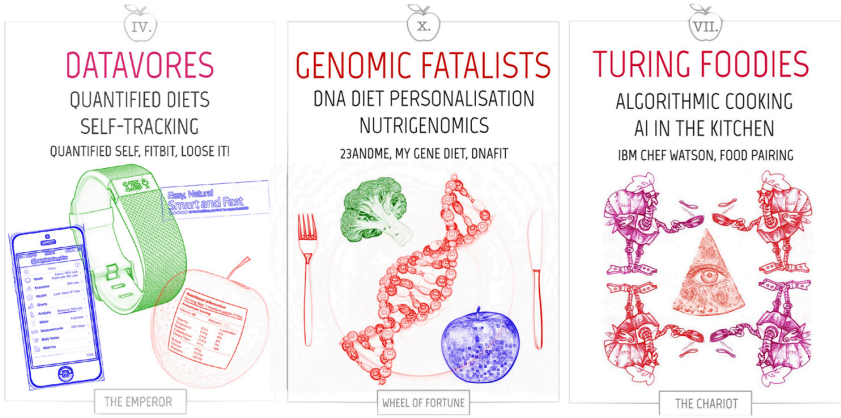

Figure 3: *Speculative food-tech tribes are at the core of the Parlour project. (image: author)*

During one-on-one Tarot readings, Parlour participants are prompted to discuss food-tech issues shown on their selected cards, share their experiences and reflections, and craft future food scenarios.

FOOD TAROT

The Parlour project is inspired by the Tarot technique, which has been traditionally used in card games, as well as for divinatory purposes and future speculations. Drawing on the Tarot inspiration, the project aims to provoke playful yet critical food engagements and support the notion of food futures as uncertain but always connected to the past and the present.

The Food Tarot cards are designed according to the Tarot de Marseille deck (focusing on the Major Arcana of Tarot). The Marseille deck includes 22 cards with various philosophical and astronomical motives, embodied by elements such as *The Empress* or *The Magician*. Each of these elements has a specific symbolic meaning, which we translated into the Food Tarot version.

For instance, the Tarot card of The Magician—signifying the potential for transformation—is matched with the diet tribe of *Food Gadgeteers,* who experiment with 3D food printing to transform ordinary food items into more spectacular forms. The Empress card—representing the dominion over growing things—inspired the food-tech tribe of *Gut Gardeners,* who experiment with DIY biohacking to grow their own food (Figure 4).

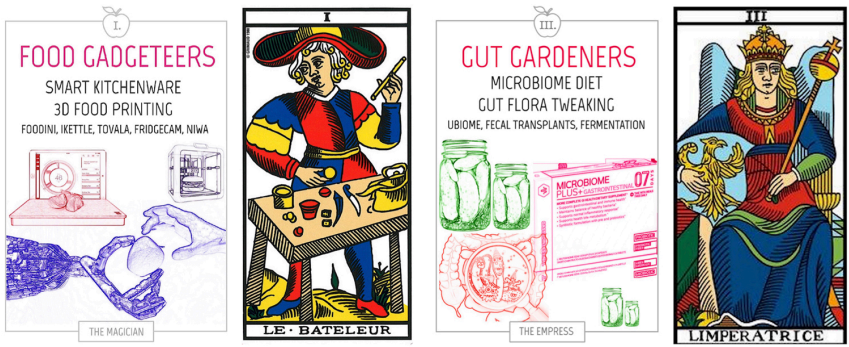

Figure 4: *The Food Tarot design is inspired by the Tarot de Marseille deck. (image: author)*

To arrive at the 22 imagined food tribes, we conducted a literature review of existing and emerging food-tech trends.[5] We then selected 22 trends that were most interesting to us and matched those with the original Marseille symbols, thereby creating the Food Tarot deck as an experimental design toolkit to help guide critical future food imaginaries.

FUTURE FOOD READINGS AND IMAGINARIES

Between 2017 and 2021, we have performed the Parlour at more than 30 occasions, in venues accessible to diverse publics including festivals, exhibitions, workshops, classrooms, hackerspaces, and community gardens, as well as random street corners. Following our aim to engage diverse food practitioners, we have not

5. See details in Dolejšová, 2018.

set any specific requirements on participants' skills and expertise: anyone can sit down for a reading and share what they know about food.

The Food Tarot readings are similar to readings performed in traditional Tarot parlours: a participant sits down, shuffles the deck, and picks a card. The reader initiates a conversation about the selected card and the food futures it represents, asking prompting questions about participant's experiences and ideas.

Based on how the responses unfold, the reader keeps selecting a few additional cards from the deck that are either resonant or contrasting to participant's responses. Eventually, the table ends up filled with a card collage—or a prophecy—representing a possible food future that reflects the reading conversation (Figure 5).

When a reading is finished, a participant is asked to select one card from the final collage that they feel is the most important. They then craft a short 'what-if' scenario imagining that they are a member of the selected food-tech tribe (Figure 6). A few scenario examples follow.

Figure 5: *A Food Tarot reading in the Parlour performed at the Biotopia festival in Munich. (image: author)*

Figure 6: *Future food scenarios created by Parlour participants can have multiple forms, including drawings, written texts, or crafted artefacts. (image: author)*

Human-food exchange club and social breastfeeding

Inspired by the card of Ethical Cannibals—dieters preferring to 'eat themselves' as an ethical alternative to consuming animal protein—a Parlour participant at the Emerge exhibition in Arizona (USA) proposed a scenario for convivial more-than-human food futures. In his imagined future as an Ethical Cannibal, he would consume special probiotics to tweak his gut flora and grow edible mushrooms on his skin. Instead of feeding just himself, he would share his harvest with others in the *Human-Food Exchange Club*—a community space for peer exchange of edible proteins cultivated in and on human bodies (Figure 7).

A similarly focused response to the Ethical Cannibals card was presented by a participant at the VVitchVVavve festival in Melbourne, Australia, who suggested the idea of *social breastfeeding*.

Instead of breastfeeding only her baby, she imagined sharing the nourishing protein in her milk with a broader circle of friends and family, as well as with any other non-human animals in need of good nutrition.

Both scenarios reflect on broken global food supply chains and unevenly distributed food resources, proposing self-replenishing human bio-materials as a nutritious resource for human and non-human eaters. The implementation of the proposed ideas would require a radical shift in values, and the scenarios thus serve as a provocation, raising for debate the role of human bodies in supporting regenerative food futures.

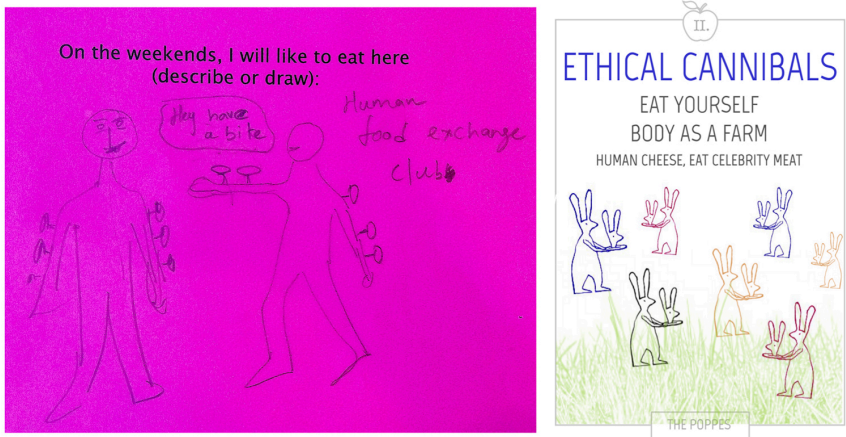

Figure 7: *The Human-Food Exchange Club scenario. (image: author)*

Genomic surveillance & algorithmic chefs

During our reading of the Genomic Fatalists card, a participant at the Cross festival in Prague pointed out the growing volume of sensitive personal data that people share over online diet personalisation services (e.g., demographic and metabolic details, genetic information). Her scenario includes a drawing of herself walking in a street full of food shops—bakeries, ice cream par-

lours, cheese and wine boutiques—staring sadly into the shopping windows, unable to buy anything. (Figure 8)

As the participant explained, her bank card (in the scenario world) is connected to her personal genetic data profile, which is managed by her health insurer. Aiming to keep their clients fit and profitable assets, the insurance company does not allow her to purchase foods that are considered unhealthy.

Reflecting on the Food Gadgeteers card, a young mother attending the Emerge Parlour highlighted the simulacral character of cooking with smart 'AI-based' food technologies: While having the illusion of preparing their food by themselves, users rely on algorithmic commands prescribed by smart machines, such as automated, remote-controlled ovens and 'intelligent' cookbooks.[6] In her scenario, she envisioned a Food Gadgeteers future in which people stop eating food altogether and become *Food Replicants.* (Figure 9)

These dystopian scenarios illustrate concerns with the potentially nefarious role of novel food technologies, as surveillance tools restrict people's personal choices and agency. Their creativity as cooks as well as their gustatory joys are inhibited by the cold efficiency of vigilant algorithmic chefs.

6. See details in Dolejšová 2018.

Figure 8: *A dystopian scenario imagining future surveillance performed over food and health data. (image: author)*

TOWARDS TRANSFORMATIVE FOOD FUTURES

Since the start of the Parlour project, we have collected handwritten notes from over 160 Food Tarot readings and the same number of participant-made scenarios. The scenario examples described above illustrate the kind of critical, imaginative reflections that the experimental Food Tarot toolkit can provoke. The personal food-tech reflections shared by Parlour participants are both optimistic and sceptical, provocative and practical, whimsical and serious. They touch upon broader social circumstances of food-tech innovation as well as personal food-tech contexts. The breadth of these ideas illustrates a variety of perspectives on how to approach contemporary food-tech issues.

The cards do not provide instructive recipes for better food practices. Instead of being didactic, they provoke critical thinking, enable a space for playful learning and nurture imagination. They do not support transformative food action on a systemic level but they can help people reflect, and imagine how food futures might look—an essential, although only partial, step in

any sustainable food transition.[7] It is vital to note that the experimental Food Tarot encounters in the Parlour have not been always reflective and inspiring. Sometimes, participants engaged on a rather superficial level, focusing on the aesthetic—and decidedly whimsical—aspects of the imagined diet tribes, rather than on the food-tech provocations that they carry. This is a limitation of the card deck as a critical design artifact.[8]

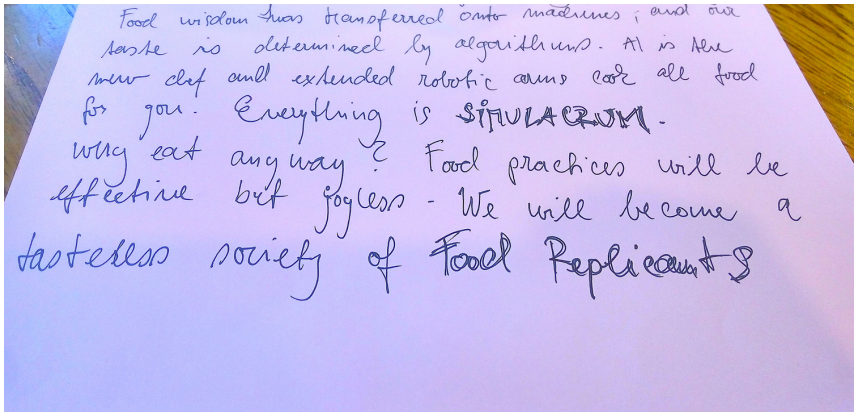

Figure 9: *The scenario explains: "Food practices will be effective but joyless. We will become a tasteless society of Food Replicants." (image: author)*

Besides performative readings in the Parlour, we have used the Food Tarot toolkit as a pedagogical prop in various food and design research courses and workshops. The data collected from readings and course observations helped us to make better sense of food-tech innovation and gain a deeper understanding of what technology can do in various social and cultural food contexts.[9] As a toolkit for experimental food practitioners, the Food Tarot deck is available for free, under a Creative Commons license.

7. Wilde, Dolejšová, et al. 2021.

8. See Dolejšová, 2021 for details.

9. For details of Parlour research, see Dolejšová, 2018; 2021.

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MANDY BAYHA AND ANDREW SPRING

"WE WALK IN THE FOOTSTEPS OF OUR ANCESTORS": TRADITIONAL KNOWLEDGE, YOUTH ENGAGEMENT, AND RESILIENCE IN DÉLĮNĘ

an edited interview with Mandy Bayha and Andrew Spring

Mandy Bayha *is the Director for Culture, Language and Spirituality for the Déline Got'ine Government in Déline, Northwest Territories, Canada.*

Andrew Spring *is the Associate Director of the Laurier Centre for Sustainable Food Systems at Wilfrid Laurier University in Ontario, Canada.*

In early 2021, Mandy Bayha joined Andrew Spring via Zoom for a conversation about the importance of traditional knowledge and youth engagement for the Sahtúot'ı̨nę people. That conversation was recorded and produced into an episode of *Handpicked: Stories from the Field*, a research podcast that features the voices of researchers, community partners, and food system practitioners working toward more sustainable food systems. The interview has been edited for length and clarity and reproduced here.

The full transcript and audio of this interview, as well as show notes and teaching resources, is available on the Handpicked website (Season 2, Episode 3).

Andrew Spring (AS): *Can you tell us about Délı̨nę?*

Mandy Bayha (MB): Yeah, Délı̨nę is a small community, about five to six hundred people, on the shores of Great Bear Lake, which is about five hundred and forty kilometers north of Yellowknife, the capital of the Northwest Territories. So, it's a very

tiny, isolated community and the only community on the shores of Great Bear Lake. Great Bear Lake is a little under 32,000 square kilometers, and the Sahtúot'įnę people, the people of the 'Sahtú, are the only people that have inhabited this area. It's a pretty great community that is surrounded by vast wilderness, a beautiful lake and nestled right in the Arctic Boreal. The population is predominantly Dene.

The only way to access the community is to fly in, aside from the winter road that opens for only about a month in January or February. The only other way to get into the community is to drive to Wrigley and boat up the Mackenzie River and then up the Bear River to get here. The cost of living [in Délįnę] is very high because everything is fly-in-only, and so the winter road is a lifeline to the community.

***AS**: Can you tell us about Délįnę's food system?*

MB: Our environment is very clean, sustainable, and we still harvest a lot of our food from the land. We're able to fish all year round for many different species of fish—lake trout is a major source of fish for us, but we also fish for cisco, whitefish, and others, but those are the main ones that we fish for all year round. Our hunters also harvest caribou, moose, and recently muskox for the community. We have an abundance of wildlife that we've had relationships with for forever. Our hunters and harvesters are very well connected to the land and know where and how to harvest certain animals in different seasons. It's just a way of life and it's always been this way. We can supplement our traditional diet with novelties from the Northern Store, the co-op, and the grocery stores, the things that get flown into the community. But again, our cost of living is so high and the food isn't always very great. We don't really have a great selection of produce and there's a lot of preserved or dry goods, but it's not super

healthy. So, we're able to balance that with the food that we harvest on the land.

AS: *Are there costs associated with traditional foods that are also kind of prohibitive? Have you seen a rise in those costs recently?*

MB: There are a few things that are becoming barriers to harvesting traditionally, like the price of fuel and gas, because we've moved away from traditional modes of transportation like dog teams to snowmobiles if we're traveling far away from the community. Also, not very many people can afford to buy brand new skidoos or sleds or tools that they can use to harvest. The cost of maintaining equipment or tools to go harvesting can also be a barrier for some. And also, a disconnection from traditional practices, and the lack of awareness of where to travel, how to travel, and connection to hunting and harvesting practices is also another barrier.

We've sort of adapted over time with this nine-to-five lifestyle, it's really kind of now become an obstacle for a traditional economy or livelihood. So, I see that a lot in my work as the Director for Language, Culture, and Spirituality. Now, one of the things that I'm promoting a lot is that we need to make space. We need to make space for language, which we need to make space for our culture. We need to make space for our livelihood. Our nine-to-five jobs—the ways that we make a living—and the ways that we accumulate money for that living isn't really, they're not really mixing [with traditional ways of living] because one is not making space for the other. So, it comes back to colonialism. It comes back to assimilation. And so, this is where we need to really focus our attention to kind of create a balance because we do need one and the other. So [we're asking] questions about how can we make a living with a traditional economy? How can we combine the two? And that's a question that we really do need to explore and look at if we want our traditional economy not just to sur-

vive, but to thrive. We need to make it an option for young people to look at it as a way of supporting themselves as a career path, as a way to have security for their families and themselves. If not, we're going to lose that.

***AS**: The COVID-19 pandemic exposed some of the cracks in our food systems. Can you tell us about what happened in the early days of the pandemic in Déljnę?*

MB: As it was everywhere, I think it was a shock to everyone, but it was a really interesting scene here in Déljnę. Everything just stopped and the direction we got from our leadership was to go back to the land. So, we understood immediately that going back to the land, back to our traditional territories, people who have cabins and homes out in their traditional territories away from Déljnę would have had a wonderful place to go. But there were a lot of people that didn't go anywhere. And these were the people that didn't have access to their traditional homes, their traditional lands, or, you know, people that didn't have cabins out on the land. And so, a lot of them were stranded in the community and were still dependent on food from the store. We have services in the community, we have stores, we have health centers, we have all of these things, and so these were the senses of security that people were dependent on that were stuck in the community. Now, that became pretty unstable with the pandemic because when things started becoming stressed in the urban centers of Canada, these are the places where, you know, if anything happens in your neck of the woods, it impacts us greatly because this is where we access things that are flown in. So, groceries from a store, medical supplies, even the employees, even the nurses at the health center as well as the schools. All of these people come from the south and they are the teachers and the nurses and the RCMP members. All of a sudden, we became really aware that those were more false senses of security than actual security, when push came to shove. And we've always

known this because we've been saying this for a really long time, that these services and the way that things are set up systemically are actually impacting our health negatively. But the mask just came off and it became very obvious and evident to us that, oh, no, we can't depend on these things when, you know, something like this happens. And so, here we began to really look at the demographic that stayed behind and ask, why didn't they go back to the land? Why didn't they go back to these practices? And these are the same people also that we need to help the most in our community—they are the most vulnerable in the community as well. So, we have young parents, single parents, elderly people were also included in this demographic. What we realized when we're looking at that demographic and the "whys" and the "hows" is that it was a few things. Either they didn't have access to their traditional lands, or they didn't have homes or cabins, or they didn't have the equipment—the skidoos, whatever it was—or transportation to get there, or all three. And in some cases, especially with the younger people and the younger parents, they lacked also the skill and the ability to go out and survive if they had to.

AS: *It sounds like the pandemic really brought existing issues to the forefront. How was that kind of a call to action for you personally?*

MB: Well, it really actually justified and kind of basically gave the ammunition for the work that we've been doing and for like all Indigenous people, really, in Canada, what we've been saying, what the Land Defenders have been saying and the Water Pro-

tectors. And the huge pushes in conservation like this, I hope, make it obvious and known that we do need to take care of our water. We need to take care of the land. We need to take care of each other. We need to be dealing with each other based on reciprocity—"What's good for you?" and "What's good for me?"—and these are all very basic, very fundamental values of Indigenous people. And it turns out that those are the values that were the answer to surviving a pandemic globally together.

What also happened was that "pause" gave us the ability to kind of spring into action and, where there wasn't space for a certain traditional economy before, there all of a sudden was all the space. There was time to also put these plans into action. But in the community, what it really did was give us space and time to come back to what was really natural and inherent to us and refamiliarize ourselves with why we were doing all of the things we were doing to begin with. Why self-government was important, why conservation was important, why all of these things meant anything. And it was that time we got to spend with our family, that time we got to spend on the land, that time we got to try to help people to reconnect if they needed to or access these things if they needed to. In that pause, we seem to have kind of gained this energy in a good way. And what does that tell you about the system in place if for us as Indigenous people, that [the pause caused by the pandemic] was a breath of fresh air, that was a way for us to kind of go back to—and it was very instinctual for us. But it was also like coming home in a lot of ways.

AS: *In our conversations, you often use the phrase "walking in the footsteps of our grandfathers and our grandmothers." Can you explain what that means and tell us how it connects to the pause that your community experienced?*

MB: Yeah, so another really cool thing about Déljnę is that we've had four prophets in our very recent history, and we still listen

to their words of wisdom today. Our elders still talk a lot about them and our whole self-government is really founded on the visions and the predictions of our four prophets. One of the big messages that we hear often from our elders and from our prophets is this message of preparing for the future. And one of the main messages for us is that it is our way of life on the land, our connection, who we are as Dene, inherently, that will help us to survive whatever comes, whatever changes happen in the future, that that will always be there for us and that we can never let that go. We can never let go of our language, our land, our way of life on the land, and our spirituality. We can never let that go if we want to have a sustainable future, far into the future. And so, what does that mean then? It means that we have to walk in the footsteps of our grandfathers and our ancestors who've come before us, who have been here for hundreds of thousands of years, since time immemorial. We hear that a lot because it's very true that we've been here, and we've been here since the beginning. Our ancestors have blazed this trail and they have learned everything there is to know about a particular environment or place. And with those stories and teachings and protocols and through our culture—through that intergenerational knowledge transfer—we've been able to sustain our way of life and perfect our connection with our environment. Our ancestors have already broken the trail for us. We have tons of traditional trails all over in and around the lake and the watershed. We have knowledge through our stories, through our elders, about where to harvest, what to harvest when, about relationships, right-relationships and balance with not only each other as human beings but also with the land and the animals. So, this is what we mean when we say we need to walk in the trails of our ancestors again. We quite literally and figuratively need to do that. And in order to understand the stories and the wisdoms that are being passed on to us, we have to actually physically go back to the land, walk the places, see the places that they've worked,

and also pick up the skills in order to survive and be out there. The only way that we can make that connection is to bring those two things together. And so, for a lot of young people and the new generations, this is a big focus. A lot of young people want to go back to the land and learn and understand and hear the stories and walk the footsteps of their own grandfathers as well.

***AS**: Are there barriers for youth to learning traditional knowledge?*

MB: It's been difficult because the language and the culture has really kind of hit a steep decline since in-and-around the mid 90s, early 90s. And so that age range struggles with language and the reason why that's really important is because the elders only speak the language. There are, you know, maybe one or two elders that can communicate in English, but not comfortably. And so, when there is a break between communication, between elders and the youth, how are the youth going to really understand and pick up the language and the spirit in which it's given? Of course, now we help with translations and things, but I think there is a very soul hurt for youth who are not able to understand the language and the elders.

The promise of self-government in Délı̨nę and the spirit behind that movement was that we were going to be self-determining, that it was going to give us our right to make decisions about our own future back to us where it belonged, where it should have never been taken to begin with. As it relates to education, self-government means that we're going to teach our own children what's important to us, what our values are. And it's really important that we are teaching our children their way of life, who they are, their identity as Sahtúot'ı̨nę people, and also strengthening their language. But also, the elders have this vision for the youth—they call it this "two roads as one" model where right now we're walking on two different paths—there is a Western-way and then there is a traditional Dene-way. A lot of our

young people are on this Western path and we've kind of left this other path. In the future, what they want is those two roads to come together as one so that our young people can walk strongly and confidently in both worlds, both with the traditional way of life, but as well as these Western tools.

A couple of summers ago, we had paddled about 80 kilometers southeast of Délı̨nę as part of a Guardians and youth leadership training to meet the community at a camp that was set up for Visioning. We wanted the people in the community—leaders, elders, and youth—to come to be with us at this camp so that we could spend time together as Sahtúot'ı̨nę and really talk about what was important to us and what our vision would be, without any interruptions or interference. And so, we set out and for about two and a half days we paddled along the shores of Great Bear Lake. In this time, we really started to understand what was meant by connection, what was meant by phrases like "We are the land, and the land is us." We understood about humility, about our role as human beings in nature and about respect. So, when we had pulled up to camp, there was really overwhelming, there was a lot of excitement. Some of the elders who welcomed us were brought to tears. And one of the things was that the elders talked about was that we were really misled when we were told that our children had to go to school and be trained in this way to survive. We see now that our young people are more capable and strong than we ever thought they were, that they're capable of doing this if they wanted to, and we had failed them by believing that they had to assimilate into a different worldview to survive. It's been a little bit heartbreaking to hear an elder talk about that, because they're the ones that have seen these changes the most. It was also very hopeful and exciting at the same time, because we had broken away from that and the young people had really displayed something that wasn't really expected of them in the past. And they had done this because of their own willingness or want or desire or need for that connection, because that

was important to us and who we were. So, whether or not we had that traditional upbringing of being born and raised on the land, there was something in us that really showed that this was still alive in us today and that really was hopeful and exciting for the elders that were able to witness it.

That particular trip was really a huge sort of kick start in the work that we started doing with youth. We decided that, in that Visioning camp, we wanted to make space specifically for the youth to come and say what they needed to say. And that's what happened. The youth came in and mic dropped and peaced out—and we realized that making space for youth was important, but it was so powerful. The young people have such a powerful voice, but their voice is also in line with what the elders have been talking about for a long time. So, this is how our work really with youth and the focus on youth truly began, because we took a lot of the recommendations from that camp started planning our programs around them. And now just a couple of weeks ago, we made history and created the first ever youth council for the Délı̨nę Got'ı̨nę government. We have a group of really awesome and motivated young people have been selected as leaders by their peers. So that's really exciting. We really have to take mentoring our young people seriously right now because we have really just a handful of elders left. We have a generation, and the gap is building with language and culture connection. We really have this small window right now to really strengthen and mentor our youth and prepare them for the future, and that means talking about our history, talking about our movements and self-government. But all of these amazing things that we're doing really won't have much of a future if our young people aren't involved right now—if they're not here shadowing and being part of these movements then how is it going to continue on into the future? A lot of the work that we're doing right now is really centralizing young people at the heart of things, the heart of what

we're trying to protect and preserve. They really have to be at the center because they have to be the best of us.

AS: *Can you talk about some of the specific training and the education programs you're working on with youth?*

MB: There's a couple of really cool projects that we've started to develop with youth in mind. We started a video project when we realized that there were a lot of people in the community that weren't going on to the land, especially young parents and young people. We decided like, hey, what if we made tutorials? They're just really quick five-minute tutorials on how to set a hook, and other traditional skills. The project was meant to just be that simple, but now it's sort of blown up and starting to intersect with other projects. One of the other projects that's starting to intersect with is a culture camp that's just behind our office building. We designed and built it as a training camp, like an out on-the-land classroom, but within the community. When we're spending a lot of time in the land, we're going out in the sum-

mer a lot, but we don't seem to have that space or that feel of like being out on the land when we're home. So, we decided to make a camp and we built a 30-foot custom teepee and a bunch of tent frames. And now this is our traditional camp where we teach how to do things like drum making, hide tanning, fish and meat cutting, like all kinds of traditional skills. We bring in mentors and elders and the youth and we have this out-on-the-land classroom, it really became for everybody. People would just show up whenever the fires are lit in the cabins just to drink tea and to eat some good food. What ended up happening was like, wow, these tutorials would actually really be great modules for teaching eventually and now we're planning to do elder interviews where they talk about certain skills or their life on the land or this idea of prophet messages and why it was important to be prepared, you know, and what does that mean? And so, that's one of the recommendations that the youth had given us to. They want to get in there! They want to get their hands dirty. They want to learn and they're ready to do so. We were like, all right, let's do it! And now what we're talking about is actually having an actual Bush school, with semesters out on the land where we learn to survive day to day, but also have teachers come in and teach English or Biology or Math, you know, more traditional Western courses. That's actually how education was introduced to Délįnę in the first place. People like my mother and my uncle and all of that generation lived their life out on the land, in the bush with their families in the traditional territories and these tutors would come in and spend some time with their family learning the way of life, but also in that context, teaching Western education. We have an entire demographic in the community that knows exactly what that was like, how it worked and why it worked. We don't have to create anything new, we just have to make space for that to happen.

Discussion Questions

- How did the community of Dél̨ı̨nę respond to the pandemic? How is connection to the land and knowledge of traditional food systems fundamental to the way that the Sahtúot'ı̨nę deal with crises?
- In this interview, Mandy says that the Sahtúot'ı̨nę people must "walk in the footsteps of our grandfathers and our ancestors who've come before us, who have been here for hundreds of thousands of years, since time immemorial." What does this mean to Mandy? How do the Sahtúot'ı̨nę see their Elders and ancestors?
- How is the community of Dél̨ı̨nę engaging with the youth? Why?
- What is a traditional economy? Why is a thriving traditional economy important to the livelihoods and food security of the Sahtúot'ı̨nę?

MASCHA GUGGANIG AND KELLY BRONSON

DIGITAL AGRICULTURE AND THE PROMISE OF IMMATERIALITY

Mascha Gugganig *is a socio-cultural anthropologist and science and technology studies (STS) scholar who researches knowledge politics that both constitute and trouble 'expertise' on (Indigenous) land and environmental issues. Through ethnographic, multimodal research and policy analysis, she researches high- and (s)low-tech discourses and practices of sustainable agriculture. She is currently an Alex Trebek Postdoctoral Fellow in Artificial Intelligence and Environment at the University of Ottawa, and a Research Associate at the Department of Science & Technology Studies, Technical University Munich. .*

Kelly Bronson *is a Canada Research Chair in Science and Society at the University of Ottawa in Canada. She is a social scientist studying and helping to mitigate science-society tensions that erupt around controversial technologies and their governance—from GMOs to big data. Her research aims to bring community values and non-technical knowledge into conversation with technical in the production of evidence-based decision-making. Kelly is the author of* Immaculate Conception of Data: Agribusiness, activists and their shared politics of the future.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the many different elements of digital agriculture, including both hardware and software elements.
- Explain why the digitization of agriculture—and of many different practices and industries—has material effects in the world.
- Articulate some of the broader and potentially problematic effects of the so-called digital revolution in agriculture.

INTRODUCTION

When thinking about food production, you likely imagine a muddy-booted farmer standing in a field using a notebook to log observations about crops. Maybe you can hear the sound of the

grain rustling in the wind as you envision the farmer feeling the wheat shaft and plunging her hand into the soil to assess its moisture level.

Yet farming is also envisioned to become 'digitized', whereby insights on crop quality and soil moisture are determined using digital devices like sensors on tractors. The virtues of digital agriculture is its (supposed) immateriality, such as the precise (and thus reduced) use of fertilizers through data-driven advice stored in the cloud. Proponents argue that a 'digital revolution' will reduce farming's negative material impacts on the environment and on human health, while opponents raise concerns about digital tools displacing human labourers.

In this chapter we ask: *Does the digitalization of agriculture mean that farming will become immaterial, that it will no longer involve people, and that it will no longer generate the material and environmental impacts of the farming practices of yesteryear?*

We explore these questions and highlight some of the continued material aspects of digital tools in agriculture. We situate this chapter within 'new materialist' social science, which has highlighted the material effects of social processes (e.g., the ubiquitous use of plastic bags as a consumer convenience) that have real material effects on the environment. To date, however, less attention has been given to digital agriculture.[1]

We begin the chapter by outlining common terms connected to digital agriculture, showing how it is often talked about as an escape from materiality. We illustrate the continued materiality of digital agriculture in two forms—as physical matter, and as **instantiated** ideas—and conclude that agriculture still depends on the material world, with significant impacts on people and the environment.

1. For an exception, see Cobby 2020 and Higgins et al 2017.

WHAT IS DIGITAL AGRICULTURE?

There are many terms that relate to digital agriculture, and *precision agriculture* is arguably the most prominent one. With the help of sensors embedded in farm machinery, precision agriculture has for two decades been used to apply resources in a highly controlled and specific way.[2] The farm machinery collects data on local weather or soil conditions, which then drive farm decisions. In recent years, such data have been combined with remote sensing data, including environmental (climate) satellite-collected data.[3] The resulting big datasets can be processed using sophisticated computing to create even more precise insights on farm management decisions, such as when to plant, apply chemicals, irrigate, and so on. The term *digital agriculture* is often used to refer to the use of big data in food production, combined with the deployment of **internet of things** (IoT), **blockchain technology**, **artificial intelligence** (AI), machine learning, cloud computing, as well as unmanned aerial vehicles (UAVs), and robotics.

Another common term is *smart farming*. Compared to precision agriculture, scholars argue that smart farming and *agriculture 4.0* are wider–reaching terms, as the former includes digitization of whole food systems (beyond farming), while the latter may include pre-production processes, like gene editing of crops.[4] Another umbrella term is the *fourth agricultural revolution*, yet there is no agreement as to what constitutes its newness, whether it has started, and if it is even desired.[5]

2. Wolf & Wood 1997.
3. Carolan 2017, 137.
4. Rose & Chilvers 2018, 87; Klerkx et al. 2019, 100315; Overall, distinguishing agriculture into successive periods reflects a problematic evolutionary conception of agriculture.
5. Rose & Chilvers 2018.

THE IMMATERIAL 'SMART' FARM OF THE FUTURE

A common way proponents talk about the benefits of digital agriculture is in regard to its decreased material impact on the environment. Indeed, the current systems of intensive, global, capitalist food production—including its heavy reliance on agricultural chemicals—has been the cause of tremendous greenhouse gas emissions and water pollution.[6]

Proponents of digital agriculture predict that data-driven insights will lead to a dramatic reduction in chemical use. As Tobias Menne, head of Bayer/Monsanto's Global Digital Farming Unit explained:

> Before, selling more products meant more business for a company like Bayer; whereas in future, the fewer products we sell the better, because we're selling outcome-based services. With sensor devices, we can learn a lot more about what is and is not helping crops and livestock and create a better way of doing things.[7]

Here, the lead of the largest agribusiness corporation claims that conventional products like pesticides and seeds will no longer drive their business; instead, they will focus on services. One Canadian agricultural economist likewise explained in an interview: "If we are to feed 10 billion people by 2100 while preserving our environment, the next green revolution must incorporate the *virtual* world."[8] Scholars often similarly argue that precision agriculture will substitute environmental information and knowledge for physical inputs.[9]

6. IPES Food 2015.

7. Quoted in Strubenhoff & Parizat 2004, para 8.

8. Delgado 2019, n.p.

9. Bongiovanni & Lowenberg-DeBoer 2004.

Yet materiality—be it resources for software and machines, the climate, or labour—does not simply disappear. In the next section we explore the material preconditions of digital agriculture, and then look at labour, including how farmers interact with digital artifacts.

THE MATERIAL PRECONDITIONS OF DIGITAL AGRICULTURE

To consider the materiality of digital artifacts, it is helpful to distinguish two forms: materiality as physical substance (e.g., drones detecting weeds) and materiality as the manifestation of principles or values[10] (e.g., intellectual property rights that allow or restrict the use of farm management tools).

Materiality as physical matter

One key infrastructure supporting digital agriculture is *energy*, which requires materials like coal, gas, and oil, as well as water, wind, and solar infrastructure. When Monsanto boasts that its "Climate Pro" sensors generate seven gigabytes of data per acre,[11] there are implications for the resources needed to manage that data. Consider this: if the virtual "cloud" (where our data is stored and processed) were a country, it would have the fifth largest electricity demand worldwide.[12] In that context, digital agriculture also requires reliable rural telecommunication infrastructure and broadband access.

Another material dimension concerns the extraction of *rare earth minerals* to create microelectronics in microchips for computers and platforms, analytic software, and data storage systems. Scholars have explored this material dimension for social

10. Leonardi 2010, n.p.

11. Carolan 2017, 139.

12. Cook 2012.

media[13] and information and communication technology (ICT).[14] Due to the heavy reliance on ICT and digital platforms, digital agriculture shares many environmental impacts, including water and energy use, e-waste, as well as detrimental labour conditions.[15]

A key material property in digital agriculture is *computer infrastructure*, especially for scientists and engineers in the public sector. Often, public sector computer scientists are limited by a lack of access to sophisticated computing.[16] Concurrently, spatial datasets compiled by public entities (such as NASA) are used by industry actors to develop products that are subsequently blocked behind paywalls.

Seeing the materiality of digital infrastructures—the microchips, servers, computers, cell towers, or the electricity grid—can be difficult in the farming context, where it seems distant from the immediate context.[17] However, these infrastructures have an immediate effect on those that have to generate such materials. For instance, the demand for cobalt and other minerals has resulted in ongoing violence, slavery and labour exploitation in the Democratic Republic of Congo—the world's largest producer of cobalt[18]—while businesses in Silicon Valley's ICT manufacturing industry frequently contaminate the environment and human bodies.[19]

13. Reading 2014.
14. Fitzpatrick et al. 2015.
15. Cobby 2020; Chen 2016; Ensmenger 2018; Fuchs 2014.
16. Bronson 2018.
17. Carolan 2017, 147.
18. Fuchs 2014.
19. Pellow & Park, 1991.

Materiality as instantiated ideas

As mentioned above, materiality is also the result of instantiated principles or values. Governments around the world create *policies* and invest public money to develop telecommunication infrastructure, yet often for private corporations.[20] Policies reflecting the principle of equal rural access to the internet may therefore result in supporting industry actors who could not profit from selling digital farm tools without this infrastructure. Digital infrastructure expansion and maintenance can also prove controversial (e.g., concerns over 5G technology's environmental and health effects[21] or cell tower infrastructures intervening with natural heritage protection[22]).

Legal infrastructures, in the form of intellectual property rights, are also principles that are instantiated in material properties; they regulate who can have access to data and machinery for developing and using sensing technologies, file formats, or metadata.[23] Exemplary is the agribusiness corporation John Deere, which applies copyright licenses to protect both data and sensing machines, which in turn limits farmers' access to their data and machinery—even preventing them from fixing their tractors.[24]

Further, interpreting agricultural data requires *digital skills and expertise* that many farmers often do not possess, but which would allow them to interpret data and acquire hands-on abilities to tinker, fix, innovate and build tools.[25] Concerns over cor-

20. https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00006.html
21. Kostoff et al. 2020.
22. https://ontarionature.good.do/mzos-trump-protection/email/?twclid=11380638952936341508
23. Blumenfeld 2019.
24. IFIXIT.org
25. Higgins 2017; IFIXIT.org

porate proprietary rights[26] have spurred such initiatives as the U.S.-based non-profit organization, Ag Data Coalition, which seeks to "give farmers an option for storing all of their data in one secure location" independent of suppliers or manufacturers.[27] State authorities have also worked towards multi-stakeholder engagements in the governance of digital agriculture (e.g., the Swiss Charter on the Digitalisation of Swiss Agriculture and Food Production[28]).

The materialization of values, in the form of private gain, is also visible in the *design* of digital agricultural technologies. Companies like John Deere develop tools with large commodity crop and capital-intensive farms in mind.[29] Farm technology developers, policymakers, and investors often imagine farmers as being minimally concerned with anything but economic profitability.[30] This results in commercial systems like "FarmCommand" that follow economic logics, and provide an overview that is only useful for large-scale farms. As one Prairie farmer, Dan, explained, precision tractors with GPS auto-steering are only worthwhile for farms like his because of the cumulative efficiency gains: "Say, you're overlapping by two feet every time, it doesn't take very long before you start to add up quite a bit of overlap." As a result, small-scale farmers have had little to gain from the use of (very costly) digital agriculture tools. Most visual AI-driven tools trained to detect crop diseases are also not conducive to polyculture growth settings. Such farming systems are currently not captured by applications trained to collect big data.[31] The value

26. Mooney 2018.

27. http://agdatacoalition.org/about-us.

28. https://agridigital.ch/

29. Bronson 2018; Bronson 2019, 100294.

30. Bronson 2019.

31. Bronson & Knezevic 2016.

of large-scale farming as business is thus instantiated into the materiality of digital technologies currently on the market.

IMPLICATIONS OF DIGITAL AGRICULTURE

Because there is a bias toward large-scale commodity producers, digital agriculture arguably furthers capital-intensive, industrial agriculture—a system that has known material implications on people and the planet.[32] Digital agriculture extends historic processes of the industrialization of agriculture[33], potentially leading to a new "digital food regime."[34] Adding the dimension of energy, extracted resources for developing microchips, digital storehouses, and rural network infrastructures, the environmental and health consequences of a digitized agriculture may in fact undo its own sustainability claims.[35]

Digital tools such as robots may also alter farmers' identity and relationships to farming practices.[36] Indeed, requiring farmers to use decision support tools can re-write how farmers interact with their land.[37] A farm may turn into a control centre where the farmer becomes an office manager[38] or data labourer.[39] The 'good' farmer may be the one who trusts big data to be more objective than their neighbor, their gut intution, or their own tacit knowledge.[40]

32. De Schutter 2015.
33. Bronson & Knezevic 2016; Bronson & Knezevic 2019.
34. Klerkx et al. 2019, 10.
35. Cobby, 2020; Lajoie-O'Malley et al. 2020, 101183.
36. Driessen & Heutinck 2015. Legun & Burch 2021.
37. Rose et al. 2018.
38. Tsouvalis et al. 2000, 913.
39. Rotz et al. 2019.
40. Carolan 2017, 145; Miles 2019; Iles et al. 2017, 957.

Yet for farmers, a digital monitoring system may also free up time for leisure activities, fostering other forms of relationships, caring for animals beyond service exchanges like cattle for milk, or improving communication with their consumers. Indeed, in practice, farmers engage with precision technologies in many ways, sometimes by tinkering and repurposing them, or blending them with analogue tools.[41]

CONCLUSION

Proponents of digital agriculture claim that digital tools in agriculture will require less chemical input, such as pesticides or fertilizer, as they can now be applied in a more precise way. The digitization of farm management, often imagined as data in the form of a distant 'cloud,' is portrayed as immaterial—that is, requiring less machinery, chemical input, and land for food production. Digital agriculture is also imagined to decrease the detrimental impacts on the environment due to decades of high-input industrial agriculture. Yet there are numerous material preconditions for, and consequences of the digitalization of agriculture, that has effects on land and people.

To better understand such claims of immateriality, this chapter approached materiality not merely as physical matter but also as instantiated ideas. This is because the existence (or lack) of policies, intellectual property rights, digital education programs, and the design of tools have material implications regarding who is able to participate in the so-called digital revolution in agriculture. Likewise, the material preconditions of ICT-driven tools are, similarly to other sectors, reliant on the extraction of rare earth minerals, energy resources for high-data drive sensors, or rural telecommunication infrastructures. They exemplify the very real material needs for the digitization of agriculture.

41. Vik et al. 2019, 100305; Higgins et al. 2017.

Some questions left to consider are: Does existing policy (like broadband development programs) and existing legislation (like licenses protecting farm data as corporate property) serve the public, industry, or both? Who ought to hold the legal rights to develop, tinker with, and fix digital tools and machineries? What if digital tools were developed such that they reflect a broad array of farm values, like the environmental principles of agroecologists, or the relational knowledge of Indigenous farming? What might the very material dimensions of digital agricultural tools look like if they were developed by farmers and DIY-tool developers, based on their place-based knowledge and expertise, rather than merely industry scientists? As you can see, there is still much research to be done!

Discussion Questions

- What are the key elements of digital agriculture?
- How have digital technologies changed farming practices? How have digital technologies changed how and what we think about agriculture?
- What are the potential benefits of digital agriculture? What are the potential problems?
- This chapter identifies *materiality* as an important concept for examining the real-world impacts of digital agriculture. What is materiality and why is it important to identify the often-hidden material effects of digital agriculture?

Additional Resources

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BLUE MIAORAN DONG

FROM FARMS AND FOOD FACTORIES TO FOOD DATA FACTORIES

Blue Miaoran Dong *holds a MA in the fields of Communication and Data Science Studies from Carleton University. Her thesis on Chinese food traceability system, "The Political Economy of the Chinese Food Traceability System: Cultivating Trust, or Constructing a Technocratic Certainty Machine?" illustrates the power relations between the Chinese government, the big three Chinese technology giants, foreign capital, food merchants, and Chinese citizens. It also addresses the embedded information and power asymmetry. She is a PhD student at School of Journalism and Communication at Carleton University. She is also the conference coordinator of the* Food Matters and Material-

ities: Critical Understandings of Food Cultures Conference *and conference co-chair of the* 16th Annual Communication Graduate Caucus Conference*. She is keen on digital agriculture, food and data equity, rural broadband, and the development of the platform ecosystem.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify food traceability technologies, infrastructures, and corporate capitals that compose the Chinese food traceability system.
- Describe the limitations of the food traceability system relative to its public claims (like perfect transparency).
- Explain the potential harm and environmental impacts stemming from the food traceability system.

INTRODUCTION

Chinese Citizens are increasingly interested in knowing where their food comes from and seeking information about the conditions in which their food is produced. But how much detail is necessary? Do you need to know who is growing your crops, or how farmers feed the animals they raise? Would you be willing to pay a premium price for that information? Both the Chinese government and Chinese corporations are convinced that the answer to all of these questions is a resounding *yes*.

CONTEXT

Mounting **food safety** incidents and food fraud can endanger citizens and cost the global food industry billions of dollars every year. **Traceability apps** claim to give you the entire life story of your food by simply scanning a unique identification code attached to the food package. For instance, the identification code on an egg would allow you to know whether that egg was laid by the fittest hen. The hen would wear a device like a Fitbit on her ankle, which transmits live footstep numbers and other biometric data. Some premium egg farmers even have 360-degree surveillance cameras and face-recognition technology, to help you identify the hens in their farming environment. As the consumer, you can even choose a customized feeding plan for the hen, to ensure it lays eggs with a specific taste profile. On the one hand, this technology helps ensure animal welfare—i.e., that the hen has a nice environment for exercise and high-quality food to eat. On the other hand, this comes at a hefty price of privacy for consumers and augments social inequalities.

The Chinese government is enthusiastic about its **food traceability system**, which allows the government to pinpoint the source of food contamination more accurately, thus mitigating the risks of wide-scale, food-related disease outbreaks. But traceability also works as a goldmine for corporations to learn about their customers, to extract their personal information and expand the reach of their own business. There is a distinct difference between the Chinese and Canadian food traceability systems, in that the Canadian system does not trace *forward* to the customer. In other words, the Canadian system does not keep detailed consumer food preferences and purchasing habits; it only traces the food from origin to sales point. The Chinese food traceability system enables food corporations, food traceability technology providers, and the government to trace and track all kinds of consumer food preferences and eating habits. This

information allows food corporations to create new hit products, or only produce those food items that sell in the greatest quantities, which in turn can decrease food diversity in the long run.

TRACING THE TRACERS

My interest in this rapidly developing technology sector led me to examine the financial reports of the big three Chinese technology corporations: Alibaba, Tencent, and JD,[1] which are playing essential roles in developing, distributing, operating, and transforming the Chinese food traceability system. This transformation accumulates substantial revenue in the hands of corporate actors. In the last ten years, food traceability apps available in China through Apple's App Store have grown from 8 to 112, and from being available in 2 cities to 21. While this development trajectory prioritized coastal, eastern, and urban regions, it neglected rural and western regions, where citizens are still struggling to have an adequate internet connection and delivery service on which digital economies heavily depend. Amazingly, eggs with food traceability technology are 4 to 8 times more expensive than regular eggs. Evidently, not everyone can afford the well-traced food, and this is especially the case for people who live in rural regions.

1. Alibaba, Tencent, JD, and Meituan are among the top thirteen most valuable publicly traded internet companies in the world. Tencent has the highest monthly active user accounts, at 1165 million, and 50 million active merchant accounts among the big four internet companies (Tencent AR, 5). Alibaba has 846 million monthly active user accounts (Alibaba AR, 21). Meituan has 449 million active user accounts (Meituan AR, 2), but JD has 417 million active user accounts and is more involved in the food traceability system than Meituan (JD AR, 10). Tencent holds 17.9% of JD and 20.1% of Meituan, which are considered as operating under the same Tencent platform ecosystem. Collectively they are referred as TJM. To simplify the infographics, in the figures, Alibaba is referred to as Ali.

ANALYSIS

Figure 1 provides an overview of the food traceability technologies available as of 2021. The technologies include infrastructure hardware, the Internet of things (IoT), and computing capabilities. For instance, the Beidou navigation system enables the edge computing system to coordinate with Real-Time Kinematic (RTK) signal transmitter, RTK rover station, and radio antennas, which connect the transmission to the satellite. It also coordinates water sprinkler drones, IoT sensors, animal tracking collars, and plant monitoring devices to transmission base stations that coordinate orders for IoT sensors in the rural regions where internet connections are poor. Last, satellite systems combine satellite image, sensor data, and artificial intelligence analysis to generate an optimized irrigation action plan, provide animal early sickness alerts, and reduce insurance premiums with this heavily monitored and automated technology system.

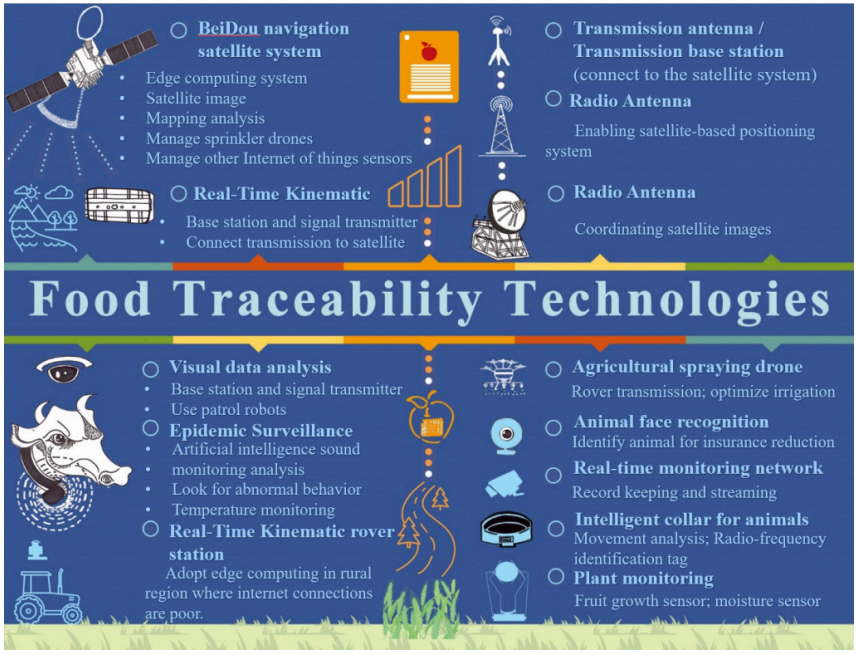

Figure 1: *An overview of the food traceability technologies available as of 2021. (click to enlarge)*

Figure 2 portrays the extent to which the dominant technology companies, Alibaba (Ali), Tencent, JD, and Meituan (TJM), have spread their influence over the various sectors of the food traceability system in China. First and foremost, Ali and the TJM platform ecosystem both invest and collaborate with a Chinese telecom company, China Unicom, to obtain an unfair advantage with high-quality internet connections and better telecom service rates. Furthermore, Ali and the TJM platform ecosystem have invested in information technologies and services like cloud computing. By investing in cloud computing companies like *Ali Cloud*, the retail technology *Shiji*, and the intelligent car operating system *Banma,* Ali has built a solid foundation to amplify traceability technology for commercial applications and actively promote the national **code economy**. Moreover, Ali and the TJM platform ecosystem have invested in many food traceability plat-

forms with a high level of daily active user rate, like Ele, YiguoShengxian, and Fruit Day.

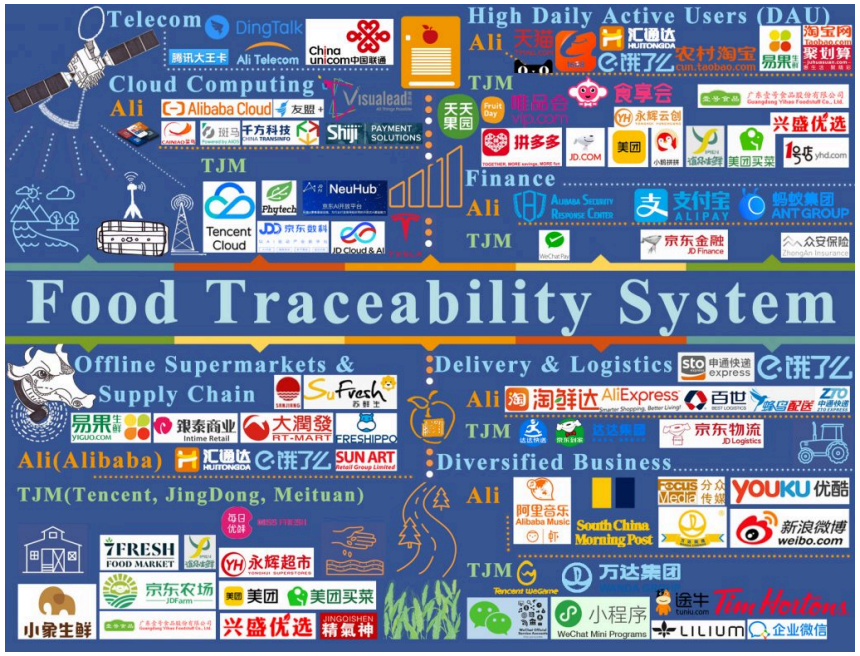

Figure 2: *An overview of the actors implicated in the food traceability system. (click to enlarge)*

Ali directs and generates consumer traffic from one site to another, fosters symbiotic relationships, and strengthens the network effect. Their seamless integration also reaches offline activities, from offline supermarkets and supply chains to delivery and logistics systems. The Ali and TJM platform ecosystem integrate almost every aspect of the business.

By luring consumers into scanning offline QR codes, Alipay can potentially connect 555 direct procurement sources, 200 supermarket chains with 1700 traceable food items, free half-hour delivery, and traceable robot restaurants, all within the Alibaba ecosystem. Essentially, food traceability systems connect merchants with the consumer through the integrated platform design from online to offline. This model has now expanded

beyond the scope of food, replicating the same business model in other sectors and sharing data with other diversified businesses within the same platform ecosystem. For instance, TJM invested in the travel business TunNiu, flying vehicle company Lilium, coffee franchise Tim Hortons, and film producer Wanda. Ali then uses the data collected and consumer traffic in the game industry, mini-program, business WeChat, and WeVideos. It creates an ultimate one-stop, convenient access center with four essential categories: financial, daily needs, travel and transportation, shopping, and entertainment, all embedded in the platform to further their monopoly and make it more robust. In a nutshell, if you came in for the food traceability information, the big technology corporations try to keep you around for four essential needs that they also own.

The ambitious market model promoted in this manner promises to deliver perfect transparency, but so far, it has only magnified information and power asymmetry. Specifically, between urban and rural regions, there is an imbalance in the development of food safety systems. The food safety and quality tests associated with the current traceability system revealed that twelve provinces were below the national average in food safety. The food safety and quality tests also found that most of the food that was turned down by the city and coastal markets (for having failed the essential food quality and safety test) was then sold back to rural regions. More information does not equal more certainty and transparency. And after all, does the average consumer want to—each time they sit down for a meal—read the entire biography of the hen that laid the egg they are about to eat? Or do they typically just need the peace of mind to enjoy their meal without doubt and concern?

Both the Chinese government and Chinese corporations are convinced that there is a need to build a technology-enabled food traceability system as a market solution to this increasing need.

They also believe consumers are willing to pay a premium for the excessive details and data generated by the food traceability system. However, not every Chinese citizen can afford the increased premium, and not everyone feels the need to know the entire life story of a hen before feeling safe enough to eat an egg.

Chinese consumers can still buy the conventional egg without an identification code attached to it—for now. But this is only the beginning. The egg is likely just one example of the future of food consumption. Technology corporations are gradually making significant inroads into the food supply chain, from farms to transportation to retail. They are also exporting IoT technology and the accompanying business model to other parts of the world. Food, of course, is not unique in this, as this trend can be seen in other sectors as well, such as the health and insurance industries.

The next time you are about to eat an egg, consider the story one egg can tell, the industry one egg can change, and the impact one egg can make beyond the act of eating.

Discussion Questions

- What are the potential benefits of the Chinese food traceability system? What are the drawbacks?
- Is there anything in Chinese system that the Canadian food traceability system can adopt or avoid?

Additional Resource

Government of Canada. 2020. *Traceability: Safe Food for Canadians Regulations*.

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AMANDA SHANKLAND

SECURITY FROM TRESPASS AND PROTECTING THE FOOD SAFETY ACT, ONTARIO: WHOSE INTERESTS ARE PROTECTED?

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain how the *Security from Trespass and Protecting Food Safety Act* relates to the concept of commodity fetishism.
- Critique the ways in which the law differentially upholds corporate, animal, and small-scale farmers's rights.
- Describe some of the ethical dimensions of animal agriculture under industrial capitalism.

INTRODUCTION

For seven weeks in 2020, a man who asked to be identified as Elijah worked as a hog farm technician in a barn owned by Paragon farms in Putnam, Ontario. Elijah was hired by Animal Justice, a Canadian animal law advocacy group. The footage that was eventually shared by the CTV television network's news magazine, *W5*, showed disturbing images of farm workers forcefully slapping and hitting pigs with plastic boards and jabbing them with pens. Other footage showed workers discussing how pregnant sows had been deprived of drinking water for several days, workers castrating male piglets without the use of painkillers, and unsanitary conditions in the barn. While organizations like Animal Justice are demanding more transparency in the system and greater provincial oversight, the government of Ontario has taken measures to protect farmers from these types of investigations. On December 5, 2020, Bill 156 entered into force in the province of Ontario, implementing the *Security from Trespass and Protecting Food Safety Act*. The Act's stated purpose is to:

> Prohibit trespassing on farms and other properties on which farm animals are located and to prohibit

> other interferences with farm animals in order to eliminate or reduce the unique risks that are created when individuals trespass on those properties or interfere with farm animals, including the risk of exposing farm animals to disease and stress as well as the risk of introducing contaminants into the food supply.

The Act goes on to describe its purpose as protecting farm animals and the safety of farmers, workers at production facilities, and drivers transporting farm animals. It also indicates that the law is designed to prevent "any adverse effects of these risks on Ontario's economy overall." Laws of this kind are also effective in preventing proprietary information and trade secrets from being leaked. For these reasons, some see these measures as necessary to protect the industry and its contribution to the Ontario economy. Alternatively, **animal welfare activists** see the Act as a measure to protect the industry from public criticism and the economic impacts that such scrutiny might have on farm businesses.

The Act raises many questions among both its supporters and its critics. Whether it can accomplish the stated intentions of animal and farmer welfare is being challenged by activists who see it as a pretence to keep certain practices away from public view. They see the criminalization of exposing practices on farms as a decision that protects corporate agriculture. Supporters of the Act, on the other hand, claim that it will protect human and animal health. However, because farm practices are far from a uniform set of behaviours, a questions arises as to how the interests of both large, industrial farms and small-scale farms are protected? The concept of **commodity fetishism** can be helpful in explaining why the Act is seen by some as a measure to reinforce industrialized, large-scale meat production.

COMMODITY FETISHISM

Commodity fetishism is a concept that describes the relationship between production and exchange under capitalism. Karl Marx proposed that this relationship no longer represents a relationship among people, but a relationship among things, i.e., money and commodities. Commodity fetishism describes how human labour is ignored or unaccounted for as exchange becomes the predominant mode of relations. Marx developed this theory in *Das Kapital* (1887) and it continues to be relevant today.

In the industrial food system, for instance, producers of food are often far removed from the consumers. The vast **urbanization** project of the 20th century now means that most people no longer live on, work at, or even visit farms involved in animal production. Production has also become highly mechanized, which means that less human labour is involved in farming. Commodity fetishism in this context summarizes the ways in which people come to believe they are *not* participating in the processes of animal production. Human labour is erased each time an animal passes through new hands. The animal is erased at each step because it has been transformed into a commodity; from, for example, a pig, to freight, to a box in a warehouse, to dinner on a foam tray. At each step, the commodity becomes both independent from human labour and its own *pigness*. Processing of animal parts into attractive packaging distances the consumer from any of the more unsettling aspects of animal rearing, slaughter, and processing.

In food studies, **distance** is a term that parallels commodity fetishism. It is used to describe the physical and cognitive (and some would include spiritual) distances created by the modern—and globalized—food system. Distance is enhanced by industrial models of agriculture that insert numerous actors between farm–level production and individual consumption.

For example, when it comes time for slaughter, truckers in Ontario transport all animals to one of just a few government–certified slaughterhouses. From there, meat is sent in another truck to a processing facility. After processing, it is likely sent to a distribution centre by another truck. Still another truck then brings the meat to the grocery store, where it is handled by a stock person, the customer, and then finally by a cashier. Often, there is no indication of the farm from which the meat originates, where it was processed, and whether it has been combined with meat from other farms. The consumer, by virtue of this processing and distribution chain, has no personal relationship with the farmer. Since the farmer has no relationship with the consumer, they are not directly invested in the consumer's well–being. The lack of participation by consumers in the food system means that farmers do not have as much pressure to adhere to consumer demands for humane practices. As demonstrated by cases like Elijah's (from Animal Justice), animal activism increases the level of demand for better conditions on farms and/or at production facilities. Commodity fetishism thus supports a perspective that the Act is a way to reinforce the tendency in food systems to strengthen a veil of secrecy, and to create distance between production and consumption.

WHOSE INTERESTS ARE PROTECTED BY THE ACT?

The wording of the Act focuses on the risks of contamination and the safety of farmers and animals. The government's rationale for the Act is to protect farm animals from exposure to disease caused by human trespass. It seems reasonable to prohibit trespass on farms for this reason; there are already trespass laws in place, in fact. The Act, however, also prohibits anyone from entering a facility on false pretenses, which means if an activist gets a job in a facility in order to document animal abuses and

conducts an investigation in the day-to–day activities of their job, then they can also be criminally charged. In Ontario, investigations into farm conditions are only made if a complaint is received. The threat of criminal prosecution, however, means that reporting by undercover investigators *or* employees is unlikely to occur. The Act therefore reduces public scrutiny and is a significant move toward mystification in the industry. Further, while these types of privacy measures might be commonplace in some industries (like in technology to protect trade secrets), they represent a risky precedent in other cases (such as criminalizing the documentation of elder abuse in old–age homes).

Animal rights activists call the Act an **Ag-gag law**. Ag-gag laws ban people from exposing cruel and/or unsafe conditions at farms and slaughterhouses. Activists argue that these laws protect industrial agriculture and undermine the efforts of ethical producers. Since the Act has the effect of limiting consumer knowledge about industrial practices, an unintended consequence could be reduced trust on the part of consumers, which can undermine the efforts of ethical producers. Many consumers want to make informed decisions about what they are buying, and the ethical treatment of animals is an important consideration. To illustrate this point, while farmers in Ontario are legally forbidden from slaughtering their own animals, many take special care to raise them humanely, particularly through pasturing. Many small-scale farmers bring their animals to slaughtering facilities themselves and sell their products directly to consumers through **direct marketing** and farmers' markets. For these farmers, it is important to nurture the relationship with consumers to create an environment of transparency, mutual respect, and accountability. Informal discussions with small-scale farmers engaged in direct marketing to consumers have revealed that personal relationships with consumers are a driver in terms of improving **animal husbandry** methods. This value is reflected in

the price, but consumers who are able to pay a premium are often willing to do so for the reassurance that they are contributing to a humane farming system. In sum, the Act appears to benefit larger–scale industrial farms more than it does farmers engaged in smaller–scale, direct marketing operations.

CONCLUSION

As a concept, commodity fetishism draws our attention to the ways that the industrial food system can make invisible our connections to the food we eat and to the farmers who produce it. The deepening psychological distance between producers, consumers and animals can therefore undermine the best efforts to create a humane and sustainable food system. The *Security from Trespass and Protecting Food Safety Act* reveals many of the pitfalls in trying to balance privacy and safety with public accountability in the food system. The Act's stated purpose is to protect animals and farmers, but as explained above, it could undermine trust in the industry by creating an environment that favors secrecy and potentially protects animal abusers. As food scholars, we must critically examine the justification for these types of laws and question whether they in fact necessary in achieving their stated purpose.

Discussion Questions

- Do you think animal production is humane and sustainable given the right conditions, including education, legal frameworks, and financial security? Why or why not?
- How do the rights of food producers—including

the right to protect food safety and privacy—compete with the need for public accountability in the food system? Are the rights of certain groups of food system actors prioritized over others? Explain.

- What other examples of commodity fetishism can you identify in the food system? In small groups, explain how your examples illustrate the concept.

Additional Resources

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STEPHANIE COUEY

MY TINIEST APOLOGY

Stephanie Couey *is a Ph.D. candidate in English at the University of Colorado Boulder. Her work is on Multiethnic Contemporary Women's Literatures of the United States, and her dissertation examines race, gender, and national identity within works of fiction, non-fiction, and poetry that centralize food, hunger, and the body. She previously received her MFA in Poetry, also from CU Boulder, and she teaches undergraduate courses in Literature and Creative Writing.*

my tiniest apology

if I could have made you your last supper
it would have been
the reddest slaughter, a halting
ritual of bones, a bound and roasted
lamb on a sea-brined bed of greens
there would have been
a quieting side
of creamed potatoes
all biting hot and familiar
like a coming-of-age novel

but would you have even accepted
this shrine of abundance, my last offering,
or would it have been just another
blister for you to swallow?

what matters now
is what remains – of you
– your dad
in your apartment, all empty
your cabinets all empty
bookcases and I can feel you
getting mad at me
for simplifying
your relationship to grace
my inanity for equating
salvation with satiety
but I have to imagine

a final moment of moments
where you allow yourself
against yourself, and your insistent ache
to share in the private yet common

truth of, the simple fact of,
a right-made custard and a honeyed éclair
with slabs of pear and fig and all the earth
you had to leave

I hope you'll accept just this:
my tiniest apology,
so sincere, fugitive, and sweet

[for Shawn Collins, 1989–2021]

STEPHANIE COUEY

"MEAT MADE MANIFEST": BEEF, FERTILITY, AND THE IDEAL AMERICAN WOMAN IN RUTH OZEKI'S *MY YEAR OF MEATS*

Stephanie Couey *is a Ph.D. candidate in English at the University of Colorado Boulder. Her work is on Multiethnic Contemporary Women's Literatures of the United States, and her dissertation examines race, gender, and national identity within works of fiction, non-fiction, and poetry that centralize food, hunger, and the body. She previously received her MFA in Poetry, also from CU Boulder, and she teaches undergraduate courses in Literature and Creative Writing.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Apply the process of close reading to descriptions of foods and food contexts in literature.
- Analyze food writing through interdisciplinary engagement.
- Assess the value and utility of analyzing food to make unexpected connections, and to arrive at new or more fully developed cultural insights.

INTRODUCTION

Although food is an approachable subject, studying it closely and critically in literature can make some of our most potent anxieties and cultural violences visible. This case uses literary analysis to consider not only the symbolic functions of a specific food within a literary text, but also its material significances.

The text in focus is Canadian-American author Ruth Ozeki's 1998 novel, *My Year of Meats*,[1] and the food in focus is beef. Although the novel features other commonly consumed meats and emphasizes their distinct cultural meanings in American culture, as indicated by the plurality of "meats" in the title, it is beef that takes center stage. In centering the novel on America's most-emblematic animal protein, Ozeki reveals how the violence inherent in the production and consumption of beef extends directly to women's bodies following World War II.

1. Ozeki 1998.

PROCESS OF ANALYSIS

This case focuses on two of the main subjects of Ozeki's 1998 novel: women and beef. It employs the aptly named process of **close reading** over three observations to analyze the nuances of Ozeki's language. This detailed analysis generates a clear unpacking of ideas surrounding the relationships between meat and meat-related media, modern perceptions of "American" femininity, and animal-human relationships.

Close reading is a deep analysis of the writer's language—it focuses on *the words on the page* at hand, but it also always considers the context of the rest of the work. Effective close reading is a sequential process that starts small and works its way outward. Rather than immediately identifying themes, big picture ideas, or larger trends, it centers itself in **diction** and **syntax**. It then uses the emerging observations to build bigger-picture arguments. Close reading, rather than trying to "prove" a preexisting argument, allows for unexpected new inquiries. It is, by necessity, a *personal* engagement with the text. If close reading is performed in earnest, it is unlikely that you will arrive at precisely the same conclusions as your classmates or those found in existing scholarship on the piece, though you *will* be able to point to the evidence within the text that brought you to your own conclusion.

CONTEXT FOR OBSERVATIONS

The central protagonist of *My Year of Meats* is Jane Takagi-Little, an American documentarian of Japanese and Anglo-European descent. The three block quotations used in this study are all told from Jane's point of view and carry her narrative voice, and as such, they are suffused with her attitudes, beliefs, and values. The novel begins with Jane reluctantly taking a new job on the fictional reality TV show, *My American Wife!,* which quickly leads

her down a rabbit hole of deeply personal investigative journalism. The show is funded by fictional American meat lobbying company, BEEF-EX, and is made by a Japanese production company. Its goal is to sell two things to a primarily Japanese consumer base: beef imported from the United States, and regressive conceptions of the "ideal American" woman and family, so as to influence Japanese housewives to become more similar to these ideals. Jane states that she "made documentaries about an exotic and vanishing America for consumption on the flip side of the planet,"[2] and much of what is "exotic" and "vanishing" is the white, heteronormative, nuclear family in the United States. Initially, Jane's mission is to correct the show's proclivity for featuring homogeneous white families, but as she learns more about American-raised beef and about her own family history, she learns that beef production is not only *ideologically* linked to notions of white supremacy and sexism, but that is it also *physically* linked.

Specifically, Jane learns about her mother being prescribed diethylstilbestrol (DES), a synthetic estrogen that was first used as a fertility treatment following World War II. The drug was heavily pushed upon women by advertisers and doctors, to encourage those who had taken jobs during the war to return to what was considered their central role for their country: bearing and rearing healthy children.[3] DES has also been used as an agent for promoting rapid weight gain in cattle to yield more meat product (beef) with less feed. Jane argues that "DES changed the face of meat in America. Using DES and other drugs, like antibiotics, farmers could process animals on an assembly line, like cars or computer chips."[4] In the history Jane cites, the basic comfort and well-being of cattle was deemed "inefficient," and all

2. Ozeki 1998, 15.

3. Langston 2010, 48.

4. Ozeki 1998, 125.

that mattered was how much weight they could gain and how quickly they could be harvested for America's favorite staple.

WOMEN, BEEF, AND "TRADITIONAL FAMILY VALUES"

After the chief producer of *My American Wife!* describes what he wants the show to communicate, Jane drafts the following deliberately "excessive"[5] description:

> Meat is the Message. Each weekly half-hour episode of *My American Wife!* must culminate in the celebration of a featured meat, climaxing in its glorious consumption. It's the meat (not the Mrs.) who's the star of our show! Of course, the 'Wife of the Week' is important too. She must be attractive, appetizing, and All-American. She is the Meat Made Manifest: ample, robust, yet never tough or hard to digest. Through her, Japanese housewives will feel the hearty sense of warmth, of comfort, of hearth and home—the traditional family values symbolized by red meat in rural America.[6]

"Meat is the Message," with a capital "m" in "message," is a satiric **allusion** to Marshall McLuhan's 1967 text, *The Medium is the Massage*. McLuhan argues that the new electronic technologies of the information age control *us*—physically, psychologically, and socially—more than we control them. He contends, "all media work us over completely… any understanding of social and cultural change is impossible without a knowledge of the way media work as environments."[7] Jane stating, however sardonically, that "*meat* is the message" suggests that meat is a form of media and thus is an active rather than passive substance with the power to "work us over completely."

5. Ozeki 1998, 8.
6. Ibid.
7. McLuhan, 26.

Jane then employs what can be read as pornographic diction to comedically analogize meat to both male genitalia and women's bodies, to contrasting ends. She exaggeratedly writes that each episode of *My American Wife!* must "culminate" with a "celebration" of a "featured meat," and "climax" in the event of its "glorious consumption." That the "glorious consumption" *of* the "featured meat" *results* in "climax" communicates that Jane is making a direct comparison between male sexual release and the consumption of meat, as "climax" overtly suggests orgasm, since it is a colloquial synonym, and "culminat[ion]" more subtly suggests the same.

In the context of the show, analogizing male genitalia to meat glorifies the penis and suggests its theoretical desirability and centrality as the "star," but analogizing women to meat suggests diminishment and debasement and renders them into consumable objects. Jane's theatrical description of *My American Wife!* mirrors mainstream male-focused pornography in how it's "the meat" and "not the Mrs." who's "the star." In other words, women in the show are considered secondary to the animal flesh over which they labor and to the men they serve. The way the women in the show are "Meat Made Manifest" reduces them into products in a way not wholly dissimilar to how living cows are reduced and abstracted into "beef." The women on the show must be "appetizing," "ample," and "robust," but "never tough or hard to digest." This suggests that viewing the women on screen is an act of consumption unto itself and they are intended to be consumed alongside the meat. And in stating that the "Wife of the Week" must be "All-American," Jane alludes to the show's preference for white women; although the women featured on-screen *are* rendered into props rather than people, women of color are marginalized further in the show's willful obfuscation of their existence and importance as American women.

Finally, Jane ends the description with the ultra-patriotic declaration that "red meat" symbolizes "traditional family values in rural America," which are only vaguely characterized by a "hearty sense of warmth, of comfort, of hearth and home." The grammatically unnecessary repetition of the preposition "of" alongside the **alliteration** of "hearty," "hearth," and "home" gives this sentence the bouncy, upbeat, and musical quality of a mid-century advertisement. Jane's use of such mnemonic devices makes this final sentence exude the very "sense of warmth" and white American nostalgia that *My American Wife!* seeks to capitalize on in order to sell beef.

DES AND ALL-AMERICAN ABUNDANCE

Whether as a fertility treatment or as a fattening agent for feedlot cows, DES has been used extensively throughout the twentieth century, despite the fact that its use in humans has been linked to numerous health defects including cancers and reproductive organ deformities.[8] Jane also learns that DES doesn't just affect those who consume it directly, but that it can cause health issues in their descendants—a discovery that led medical editor Cynthia Laitman Orenberg to coin of the term "DES daughter"[9] in 1981.

Jane herself struggles with "a precancerous condition known as neoplasia"[10] on her cervix, a misshapen uterus, and presumed infertility, which are resultant of her mother having been prescribed DES by an American doctor who assumed she was too "delicate"[11] to carry Jane, an assumption with racial bias against Japanese women. Viewing an X-ray of her uterus, Jane recalls:

8. Langston 2010, 55–56.
9. Orenberg 1981.
10. Ozeki 1998, 152.
11. Ibid., 156.

> I've always pictured the triangular uterine cavity as the head of a bull, with the fallopian tubes spreading and curling like noble horns, and that was what I was expecting to see…what I saw instead was less symmetrical. The left side of the bull's broad forehead was caved in, less triangular, as though my uterus had been coldcocked.[12]

In likening Jane's uterus to "the head of a bull," Ozeki makes the link between Jane's reproductive health and the American beef industry explicit. While the figurative bull's head has been damaged to the extent of appearing to have been "coldcocked," or bashed in by a club, so too have Jane's sexual organs, suggesting that the bodies of both women and cattle have been similarly violated and brutalized by DES.

The imagined "bull" with its "noble horns" also functions to conjure images of the "all-American" frontier and "Big Rugged Nature."[13] It evokes cattle ranching, as well as bull riding, which despite the Hispanic origins of rodeo, has "long been thought of as a distinctively American sport."[14] The imagery of Jane's X-ray reveals that the fate of her own body and future offspring and the fate of cattle are intimately linked due to toxic and exclusionary ideologies of American abundance.

HUMANS, ANIMALS, AND TRANS-CORPOREALITY

Trans-corporeality, or the idea that, as environmental humanities scholar Stacy Alaimo argues, "the human is always intermeshed with the non-human world,"[15] pervades the novel, in ways that go far beyond the usage of DES. The porousness of human, animal, and environmental bodies are highlighted when

12. Ibid, 153.
13. Ibid, 230-231.
14. LeCompte 1985, 21.
15. Alaimo 2010, 2.

Jane organizes an exposé of "Dunn & Son's, Custom Cattle Feeders" in Colorado under the guise of an episode of *My American Wife!* Rather than celebrating the glorious Colorado landscape, the ranch's abundance of beef, and the "ideal" American wife for the show's audience, Jane instead plans to film this "episode" as a documentary that exposes the inner workings of slaughterhouses.

The featured wife is Bunny Dunn, who Jane pitches to her boss as the show's "best American Wife yet!"[16] And Bunny *is* the show's ideal—white, blonde, large-chested, decades younger than her husband, dressed in rodeo queen outfits, and cooking not just beef, but her "special recipe of Pan-Fried Prairie Oysters,"[17] or bull testicles.

Along with her Prairie Oysters and the 20,000 cattle at Dunn & Son,[18] Bunny's body is on display for the audience of *My American Wife!* to consume. When filming, she is treated as a dish and, at times, as an animal. Ozeki even compares her to a cow as the camera crew film her: "the wavering ray of the sun gun finds Bunny's face, illuminates it."[19] The subtle wordplay between "sun gun" and "stun gun"[20] likens Bunny to a cow facing slaughter. This likening positions her as a potential victim of the camera and the violence of media representation, and it positions her as one whose body, like a cow's, is consumable.

Jane observes Bunny's body's closeness to, and fusing with, animal and environmental bodies as she studies her ample figure and rodeo queen ensemble:

16. Ibid, 230.
17. Ibid, 208.
18. Ibid, 209.
19. Ibid, 327.
20. Ibid, 283.

> [Bunny] had dressed for the interview in purple stretch jeans, hand-tooled alligator cowboy boots, and a purple checked shirt decorated with fringe and mother-of-pearl snaps that fought to stay attached across the expanse of her bosom. The upper snaps popped open to reveal a massive depth of cleavage… And then there was her hair, golden, like spun metal forged into a nest by a mythical bird of prey, impossible to capture on television.[21]

Bunny is either wearing or embodying numerous animals: alligators, oysters (mother-of-pearl), and birds, and her name, in addition to being suggestive of a Playboy Bunny, is that of an animal. The diction describing her body also suggests the landscape of Colorado with the "expanse" and "massive depth" of her chest, and the lengthy, clause-filled sentences suggest an awe-inspiring quality to Bunny's presence. Altogether, Bunny's appearance is meant to suggest not only a nationalistic ideal of American femininity, but also the permeability between human and non-human bodies.

Humans, animals, and the environment collide even further on the kill floor of the Dunn & Son slaughterhouse. In an ironic reversal of what is usually human on animal violence, a pregnant Jane is pummeled by a cow's massive swinging carcass on the kill floor, and she is knocked out when she hits her head on "the edge of the knocking pen,"[22] an enclosure that contains an animal as it is knocked out or stunned before slaughter. When she briefly returns to consciousness, Jane realizes that her "entire body had been drenched in blood" as she'd "fallen on the slaughterhouse floor, into the lake of blood,"[23] with the "lake" connoting a natural body of water. She finds herself crying and notices that "every

21. Ibid, 252.

22. Ibid, 284.

23. Ibid, 291–92

time [she] wiped [her] eyes the tears were bloody too."[24] In this scene, Jane's body and those of the slaughtered cattle are shown to be thoroughly conjoined, and no matter how seemingly inert the body of the cow that swings into her may be, it has the potential to act upon her and change her life. Later, when Jane is in the hospital, Bunny holds her "fractured head […] against her chest."[25] Ozeki brings the novel's parallel treatment of women and cattle full circle, with Jane's "fractured head" connecting back to when she first saw her X-ray and observed that her uterus looked like a "coldcocked"[26] bull's head.

SYNTHESIS AND CONCLUSION

In *My Year of Meats*, Ruth Ozeki unpacks the overt and nuanced values implicated in Americans' love of red meat. For many, beef exemplifies American cuisine—steaks, barbecue, pot roast, and of course, the hamburger. Ozeki, however, highlights the related ways that animals' and women's bodies are exploited throughout the twentieth century; both are used to project an image of the United States as a land of wholesomeness and abundance, and both are given synthetic hormones to increase production of meat and children, respectively. The novel investigates how this mythic portrayal of the United States is defined by its fertile, moral, "All-American" women, and its cheap, plentiful beef.

Although often-satirical in tone, the novel is too on-point to be entirely funny. In using beef as the "star" of the plot, Ozeki shows how American nationalism, the subjection of women's bodies, the male gaze, and the medical gaze are intertwined with the mass production of American beef. The novel shows how the large-scale production and consumption of meat is far more

24. Ibid, 292.

25. Ibid, 293.

26. Ibid, 153.

than just symbolic of the objectification of women. Rather, *My Year of Meats* illustrates the ways that human and animal bodies are interconnected and endure similar—and at times overlapping—abuses.

Discussion Questions

- What are your first impressions of each of these three block quotations from the novel? What words catch your attention first? Circle them, without thinking about it too much. Compare the words you've chosen with a classmate. Did you circle any of the same words? Why do you think these words stand out to you?
- What personal associations do you have with any of the topics raised in these three passages? How might your personal associations influence your interpretation?
- What field(s) aside from literary studies might you conduct research in to support your interpretation?
- What explicit and implicit connections does the novel make between food and sex/sexuality? How do you feel about the connections it makes?
- What do you consider to be America's (or your own country's) staple food? What makes it a national staple?
- Is there such a thing as any one national cuisine? If so, how would you describe it? If not, explain.
- How might a novel such as *My Year of Meats* change how readers think about a topic, situation,

or relationship? How might it influence their behaviour or actions?

Exercises

Food in Popular Culture

In pairs or small groups, select a food that has been featured in popular culture. List all of the times you've encountered that food in movies, television shows, music, etc., and describe how it was depicted. Was the food used to convey information or meaning in a non-explicit way? Were those meanings similar or conflicted? Did the food item symbolize or represent anything outside of itself? Record and share your findings with the larger group.

Close Reading Food Essay

Select a food featured in a literary text and conduct a **close reading**. Paying close attention to just one food item or category, consider how imagery, setting, diction, syntax, point of view, form, characterization, style, symbolism, and figurative language are used in relation to that food. Try to branch outward from your close reading to make new discoveries, with the aim of arriving at new conclusions about your chosen food and literary text.

In a 1,500-word essay, provide a sustained close reading of one food featured in an individual passage from a text you have read in full. Your analysis should answer the following questions:

- What is the food you have chosen to study within this passage?

- How is it used in this passage?
- What does the passage explicitly say?
- Is there meaning beneath or beyond the explicit message? What is (are) the implicit meaning(s)?
- How do the writer's imagery, diction, and syntax contribute to that meaning?
- What specific examples in the passage support these observations?
- How could this food symbolize the entire work? Could this food serve as a microcosm—a little picture—of what's taking place in the whole work? How?
- What themes running through the book are evoked explicitly and implicitly by this food?
- What questions does this food raise about the story being told?
- What conclusions can be drawn from your close reading of this food?

Additional Resources

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KRISTIE O'NEILL

THE MEAT OF THE MATTER: AN INTRODUCTION TO THE MATERIALITY OF MEAT

Kristie O'Neill's research is anchored in understanding how dietary changes emerge at the intersection of trade arrangements and cultural ideals.

Learning Outcomes

After reading and discussing this text, students should be able to:

- Explain how governments, businesses, and eaters' food

interests are aligned and in tension.

- Articulate the wide range of reactions that meat elicits from people.
- Discuss how we make meaning about who we are and how we should act through meat.

INTRODUCTION

Food researchers explain how global reductions in meat consumption will lessen environmental degradation and improve physical health.[1] Yet researchers also understand that getting people to adopt dietary recommendations is difficult. Food, like meat, is not simply a physical object that people ingest in order to meet daily survival needs.

This chapter will explore the "more than" element of meat. Scholars use the concept of **materiality** to illustrate that objects like meat are produced through people's work, that they have a physical presence that people react to, and that they are used to express social relationships and identities.[2] The point here is to better understand how meat is **socially embedded** so that we can also understand why calls to change meat practices may feel unrealistic and even offensive.

MEAT AND GOVERNMENT AND BUSINESS STRATEGIES

Governments' and businesses' concerns about food safety, profit, and animal welfare influence people's work of raising and slaughtering livestock. For instance, Brynne explains how in

1. EAT-Lancet Commission, n.d.
2. Bakker & Bridge 2006.

British Columbia, Canada, regulatory attempts to align federal, provincial, and territorial meat inspection practices made it illegal to slaughter animals directly on farms.[3] Since adopting new slaughtering standards was costly and difficult to implement, by 2012, there were only 50 abattoirs in the province, rather than the more than 300 that existed in the early 2000s.[4] The loss of local abattoirs meant that fewer farmers were able to provide consumers with the locally farmed meat they desired. Brynne's work illustrates that efforts to standardize meat production had the effect of favouring big businesses, which could keep up with regulations.

Moreover, businesses' and governments' interests diverge when it comes to animals and food. The tensions that exist among government ministries (and between ministries and businesses) garnered media attention in 2019 when Canada revised its national food guide and launched a new version. The latest edition of Canada's Food Guide recommends that people eat more plant-based foods and lists nuts, beans, tofu, and more alongside meat, eggs, and dairy in the "protein" category. These recommendations promote human and environmental health in line with Health Canada's mandate, yet contradict strategies that are in line with Agriculture and Agri-Food Canada's mandate to promote Canada's animal-based industries.[5]

In short, the ways that meat is made available through livestock raising and slaughtering practices have changed over time. The approaches different ministries and businesses take to eating meat are not always in sync. However, government and businesses are not the only actors influencing meat supplies and eating practices. Meat itself elicits many reactions.

3. Brynne 2020.

4. Ibid.

5. Deckha 2020, 34.

MEAT AND AGENCY

Beyond the struggles that emerge among businesses and governments, it is also important to consider how meat calls forth reactions from people. Meat is a visceral substance, and invokes sensory responses. Sight, smell, texture, taste, and even sound are part of people's experiences in responding to what is 'edible' or 'inedible.' The reactions meat elicits are sometimes described as indicators of the **agency** of things.[6] In many supermarkets, raw selections are provided to consumers on plastic-wrapped trays or are wrapped in paper, seemingly distancing consumers from the process of how that particular cut came into being. Not all markets take this approach, with some offering displays of feet, heads, roasts, and live fish (to be killed). In this regard, meat brings about reactions from disgust to desire.

What signals edibility versus inedibility changes with people's cultures, preferences, and knowledge.[7] For instance, organ meats have "a reputation for triggering disgust and hesitation"[8] but do not do so uniformly. Foie gras is made from geese or duck liver and is a traditional delicacy for many.[9] In contrast, it also symbolizes animal cruelty to other eaters, as it is produced through force feeding. The meat-related cues that eaters react to vary based on individual understandings of what is good to eat and why. Like foie gras, the edibility of veal has been hotly debated.[10] For some eaters, veal cutlets tinged with pink (versus white) signals to eaters that the calf was not crated and is therefore acceptable to eat. For others, veal is never an acceptable option. The quality and cost of meat provide cues to eaters about the condi-

6. Van Bemmel & Parizeau 2020.
7. Font-i-Furnols & Guerrero 2014.
8. Kenefick 2020, 273.
9. De Soucey 2016.
10. O'Neill 2019.

tions of animal rearing, as do colour, texture, flavours, and even freshness.[11]

In addition to meat itself, the infrastructure around meat calls forth reactions. Where abattoirs are to be located, and how slaughtering and butchering are in view or hidden are also part of meat's agency. For example, the location of abattoirs elicits reactions from people, as residents find themselves confronting the regular transport of animals to slaughterhouses, as well as related smells that can waft through their homes.[12] The location of abattoirs and farms also brings about questions of **environmental racism**, in terms of who bears the burden of closing windows to avoid smells, avoiding time outside, and the economic penalty of living in housing with depreciating value. Moreover, the outbreaks of COVID at meat-packing plants have drawn attention to the fact that industrialized slaughter and butchering work is typically done by immigrants, temporary foreign workers, and/or racialized people.[13]

Meat is thus a material object that people react to with their senses and daily living practices. Sense-based reactions and ways of living with meat are often part of people's culture and identities. Different options offer inviting, stomach-filling, and socially enriching experiences to some, while symbolizing something revolting, inhuman, lacking in compassion, or taboo to others.

MEAT AS CULTURE AND IDENTITY

Meat is not just eaten to satiate hunger: what is eaten, how it is obtained, how it is prepared, and how people come together to eat it can be an integral part of people's cultural identities. For example, hunting, trapping, and fishing activities reflect Kisti-

11. Font-i-Furnols & Guerrero 2014.

12. Brynne 2020; CBC News 2021.

13. Dryden & Rieger 2020.

ganwacheeng's, or Garden Hill First Nation's, deep-rooted relationship with land, animals, and people.[14] "This cultural foundation includes the knowledge of wildlife behaviours in their habitats, as well the protocols, including ceremonies, required to hunt, fish, trap, gather, and live on the land".[15] In this regard, relationships with people, animals, and the land are meaningfully interconnected, and eating meat reflects these bonds.

The type and qualities of meat available to people in institutions and at public gatherings can also selectively invite and exclude people. In their study of the halal food market in Canada, Adekunle and Filson regularly learned from Somali-Canadian participants that having halal options readily available in supermarkets would make them feel more included.[16] Food nourishes bodies, as well as communities, and integration and inclusion matter.

People express who they are and interpret each other through eating practices, and this includes if and how people eat meat. Gender expressions are associated with meat eating. A "strong man" **script** associated with meat eating links consumption to aggression, strength, and virility.[17] There are multiple scripts at play at any one time, which inform how people should act in different lived contexts,[18] and gender expressions around meat intersect with sexuality, class, race, and ethnicity. When a study about vegetarians and vegans seeking sexual partners with the same eating habits made global headlines, both journalists and commenters responded rudely, with some commentators threat-

14. Thompson, Pritty &Thapa 2020.

15. Ibid, 228.

16. Adekunle & Filson 2020, 17.

17. Sobal 2005.

18. Ibid.

ening sexual violence against non-meat eaters.[19] The pressure to eat meat, often illuminated when people are prompted to explain why they are *not* eating meat, underscores "how much attention we [in society] pay to what we're eating—and what everyone else is eating—and how that obsession affects other aspects of our lives".[20]

Meat eating can be a polarizing topic. Meat eaters have been vilified as cruel and savage, and non-meat eaters as militant and hyper-sensitive.[21] Contention sometimes emerges in discussions amongst "those who think meat will destroy the planet and those who believe that…livestock can heal it (and of course those who prefer not to think about the issue at all)."[22] Discussions about meat can target people's heritage and identities in ways that may not be obvious to the critic, but are degrading to those who are targets of comments.

CONCLUSION

This text introduced readers to ways in which meat is an substance produced through work, work that is influenced by governments' and businesses' different interests. It also showed how meat is an substance that calls forth reactions from people, that people use to make value-based inferences about one another, and that can nourish us physically, culturally, spiritually. Meat is socially embedded, as our relationship with it is entangled with our political, economic, social, and cultural relationships with other people. In this regard, meat is an object of considerable complexity.

19. Potts & Parry 2010.
20. Ibid, 65.
21. Weis 2015.
22. Mason 2021.

Discussion Questions

- Think of an advertisement or promotion for meat-based foods (including packaging messages). What claims are made about the food? Who is depicted (e.g., farmers, families, eaters)? How would you describe the social demographics of the people who are depicted (e.g., gender expression, ethno-racial heritage, class, sexual expression)? How would you describe their attributes (e.g., knowledgeable, trustworthy, happy)?
- When marketers transmit messages about food products, they also transmit ideals about who people are and how they should act. What can these ideals tell us about the **scripts** that have traction in society? Why might it be important to pay attention to script patterns in advertising?

Exercises

Looking at Daily-Protein Consumption

Have a look at the "protein" section in Canada's Food Guide. Based on the visual display, think of what proteins you have eaten today and consider:

- What have you eaten that is represented in the Canada Food Guide?
- What have you eaten that was not represented in the Canada Food Guide?

- Why are there differences?
- How do the differences between the Guide's dietary recommendations and your everyday eating patterns highlight the challenges involved in making and adopting recommendations?

Mapping Environmental Racism Through Slaughterhouses

In this exercise, you will adopt an environmental racism approach to examining where slaughterhouses are in your area. The aim is to begin to identify if/how neighbourhood demographics—such as race and class—are predictors of where meat-processing facilitates are located.

- Using Google Maps, find the slaughterhouse nearest to your home using the following search terms: "slaughterhouse", "abattoir", "meat packer", or "meat processor". Write down the postal code.
- Go to the 2016 Statistics Canada Census Profiles and under "Search" click on "Postal Code." Enter the postal code of the slaughterhouse you located. You may have many additional geographic options to choose from. Try starting with "federal electoral district."
- Have a look at the demographic information. A lot of information is provided—be prepared to scroll down the page.
    - Do a keyword search for "median total income." When you find it, write down the figure.
    - There are a variety of demographics related to heritage, and they are not perfect indicators. Nonetheless, you may want to start by writing down the "total population estimate" reported, the "total visible minority population" reported, and the total who indicated "Aboriginal identity." If

you divide the number you wrote down for "total visible minority population" by the "total population estimate" and multiply by 100, and follow the same step for "Aboriginal identity," you will be able to compare demographics later.

- Next, enter the postal code of your home. Compare demographic information based on the steps you took to examine demographics related to the nearest slaughterhouse.

Compare income and ethno-racial demographic patterns. What similarities and differences do you observe? Compare your findings with others in your course.

Additional Resource

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CASE: FOOD AND ART

EDWARD WHITTALL

MEAT/DRESS

Edward Whittall *(he/him/his) is a Learning Experience Designer based in Toronto. A former scholar of food and performance, he has published research in areas of food, art, and urban politics.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe some of the ways that food art has provoked debate, discussion, and criticism about both art and food,

as well as other themes.

- Use ideas about place, time, material, and space to investigate the relationship between art and food.
- Critically reflect on conceptions of art, food, and food art.

FOOD AS ART, ART AS FOOD

Lady Gaga wore a meat dress to the 2010 MTV Awards. She was criticized by People for the Ethical Treatment of Animals (PETA) and lauded by celebrity chef Fergus Henderson[1]. Was the dress art? Was it food? Was it protest, or was it waste? The answer might be yes to all of these questions. Regardless of where you land, the question of how, and even *if* art can be made from food and food from art deserves attention.

Another meat dress appeared in the art world in Canada in 1987. Jana Sterback's sculpture, *Vanitas: Flesh Dress for an Albino Anorectic,* consisted in a dress fashioned from 20kg of raw skirt steak and hung for display in a gallery or, in photographs, modeled on the body of a live, female model. "The material becomes part of the idea," Sterbak said[2]. Taken as a whole, wrote Jennifer McLerran, *Vanitas* parodies the expectation that women provide sustenance for others at the expense of their own self-nurturing; "Sterbak's work thus becomes a form of viable resistance to patriarchal oppression"[3].

When *Vanitas* was mounted at the National Gallery of Canada in 1991, it was met with patriarchal resistance in the form of Felix Holtmann, a pig-farmer-turned-Conservative-Party-MP who

1. Winterman & Kelly 2010.
2. Quoted in McLerran 1998, 538.
3. McLerran 1998, 537

sat as chair of the parliamentary committee overseeing funding for the Arts in Canada. Holtmann was offended on behalf of "people who hold food sacred in this land," suggesting that the rotting of food was "an insult to the poor in tough economic times"[4]. Curator Diana Nemiroff fired back, suggesting that people were upset "not because meat is food but because meat is flesh"[5].

But steak, unlike the human flesh to which Nemiroff alludes metaphorically, is *also* food, even within the powerful confines of the National Gallery. Johanne Lamoureux points out that Hoffmann, though known for his "ridiculous" attacks on the arts in general, made arguments against *Vanitas* that should not be lightly dismissed, given his expertise in meat production and distribution. Neither disgusted by the meat, nor concerned that its use in art robbed local food banks of needed supply, he instead focused his displeasure on meat's normal use and place: it should be on a butcher's counter, not in a museum[6].

Barbara Kirshenblatt-Gimblett suggests that food can only become art when it is "dissociated from eating and eating from nourishment"[7]. But if we think about a marble sculpture, would we argue that marble can only be art when it is dissociated from being a floor? Avant-garde artist Marcel Duchamp famously mounted a urinal in an art gallery, with the defense that because it was an object chosen by the artist and mounted in a gallery, it was indeed art[8]. But it also raised the question: what is art, anyhow?

4. Rowley 1991.

5. Ibid.

6. Lamoureux 2000, 17.

7. Kirshenblatt-Gimblett 1999, 3.

8. Mann 2017.

Some might imagine that art should exist outside the realm of moral, political, financial, or even practical value: Art for Art's Sake, in other words. But the cultural forces that define one thing as art and another as urinal shift over time and place. Many contemporary Western art forms invite contact—touching, smelling, tasting, hearing, and moving in and through the artwork. The centre of the art experience is now less the object of our attention, and more our bodies and selves as we engage in the aesthetic experience.

Food is always an aesthetic experience, whether it is eaten in a museum or at a sidewalk stand. In many ways, food has less become like art than art has become more like food. The debate over the meat dress brought these questions to the forefront. Where does food become art, and where does art become food? Yael Raviv describes food art as a creation that "gives the diner pause and makes her think"[9]. If the value of bringing food into the museum lies in helping us think differently about our relationship to it, perhaps, then, it also helps us question our relationship to art and, ultimately, to each other and to how and where we live together.

Epilogue: What happened to the meat dress?

The power struggle to declare the meat either art *or* food came to a head when a City of Ottawa medical officer, on the order of a local councillor, closed the gallery for a health inspection. "The inspection revealed no health hazard at this time," Dr. Edward Ellis declared—dramatically, one hopes. Finding that meat on display was safe as long as it was neither touched nor eaten, the exhibit was reopened[10], and the dress was thus declared by competing institutional powers as *both* meat *and* art. It remains pre-

9. Raviv 2010, 14.
10. Globe and Mail, 1991.

served to this day in the collection of the Minneapolis Museum of Fine Arts.

Discussion Questions

- How does the museum help make food into art? (Think about the ways the museum supports and creates the experience of art, such as lighting, display, programs with descriptions of the work.)
- How does the "butcher's counter" or food store support or create the experience of food? (Again, think about the concrete things stores do: signage, display, lighting, descriptions.) What are the similarities to a museum? What are the differences?

Exercises

What is *art* when it is made with food and what is *food* when it is turned into art? The exercises below are designed to prompt debate and discussion.

Working with a partner or a group, tackle one of these frameworks. You can collaborate on a mind map, Google Slides, a virtual white board, or sticky notes on a wall. When each group is done, present the findings and discuss as a class.

Framework #1: The idea of "Art"

The word "art" often leads us to the word "museum." Perhaps we think of objects like paintings, photos, and sculptures. Perhaps we think of events like performance art, or immersive installations that engulf us as we move through them. Regardless of where your

experience takes you, you might recognize some differences between objects and events. Here are four areas to frame your research and discussion:

- Place: Does art only happen in a museum? Where else might you find it? What are the differences between places you find art? Here, you can think about things like admission fees, architecture, outdoors vs. indoors.
- Time: How is time part of an art experience? Has the 'art' already happened somewhere else? Is it happening now? Will the art be there tomorrow, or will it be gone? Is it being preserved or is it going to disappear over time? Can the 'art' happen again?
- Material: Is there an object? Does the 'object' change? Does it stay the same? Is it art if there is no object at all?
- Space: Does the 'art' ask you to move through space to experience it? Can you touch, smell, taste, or hear the art? Do you have to stay at a distance?

Framework #2: The idea of food

Ask the same questions about food.

- Place: Restaurants? Farmer's markets? Museums? How do different places create different ideas of food? Is there a difference between eating 'art' in a museum exhibit and eating 'food' in the same museum's restaurant?
- Time: What kinds of times are involved in food? Growing, harvesting, cooking, serving, eating, wasting (don't we waste time too?). Are all these times the same? What about preserved food? 'When' is a pickle?
- Material: Food is a material. But what about food that you see on television? Are you consuming it the same way as you might at home? What happens to food when you cook it? Does it stay the same, or does it transform?

- Space: You eat food, serve food, buy food, and make food for yourself and others. How is space used in a restaurant? A cafeteria? A supermarket? A farmer's market? How does space create different ideas of food?

Framework #3: Food as art

Use the internet to find examples of food art. Download pictures and use them on your discussion board.

- Place: Where is the art happening? Museum, gallery, restaurant, an open field? What does the place tell us about the art?
- Time: What is the timeframe for the art to happen? What happens to the art over time? Does it end? Does it stay around? Is the art related to harvest? To consumption? To waste?
- Material: Is the food in the room? Can you touch it? Eat it? Smell it? Is it just being watched? What happens to it? Does it change? How?
- Space: Where is the food in the space: on a table, a wall, a podium? Do people have to move through the space? Are they seated? Close to the food, far from it, or both?

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IAIN DAVIDSON-HUNT; KAITLYN DUTHIE-KANNIKKATT; AND SHANNON BAHUAUD

STRENGTHENING PLACE-BASED FOOD SYSTEMS: LEARNING FROM ORGANIZATIONAL RESPONSES TO THE COVID PANDEMIC IN NORTHWESTERN ONTARIO AND SOUTHERN MANITOBA

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ico, Central America, and Latin America. He is a professor at the Natural Resources Institute, University of Manitoba.

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Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe actions of local organizations to support food security during the COVID pandemic.
- Explain limitations of existing local food systems to meet food security needs through local/regional procurement during a crisis.
- Articulate the importance of building place-based food networks and infrastructure prior to a crisis.

INTRODUCTION

The COVID pandemic provoked a crisis that was amplified by inadequate political responses from institutions and leaders. It

changed how we interact with one another and disrupted **local food** systems, causing challenges for **community food security**, especially among the most vulnerable in our communities. While many of us were required to continually (re)adjust to an ongoing public health crisis throughout the pandemic, it has become clear that community food security in future emergencies will require better collective adaptation strategies. COVID has illuminated a dependence on **global food systems** to meet the food security needs of local communities as they face **procurement** disruption in the supply chain. Therefore, we need to critically reflect on how our food systems are constructed and deliberate about the best course of action for building **regional food systems** and **place-based food systems** that meet community food security needs during a crisis. Such reflections should include the lessons learned by community organizations who were on the front lines of the pandemic.

In this Case, we present results from focus groups conducted by a group of diverse organizations in Kenora, Ontario and southern Manitoba to understand how they supported food security during the summer of 2020, under the "new normal" brought on by COVID. Project partners included a range of community groups, service providers, cooperatives, and farmers' associations committed to building community food security and sovereignty through stronger place-based food systems. The project provided organizations with the opportunity to undertake a process of self-reflection on their responses to the COVID pandemic, identify existing strengths that supported their approaches, and isolate barriers that inhibited their efforts to adapt to the disruptions.

METHODS

Following the principles of **community-based research**, the project grew out of relationships built amongst members of the

Food Systems Research Group at the University of Manitoba, which comprises university faculty members and graduate students, as well as local food organizations. In the early days of the pandemic, Iain Davidson-Hunt convened an online meeting with organizations involved in supporting local food efforts in the region and the idea emerged to work together to develop a self-reflection guide. Following this, a self-reflection workshop was undertaken by the organizations, supported by a research assistant. Kaitlyn Duthie-Kannikkatt led this process as described below. Given than there are few organizations involved in local food efforts in the region, all were invited to participate and all but one undertook a self-reflection with their members. The organizations involved included Harvest Kenora, Kenora Association for Community Living, Fireweed Food Co-op, Direct Farm Manitoba, and the Winnipeg Food Council. (See details at the end of this chapter.)

These local food actors led their own workshops with their boards of directors, management teams, and front-line staff. During the workshops, each group documented how their organization responded to the pandemic and what opportunities and concerns emerged out of this challenging experience. Strengths and barriers that impacted their work were also identified. All the workshops followed a self-reflection guide that was co-developed by all project partners (Indigenous and non-Indigenous organizations) during a virtual workshop held during the summer of 2020. Facilitators from each partner organization adapted and personalized the guide to suit their unique contexts. Designed using a community-based approach, the workshops provided opportunities for participants to reflect on their own responses to the pandemic and produce meaningful feedback to incorporate into their future work. Reports were then written up by the research team and provided to the organizations for their own uses.

Organizational Responses to COVID

Given that all the partner organizations work on place-based food systems, it was not surprising to find that responses were diverse, responding to contextual factors such as their organizational missions and the needs of the people they support.

An imperative first step for many organizations was to get government bodies to deem farmers' markets and community gardens essential services. This made it possible for them to remain in operation when other businesses and services were shut down to reduce the spread of COVID. The government recognized that, given the increased demand for local food, this would be an important year to grow the local food sector and support local food security through various means. This led to one organization partnering with the City of Winnipeg to provide physically distanced drop-off zones across various city facilities, so that markets and farmers could sell directly to consumers. This partnership, coupled with increased demand for local food, also helped them to quickly circumvent urban agriculture zoning bylaws and develop new community gardens.

Supporting individual households in growing their own food was important for many, both for increasing access to fresh produce and for providing a safe(r) outdoor space for socializing when gatherings indoors became more difficult due to the pandemic restrictions. One example comes from a community organization in northwestern Ontario that encouraged households to grow their own "resiliency gardens" using the containers and yard space that were available:

> *[We] tried to build resiliency within our community... by equipping people to grow food for themselves and have the skills to do so. We really wanted people to take a look at things positively, and the idea of the resiliency garden was that gardening is a*

really positive thing to do for yourself and your community, and [it] can give you some purpose. Although we may not have been able to bring people to our [collective] garden, we opened up lines of communications by talking with people about what they were growing in their containers through online platforms we created.

For organizations that already focused on local food distribution, many had to respond to the pandemic by adapting the way they served their clients and organized food orders to follow physical distancing measures and new public health guidelines. Some switched to online ordering, organized curb-side pick-ups and deliveries, and moved to larger facilities to allow for better physical distancing among staff and clients. Some organizations benefitted from existing relationships with larger facilities by sharing infrastructure to increase available space for food storage. These partnerships also allowed for the introduction of additional locations from which customers could access food. Many of the organizations were able to hire more staff and secure more volunteers who were keen to support local food security during a time of need. This helped manage the increased workload that came with their increased capacity to distribute food.

Another response common among urban food organizations and communities in Kenora was the preparation of food hampers. Some organizations found ways to tap into their broader social network to reduce food waste while increasing food access to individuals. One Winnipeg food cooperative teamed up with an emergent community network (dedicated to mutual aid) to assemble hampers that diverted their farmer members' fresh produce—originally intended for restaurant supply chains—to people facing food insecurity. This ensured that food, which would otherwise be wasted due to decreased demand by restaurants, could be used by people in need. Another organization created a program that worked to connect food insecure individuals

and families directly with local small-scale producers that could provide them with fresh, locally grown food at low or no cost.

Many of the organizations found that the pandemic helped to illuminate the importance of food security and legitimize their previous work. As one organization in Winnipeg reflected:

> *Because of COVID-19, [we] seemed to become more active and more visible. The pandemic added to the urgency of our work and increased our presence both at City Hall and in the community. Previously, food council work was left out of city reports. The awareness of the food council is much higher now.*

Even organizations that had not received much broader recognition of their work were able to respond to the pandemic by expanding their network and deepening relationships, thus increasing their ability to provide better food security programs and initiatives in their regions.

Strengths and barriers

Flexibility, adaptability, and strong relationships were some of the key strengths identified by the participant organizations as critical for the success of their efforts to support food security within their communities. Even amidst rapidly changing regulations and evolving community needs, local food actors found ways to adapt their models to fulfill the needs of their communities. From delivering food products directly to consumers to piloting online ordering systems, people involved in building place-based and regional food systems worked to continually adapt their approaches while following public health orders. Had they not already built strong relationships with those they served and worked with, many of these efforts may not have been possible to achieve.

A few organizations found that preexisting relationships with their municipalities helped them access essential resources, such as free water for a community garden. In another case, having established connections to city councilors and public servants helped raise an organization's profile at city council. Farmers who were members of one organization found that their membership fostered a culture of collaboration among farmers with whom they would have previously been in competition. To help with the transition of delivering food to customers, some farmers purchased food from one another to resell. This helped to increase their sales by extending what they had to offer while helping their competitors access broader markets. For example, some farmers formed a mutually beneficial relationship by including vegetable boxes from other farmers in their meat and cheese deliveries, which increased efficiency and value to their deliveries through the sharing of delivery costs, while creating a value-add for their customers.

While adapting to a new way of living and doing business brought about positive responses from local food actors, each organization also faced considerable challenges. For example, many farmers pivoted their business models to focus more on **direct marketing** to consumers because, while demand for local food increased, changing pandemic restrictions made it difficult to rely on farmers' markets staying open when COVID case counts began to rise. Some farmers who relied on restaurant sales saw their sales dramatically decrease as restaurants remained closed. This uncertainty made it difficult for farmers to plan. Unfortunately, this shift to direct marketing also meant that many producers—who would usually sell their food through markets or cooperatives designed to facilitate restaurant sales—were no longer able to commit to selling through those avenues. The effect was that cooperative business models sometimes became more precarious.

Other organizations also found that funding and resource capital was a limiting factor in what they were able to accomplish, as they spent time and resources applying for additional funding that could have otherwise translated into programming. New initiatives and programming required greater resources in order to adequately support their members, clients, and customers. These resources were difficult for some organizations to acquire. One organization found that a lack of support from government, in combination with restrictive policies and regulations, limited their capacity to **scale up** production to meet local market needs.

Emerging concerns and opportunities

For local food actors, there is still concern over the accessibility of local food in their region. As an urban food cooperative in Winnipeg observed:

> *Farmers are working hard to build community relationships and support people through this crisis by increasing access to local food. But there is a concern that those who are accessing local food are the ones who have the capacity to find it, travel to it, and, of course, pay for it.*

Many identified a need for a regional food strategy that can recognize existing capacities and gaps in the region's food sector while engaging producers, distributors, and consumers in finding a path forward that enhances community food security. Doing so would support those who make a living producing food. Local producers expressed wanting to be better supported in making their products more accessible. However, as long as the agricultural policies and programs in Manitoba are focused on **export-oriented agriculture**, small and medium farmers will not receive the policy and program support they need to make local food more accessible.

In the case of farmer-member organizations, increasing production limits is another avenue that could allow for small-scale producers to scale up in manageable increments. This means that policies currently suited for large-scale production must be adapted in ways that can work for small-scale producers in order to support them in producing food for local consumption. The need for policy changes also applies to zoning by-laws to support community gardening initiatives as part of a regional food strategy. This would increase the ability of organizations and individuals to utilize public greenspaces for urban agriculture to make place-based food more accessible to those who may not have the capacity to afford or to travel to local food markets.

Despite the noted challenges, organizations and community groups saw positive outcomes emerge out of the COVID pandemic. Increased collaboration and new ways of operating came about through existing networks as well as the strength and adaptability demonstrated by local food actors in the face of adversity. For example, members of a small farm organization began to work together in a more intentional way to come up with solutions that were mutually beneficial. Existing networks among food actors that were usually used for information sharing, policy advocacy, and the running of farmers' markets were activated to play other roles as the pandemic unfolded, such as resource sharing and marketing collaboration. This resulted in being able to increase their capacity as they tried to meet rising concerns about food insecurity coupled with an upsurge in demand for local food. Many of the organizations found that their networks helped them to create productive responses to food security in the pandemic that they intend to continue with in the future. For example, new programs were developed to educate and engage individuals in growing their own food, while new garden spaces were created to support these initiatives. Some farmers who began using new networks and means of sell-

ing their products found they gained new customers who in turn were happy with their ability to acquire local food.

CONCLUSION

The responses of local food actors to COVID were shaped by existing relationships and their ability to adapt to changing needs. These relationships helped many organizations have access to much-needed infrastructure and resources that helped them navigate their varying responses to pandemic restrictions and public health guidelines. However, the capacity for local food systems to scale up and distribute regionally did not match the needs of urban food programs as they scaled up their purchasing during the pandemic to support community needs. Many local food actors experienced roadblocks in meeting the needs of their members, clients, and community when faced with policies that prevented an increase in production of local food. Moving beyond the local to think about regional food systems that can support procurement is necessary to build regional, place-based food systems that will be able to respond to crisis in the future.

Regional, place-based food systems may be critical in providing accessible and nutritious food, but they also work to enrich community networks, support holistic approaches to wellness, and recognize our interdependence as producers and consumers. There is still much left to be done when it comes to building necessary infrastructure, skills, and regional networks of place-based food systems that can contribute to food security and meet community aspirations of food sovereignty. Local food actors and service providers are highly adaptable and intimately understand community needs as members of the communities with whom they work. But the ability for local actors to scale up food programs and meet local demand during the pandemic was highly dependent on the availability of existing infrastructure and networks. Regional food strategies could play a role in

understanding what infrastructure and policies need to be in place to support regional food suppliers in scaling up to meet regional food demands generally, and specifically during a future crisis.

Discussion Questions

- Who are some of the local food actors in your community/region? What kind of work do they do to enhance local or regional food systems in your area?
- If another crisis like the COVID pandemic were to strike again, what kinds of local food infrastructure would your community need? Think about infrastructure that might support consumer food security as well as producer livelihoods.
- How can procurement be used as a strategy to support local and regional food systems?

Additional Resources

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RESEARCH PARTNERS

Kenora Harvest is a collective of local members who manage a micro-farm and work together to promote community gardening initiatives in and around Kenora.

Kenora Association for Community Living employs over 200 people to advocate for social equity and support healthy living in Kenora. They partner with other local organizations while providing support and services to

children, and to adults with mental health needs and developmental disabilities.

Fireweed Food Co-op is a non-profit co-op made of producers and consumers of small-scale, local and sustainably produced food in Manitoba. Their aim is to produce a resilient and collaborative regional food system that promotes fair labour and regenerative ecological practices.

Direct Farm Manitoba is a member-owned co-operative in Manitoba that focuses on farmers' markets and direct-marketing small-scale producers to consumers.

Winnipeg Food Council is a council of citizens who sit as an advisory committee on food system-related issues for Winnipeg City Council. They work to improve public health and local food security, community food issues, and increase food literacy.

RYAN KATZ-ROSENE; ANDREW HEFFERNAN; AND ANIL ARORA

ANIMALS, PLANTS, AND LABORATORIES, OH MY! PERSPECTIVES ON SUSTAINABLE PROTEIN TRANSITION

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Anil Arora *holds an MSc in Environmental Sustainability from the University of Ottawa, where his research focused on the challenges and opportunities of an environmentally motivated meat tax in Canada for climate change mitigation.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Describe the diverse array of protein-rich foods and the wide range of existing protein production and consumption practices.
- Explain how the context of a specific protein food's production profoundly shapes its environmental impact.
- Situate contemporary discourses about "protein transition" in relation to three core visions of a sustainable future.

INTRODUCTION

Our world is changing rapidly, and the human relationship with protein—an essential macronutrient in our food—is changing rapidly too. Today, if you buy beef in Europe, there is a decent chance it is from cattle raised in Brazil (or from European cattle fed soy grown in Brazil), a country with troublingly high rates of deforestation. If you purchase almonds, chances are the nuts

were grown in California, where drought is putting major strain on the water table. Order a plant-based *Beyond Meat* burger at a fast food joint in North America, chances are it was put together at a factory in Missouri using protein isolates from peas grown in the Canadian Prairies, where high rates of herbicide and pesticide use are degrading regional grassland ecosystems. Just about all types of protein foods are implicated in various environmental challenges, be it climate change, land and water use, or various forms of pollution.

Protein has become the unwitting focus of a range of agri-food sustainability debates, in part because it comes in many different forms, and the contexts of its production and consumption are so varied. Whereas a century ago, most humans derived their protein from minimally–processed animal, plant, and insect sources produced or gathered in (mostly) localized, traditional agricultural contexts, today the situation is much more complex. Technological innovations have enabled humans to produce proteins that are far more synthesized and processed than straight-up meat, nuts, and legumes; we now have novel products like synthesized plant-based proteins that are combined with other ingredients to look, feel, and taste like meat, as well as animal **cell-cultured meats** that are produced without animals at all. Moreover, industrialized farms have increased the distance between food producers and consumers, which, when combined with increasing global trade flows, has created a truly global diet.

In recent years, a number of institutions committed to sustainable development have advocated for a global "protein transition," which generally entails a shift from diets centred on animal-sourced proteins to diets centred on plant-based proteins, or other "novel" proteins (like cell-cultured meats, insects, etc.). The proposed protein transition is not only a response to the need for an environmentally sustainable food future, but also to the need for a range of interconnected sustainable devel-

opment objectives implicated by protein production and consumption, including improving food security and tackling malnutrition.

In some wealthy countries there has been a noted trend toward increasing protein intake (in part, as people try to steer away from processed sugars and carbohydrates). The U.S. Dietary Guidelines suggest healthy adults should consume 0.8 grams of protein per kilogram of bodyweight daily, and many in the Global North now consume *more* than that. As part of the protein transition, therefore, some people call for reductions in protein consumption in countries where it is far above recommended intake values, with corresponding increases in parts of the world where current protein consumption is deficient.

Generally speaking, animal-sourced protein foods are more resource-intensive to produce than plant-sourced or novel proteins: they tend to require more land and water, and result in higher greenhouse gas emissions, per kilogram of protein produced. There is also growing concern and awareness about animal welfare in protein food production. Moreover, much of the nutrition literature suggests that practicing plant-rich diets results in positive health outcomes. Nevertheless, as hinted above, the global protein food system is complex, muddied by different contexts underlying protein production. There are also various definitions of what constitutes "efficient production" and further differences within socio-political and economic priorities regarding the agri-food sector. These differences are influenced by diverse culinary cultures, and even different interpretations of the nutritional value of different protein foods and their common-paired nutrients (the other vitamins, elements, and fats that are embedded in foods besides protein).

In other words, we see a range of perspectives and disagreements around the world about what actually constitutes a "healthy and

sustainable diet," particularly when it comes to the role that protein foods ought to play. As a key example, in 2019, the World Health Organization was compelled to withdraw its support for the well-known EAT-Lancet Commission's Planetary Health Diet, after some national representatives to the UN argued that the plant-rich diet could negatively affect people's health and livelihoods.

It is thus not surprising that we often hear contradictory information about the future of sustainable protein. On one end of the spectrum, the livestock industry communicates messages about how they are **maximizing efficiency** and introducing new technologies that enable meat and dairy to be produced in environmentally friendly ways. (See this ad from Planet-Smart Dairy.) On the other end, vegetarian and vegan diets have been proposed as solutions to the current climate crisis, leading to promises by food tech start-ups about the marvel of cell-cultured meat, and how it will one day replace the protein we get from animals entirely. (See this video clip from Eater.) Situated somewhere in between, many recent documentaries about **regenerative agriculture** speak of the potential to produce protein foods while sequestering carbon and regenerating ecosystems, inspiring consumer interest in pasture-raised, locally sourced, and ethically produced meat. (See the trailer for *Kiss the Ground*.)

CURRENT DEBATES

The world of protein is muddied by different contexts, perceptions, and objectives. It thus becomes difficult to say whether a given protein food is necessarily 'good' or 'bad', because there are so many underlying contextual factors to consider. As an example, beef and dairy are typically identified as a problem for the climate, biodiversity, food security, and health, because ruminants (the suborder of species from which we derive beef and dairy) produce a lot of methane and use up a lot of land relative

to other types of food production. As well, red meat contains saturated fats, which have been associated with a higher incidence of cardio–vascular disease (CVD).

Nevertheless, there are also various contexts in which beef or dairy may be understood as *useful* in the effort to tackle climate change and biodiversity decline, improve food security, and improve health. Some forms of cattle production—for instance, in **silvopasturing** and in some rational grazing operations—have been shown to have high rates of soil carbon sequestration, and may enable the sharing of food production with biodiversity-rich land. Because ruminants eat grass, they can support food security in marginal lands that are not conducive to crop production. And because ruminant food is relatively nutrient–dense and incorporates high quality **complete proteins**, a small quantity of it can pack a significant nutritional punch, which can be especially helpful in areas of the world facing nutritional deficiencies. All this to say, the example of beef and dairy alone points to an underlying complexity that may shape a range of competing perspectives about the most 'ideal' future for protein, depending on what parameters are assumed for sustainability in the first place. Here we identify three starkly different visions of the future of sustainable protein.

Repairing Protein

First, there are those who seek to 'repair' the existing problems relating to the protein food system through a variety of approaches grounded in technology and modernization. This vision emphasizes technological solutions at the level of food production, rather than consumption–based solutions seeking to change individual behaviours with food. Proponents of this vision acknowledge that the conventional protein system has some sustainability challenges, but do not feel these problems are insurmountable. Instead, this group sees protein transition

as incorporating the best of science and innovation to make our existing socio-cultural practices around protein more sustainable. These include things like using feed additives to minimize methane emissions from livestock, developing genetically modified products for higher–yield protein crops (requiring fewer inputs), as well as various on-farm efficiencies and innovations to minimize the energy and resource inputs. Those in this camp are skeptical of the idea that a majority of the world will willingly embrace plant-based diets. Similarly, they accuse proponents of the local, organic food movement as being eco-romantics, who offer false solutions that cannot feed the world's growing population. The best way forward, they say, is to push industrial agriculture forward, fixing those parts of the agri-food system that require repair, while overall benefiting from a globalized and highly modernized protein food system.

Replacing Protein

Another approach seeks to overhaul the protein system in a more comprehensive way. Rather than simply improve upon the efficiency of protein production, those in this group advocate replacing our typical proteins sourced from *animals* with various forms of plant-based proteins and novel protein products instead. This includes high–protein pulses (such as lentils, beans, and peas) but also synthesized plant-based products such as the plant-based 'meats' noted above. Beyond these, some within this camp also support lab grown or cell-cultured meat grown in a lab, without many of the harmful **externalities** produced on farms raising livestock. Yet another approach that many in this camp support is entomophagy (insect eating) in Western countries, which is already a much more common practice in much of the rest of the world. Those in this school of thought are skeptical of the extent to which "greening" can truly be accomplished in the animal agriculture sector. They argue that a diet featuring a wide array of plant-based proteins is perfectly capable of deliv-

ering all the essential amino acids required for human development. A radical reduction in animal agriculture, they say, would free up land, which could in turn support biodiversity and massive amounts of carbon sequestration. Protein transition, then, should accordingly focus primarily on swapping out animal proteins for equivalent alternatives wherever possible.

Restoring Protein

The third main approach to the protein sustainability problem consists of "restoring" a more holistic balance between humans and the food they eat, particularly in highly industrialized countries. This camp is concerned with the growing gap between people's plates and the sites of food production. This has led to the over-industrialization of agriculture and the unsustainable, unhealthy diets centred on overly processed, nutritionally void and culturally inappropriate foods that could come from anywhere on the planet. Restore advocates place an emphasis on maximizing biodiversity and natural resilience, and using geographically appropriate methods in food production processes. Such proponents share **permacultural** beliefs around the important role that animals play in biodiverse and complimentary food systems: for instance, poultry and pigs can eat food scraps or insects (helping to reduce agri-food waste and supporting natural pest management), while ruminants can help to fertilize pastures or cropland while providing nutrient-dense meat and dairy. A diet centered on an array of whole, fresh, localized foods is also interpreted as the best way to support the objectives of food security, community development, and balanced nutrition. For proponents of this vision, protein transition is about restoring production and consumption practices to ways that are inherently sustainable: buying locally and seasonally available products and using regenerative techniques that sequester soil and use animals in ways that compliment food production. (See the Future of Protein video project.) Unsurprisingly, this view-

point is deeply skeptical of the claims made by proponents of cell-cultured meats, arguing that such 'lab meats' are unnatural, unnecessary, energy-intensive, and part of a push to further corporatize the food sector.

DISCUSSION AND IMPLICATIONS

While there seems to be a concerted effort to embrace some form of "protein transition" within the context of sustainable development, all three pathways characterized above interpret transition in different ways. As we have shown, protein itself conjures up different relations for different people, and so the best pathway forward manifests itself differently in different places and spaces. These competing sets of interests, desires, and contexts are further complexified by the different relationships among people around the world, based on food cultures, historical, and political economic contexts. Food is such a central part of every human's life, and of every society and culture, that any major shifts raise difficult questions of *how*, *why*, and even *whether* they should be carried out.

So where do these complex challenges and choices leave us? Should we all go vegan? Or is there a benefit to keeping some animals in the food system? Are there benefits to leaving animal foods in the global diet, given the different access to common-paired nutrients and complete, useable proteins? Estimates of the number of people worldwide who are involved in some form of pastoralism or animal husbandry range from 100 to 200 million. What would stopping the production and consumption of animal products mean for them? Furthermore, if we were to start eating entirely lab–grown meat in place of animal-grown meat, would this mean that production would be centred evermore in the hands of a very small number of food producing corporations?

For some, the big question is about how to achieve a nutritionally balanced and tasty vegan diet that still supports local food security. For others it is about defining culturally appropriate meanings for "plant-rich" diets. For others still it is about finding ways to make protein foods as sustainable as possible through efficiency improvements in production—repairing the wheel, not reinventing it. There are yet others who focus on the need to produce food for communities in ways that are resilient and that do not degrade agricultural ecosystems, with animal proteins considered to be an essential part of the larger farm ecosystem strategy.

Overall, we find major benefits to what could be called "**protein plurality**"—the idea that all three of the protein pathways identified above are simultaneously progressing at once. Such a multiheaded approach may seem contradictory, but the world of protein is complex, and a diverse set of well-intentioned pathways is one way of making sure we do not put all of our protein–sustainability eggs in one basket! Moreover, a plurality of approaches to protein transition is a better fit for a world featuring an extremely diverse set of preferred practices and objectives on protein, not to mention a world featuring a diverse array of protein-rich foods in the first place.

CONCLUSION

It is clear that the world faces a great number of challenges in relation to the protein food system. As it stands, growing populations are demanding more food, and specifically more protein, as large numbers of people continue to exit poverty around the world. This has created a multifaceted sustainability crisis that has led to a number of proposed solutions that can be said to fall within three pathways (which we have called *repair*, *replace*, and *restore*). It seems at this point that the world is pursuing all three paths at once, and we see this as both a natural human response

as well as a resilient approach that is most likely to achieve the variety of outcomes sought by agri-food decision-makers. It may just be possible to envision a future world in which everyone can have their protein—and eat it too.

Discussion Questions

- Which vision of a sustainable protein future ('Repairing Protein', 'Replacing protein', 'Restoring Protein'), do you find most compelling, and why?
- With some exceptions, most experts agree that the share of animal proteins in the diets of industrialized economies is now too high, and should be reduced for global sustainability. What kinds of policies might help bring about a reduction of animal proteins, and what kinds of challenges might such policies face?
- A considerable number of people around the world are employed in animal protein food production. The FAO, for instance, notes that livestock contributes to the livelihoods of 1.7 billion poor people in developing countries. By contrast, in the U.S. there are more than half a million workers in the meat industry. If we take it as a given that we need to reduce the number of livestock animals around the world to support sustainability, what might this mean for those workers? Do we need to think about transitioning workers from the livestock sector to other sectors (i.e., retraining workers in large meat processing plants; or creating incentives and training to facilitate a switch from livestock rearing to other types of agricultural production)?

- When it becomes available in grocery stores and restaurants, would you be willing to substitute your current meat consumption with cell-cultured meat? If not, what reservations do you have?

Exercises

The Future of Protein—Small Group Discussion

Watch the Future of Protein video and, working in small groups, consider the direction(s) you see for the future of protein. Is one of the approaches discussed in this chapter more prevalent than others? Is one approach more likely to persist than the others moving forward? Is there room for all three to persist at once? How do you think these pathways will change in the coming decades?

Marketing Protein Foods—Think, Pair, Share

In recent years, food producers and restaurants have shifted their marketing strategies, recognizing that consumers have become more attentive to the broader environmental, social, and ethical consequences of their food choices. Can you recall food advertisements that used terms like 'sustainable', 'grass-fed', 'regenerative', or 'free-range' to sell their protein food products? With a partner, discuss how the use of these terms influences your attitudes towards the food products being advertised. How are your experiences/attitudes similar or different? Be prepared to share your insights with the larger group.

Tracking Daily Protein Consumption Journal

Over a week, keep a journal to track the protein-rich foods you eat, being mindful of the factors influencing your decisions and how much information you have about *where* and *how* the foods were produced. For your first entry, reflect on the types of protein-rich foods you and your family consume. What types of protein foods (i.e., animal-sourced, plant-sourced, etc.) do you consume the most/the least? What factors typically influence your choices (i.e., price, convenience, taste), both at the grocery store and at restaurants?

Each day, document all the protein-rich foods you eat and answer the following questions:

- How does your protein-rich food consumption compare with the recommended daily intake of protein (in Canada, for instance, it is recommended to consume 0.8 grams per kilogram of body weight per day)?
- Did you acquire all the essential amino acids today? What about common paired nutrients (like fibre, vitamin B12, iron, zinc, fats)?
- How did your intake of protein-rich foods influence your intake of common paired nutrients?
- What factors influenced your choice of protein-rich foods today?
- Do you know where and how those protein-rich foods were produced?

At the end of the week, look back through your journal and reflect on your protein-rich food consumption patterns. Did anything surprise you?

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LAURA SHINE

CAN EATING INSECTS SAVE THE PLANET? INVESTIGATING BUGS' PLACE AT THE SUSTAINABLE TABLE

Laura Shine *holds a PhD in the fields of Food Anthropology, Food Marketing, and Sensory Studies from Concordia University. Her dissertation on edible insects, From Foe to Food: Entomophagy and the adoption of edible insects, examined the arrival of bugs on Québec plates. She writes, cooks and leads the non-profit Femmes Expertes, dedicated to amplifying women's expertise in the public sphere.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Critique sustainability claims used by some actors in the food industry.
- Articulate the risks of adopting single-focus solutions when addressing larger systemic problems.
- Explain how the material realities and symbolic representations of a food can overrun rational arguments about its benefits.

INTRODUCTION

Eat bugs, save the planet.

You've probably heard this catchy slogan or read something along the same lines. As North American and European eaters scramble to find more sustainable foods to fill their insatiable appetites, especially for protein, they're considering all kinds of avenues: soy, other legumes, algae, even lab-grown meats. Some of the more daring among them are turning to critters that have long embodied the epitome of the inedible: insects.

With their small size, their fast metabolism, their high **feed conversion ratio**, their capacity to thrive on a variety of foods, and their adaptability, bugs have convinced some advocates they are the greener alternative to industrially raised livestock. You can stack them in boxes, feed (some of) them your table scraps, raise them in an industrial hangar or even in your closet—as local as it gets. They're said to emit very minimal greenhouse gases and to consume a fraction of the food and water needed to raise the equivalent weight in cattle.

Sounds great, right? Maybe a little *too* great, in fact. There are many problems with this proposal. First, the actual benefits of eating insects are not that clear yet, and the ways in which they're currently promoted and sold aren't coherent with **sustainability imperatives**. Second, and perhaps most importantly, bugs are an extremely hard sell. Though about two billion people around the world consume them regularly and enthusiastically, most eaters in European-derived cultures consider them disgusting, dirty, and even dangerous, including many eaters from religious backgrounds. Indeed, kosher and halal laws do not endorse the consumption of some species or life stages, such as larvae. (Grasshoppers and crickets are generally considered acceptable, since they are explicitly referenced in sacred texts.) Because of these barriers, edible insects provide a rich case that illuminates the difficulties in changing food habits to incorporate more sustainable, or at least less environmentally destructive, behaviours.

In this chapter, I consider how the specific case of edible insects plays into notions of food sustainability and how the nascent related industry has integrated these assertions to promote its products. To do so, I examine the different types of products currently on offer by North American and European companies and the claims included in their marketing or labelling. I also draw on 27 interviews with stakeholders in the edible insect industry, including consumers, researchers, growers, and entrepreneurs, as well as fieldwork activities such as **participant observation** in industry gatherings and insect farms.

UNCLEAR BENEFITS JEOPARDIZE THE INDUSTRY'S CREDIBILITY

One of the central issues with promoting insects as a solution to environmental problems is that it's still unclear exactly how much more sustainable they are when compared to other animal protein sources. The research is still preliminary, mostly because insect farms are few and far between, their processes aren't standardized, and most facilities are too small to draw significant conclusions about their environmental impact. It's simply too early to accurately predict the industry's direction as it matures and scales up. It will certainly gain in efficiency and standardization—wherein different firms use processes similar enough that they can be meaningfully measured and compared in homogenous ways. But it will potentially lose, as most industrial production has, the capacity to balance out negative **externalities** as they accumulate. For instance, when grown in your cupboard, mealworms can eat all kinds of carrot tops and apple peels—a boon for sustainability when you divert those from the garbage or compost bin. When grown industrially for commercial sale,

however, each batch needs to be identical to previous ones for reasons of food safety and regulation, which means the insects need a steady and consistent food supply, not a haphazard waste stream. Many companies address this issue by feeding their bugs grains or chicken pellet–like granules, drastically weakening sustainability claims.

With the limited information we do have, we can ascertain that growing bugs is almost certainly better than growing cows, probably better than growing pigs, and potentially better than growing chickens. Yet this hasn't stopped many companies from taking such restrained conclusions and turning them into fervent marketing pitches, with very little regard for the accuracy of their claims. Statements on the promotional websites of four successful companies selling insect ingredients or ready-to-eat insect products illustrate this well. They compare insects and beef in terms of water usage, one of the numerous variables utilized to calculate environmental costs. Entomo farms (Ontario, Canada) boasts ratios of one unit of water for insects for 13 in beef production; Micronutris (France), of one for 50; Chapul (United States), one for 11.8; and Näak (Quebec, Canada), a whopping one for 2000. None of these companies cite a source, and the exact units of measurement they base their comparisons on isn't clear. Such problematic disparities undoubtedly undermine the edible insect industry's credibility: if they can't get their numbers right, why should we trust them to feed us a food that's already pretty unsettling? What's more, they distort public perception in an area already subjected to much dispute, confusion, and controversy. Beyond insects, anything that creates doubtful claims around food sustainability or resembles **greenwashing** runs the risk of undermining all efforts to lower the environmental impact of our foodways.

EXISTING PRODUCTS AREN'T COMPATIBLE WITH SUSTAINABILITY CLAIMS

Comparing different foods' environmental impact to decide which one is more sustainable means that, down the line, one food will be chosen *instead of* others. Insects are probably more sustainable than many animal products. The problem is that they're so dissimilar to meat that positioning them as a sustainable replacement is unlikely to convince you to ditch your steak or chop. From a sensory perspective, they don't look like meat, they don't taste or smell like it, and their mouthfeel is completely different. From a functional point of view, they're mostly incompatible too: unless they're ground into a patty with other binding ingredients, they can't be pan-fried to medium-well and sliced as a single uniform piece; they don't bleed or exude meaty juices; and they're a multitude of small bits rather than an imposing piece of meat you can saddle with potatoes and two veg. From a symbolic perspective, they lack the prestige and importance generally accorded to meat in European-derived cultures; in fact, they're seen as the opposite—as revolting famine foods.

Perhaps because of this incompatibility with meat, the edible insect industry has thus far mostly developed as a purveyor of foods to *add to* our already brimming plates, rather than as a replacement to unsustainable items. Though companies selling insect foods compare their impact to meat's, most of them sell products that never contained meat at all—mainly convenience or snack foods such as protein bars. Worse even, many others promote bugs as an *additional* source of protein, in foods such as brownie mixes, cakes, breads, or crackers. This fits in with the current popularity of protein as an additive in a number of foods that never contained significant amounts, catering to consumer demand and to marketing imperatives—even though a large proportion of North American eaters already consume close to twice the recommended daily amounts. But addding yet

more protein to our crowded diets undoubtedly makes them less sustainable, not more.

In short, chewing on an insect protein bar between two **carnist** meals or adding cricket meal to your banana bread won't stop global warming.

INSECTS ARE A TOUGH SELL

Beyond the number crunching, a fundamental problem remains with positioning insects as a sustainable food: in European-derived cultures, almost no one wants to eat them.

Influencing food choice is an extremely complex task, and rational arguments—such as increased sustainability—just don't work all that well. There is the theory—the top-down, logical calculation—and then the gritty, chewy, sensual practice of putting something in your mouth and swallowing it. Apart from some stringently "eco-aware" eaters, most consumers are primarily interested in the **hedonic qualities** of a food: Is this delicious? Do I feel good when I eat it? And no one can be expected to durably adopt a food they consider unpalatable or repulsive, no matter how environmentally conscious they are.

Yet many companies currently marketing insect products focus on abstract rational benefits rather than perceptible, measurable ones such as sensory pleasure. Most of them strive to mask the insect ingredient's sensory properties with the use of spices, sweeteners, or strong flavourings. Näak, a Montreal-based company selling protein bars, even noticed a marked uptick in purchases once they *lowered* the amount of cricket flour their bars contained. Their consumers preferred the taste and texture of better-known ingredients and bought more bars, even though the environmental benefit attributable to bugs was lower. Therefore, if sustainability is a driving concern, it cannot supersede

matters of taste and deliciousness; advocates need to focus on actual, perceptible benefits to the eater, not just the planet, if they want to foster real change in consumers' plates.

There is one other thing to consider in the case of bugs. The energy, time, and money required to convince consumers to adopt more sustainable behaviours are enormous. When you add a scary critter into the equation, it becomes a herculean task, so it makes sense to critically examine whether it's all worthwhile. Insects indisputably fare better (from a sustainability point of view) than behemoths such as cattle or lamb. But they still pale in comparison to most plant foods or even less resource-intensive, protein-rich animal foods that people already consume readily, such as eggs or small fish (in certain conditions). In such a context, it is worth asking whether all the energy mobilized to promote insects as a potential food—especially through a sustainability discourse—could not be more efficiently directed towards supporting foods that are already familiar to consumers and present less of an adoption hurdle. Legumes for instance, would be one option, if the real objective was to manage resources more efficiently and mitigate environmental destruction, rather than market a new niche product.

CONCLUSION

In the quest for more sustainable protein, a growing number of advocates have been touting insects as a potential solution—one that requires less feed, water, and space than conventional livestock, and which generates fewer noxious emissions. The nascent edible insect industry was quick to brandish such arguments to promote their products, even though sustainability claims were still preliminary, potentially undermining their credibility. What is more, the products currently on offer for consumers cannot conceivably replace more problematic protein such as meat; instead, they are mostly additions to our already high-impact diets, making them more onerous still. Finally, to generate true impact from a sustainability perspective, efforts to curb undesirable behaviours should be directed in the most efficient way possible, which might not tip the final balance in favour of insects.

Rather than focus on the consumer end of the food chain, advocates could investigate other creative—and less confronting—ways to integrate insects' sustainable advantages into the food system. TriCycle (in Quebec, Canada) is experimenting with hyperlocal tailored technologies that integrate insects into sustainable ecosystems, rather than growing them as an end in themselves. The insects are valued as an end product, but other positive outcomes—such as integrated waste management and fertilizer from insect excrements—are also drivers. Producing insects as feed for animals, especially for fish and fowl, seems like another promising opportunity, one that could more directly tackle sustainability issues while bypassing consumer reluctance. Enterra Foods (in British Columbia, Canada) sells whole insects, meal, and oils for pets and livestock, replacing more resource-intensive meats without facing attitudinal barriers.

As a case study, insects illuminate the crucial necessity of examining sustainability claims in a critical light. They also show just how difficult it is to effect meaningful change in people's dietary choices, especially when faced with a potential food that many find so repellent. Without discounting them altogether as part of sustainable food systems, it is important to critically consider the ways in which their benefits can be most efficiently mobilized, rather than to focus on developing a new lucrative niche of consumer-oriented convenience products with little demonstrable advantage.

Discussion Questions

- How can sustainability claims be critically examined for other foods that aim to replace animal

protein, such as legumes or lab-grown meat?

- What are some of the ways in which the relevant industry markets these products, and are they coherent with sustainability claims?
- How do the material realities of these foods influence their potential adoption as a meat replacement?

Additional Resources

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MELISSA MONTANARI

MAINSTREAM VEGAN'S APPROPRIATION PROBLEM: CLOSE-READING MORALITY IN VEGAN NARRATIVES

Melissa Montanari *(she/her) is a PhD candidate, Teaching Assistant, and Teaching Fellow in the Department of English and Cultural Studies at McMaster University. Her doctoral project brings together literary studies and critical food studies by attending to the workings of food in material and textual ecologies. Alongside her dissertation, Melissa enjoys writing about the complex politics of veganism and vegan health promotion in food media. She has also developed and taught a second year course on food in media and popular culture.*

Learning Outcomes

After reading and discussing this text, students should be able to:

- Identify common rhetorical strategies used to construct narratives of moral consumption.
- Trace the complex relationship between mainstream veganism and discourses of white femininity using the skill of close-reading.
- Situate analyses of food media within enduring and overlapping systems of power.

INTRODUCTION

Vegan options are more widely available than they once were in places like North America and Europe. With more vegan cookbooks, Netflix documentaries, fitness blogs, and meat alternatives in fast-food restaurants and grocery store deli sections, it would seem as though veganism has captured mainstream attention.

That said, the cultural politics and culinary roots of vegan foods are more complex than this popularity signals. For one, vegetable-based diets are much more than a trend; some branches of Jainism, Hinduism, and Buddhism have practiced forms of ethical vegetarianism and veganism for thousands of years. In addition, vegan practices rooted in equity and anti-oppression, such as those taken up by intersectional feminists, activists, and scholars have gained traction on social media. Yet most often, voices in the food media align vegan practices of non-violence, as well as the core ingredients in plant-based protein alternatives—like fermented soy, garbanzo beans, and quinoa—to the work of white bakers, chefs, cookbook writers, recipe develop-

ers, and other personalities. In addition to erasing culinary histories, popular vegan promotion also perpetuates notions of purity and restraint. Online platforms that claim to concern themselves with topics that are "important to women," such as Canada's integrated media brand, *Chatelaine,* and Gwenyth Paltrow's modern lifestyle brand, *Goop,* have ever-growing banks of vegan recipes composed by white wellness 'experts'. These recipes are often described using morally suggestive language like "good," "healthy," and "cleaned-up," implying a virtuous element to consumption, one that is deeply gendered and heavily informed by whiteness and **diet culture.**

In the history of mainstream vegetarianism and veganism, an appeal to morality—particularly one that prioritizes the interests and experiences of women who are white, cis, straight, slim, and able-bodied—is not new. During the Victorian era, **vivisection** was protested and vegetable-based diets were championed by financially and socially secure, white English women who saw certain kinds of cruelty as morally reprehensible. In demonstrating a more public expression of white femininity, early expressions of mainstream vegetarianism and veganism not only outlined the values of an emerging white middle class, but also participated in defining, on the one hand, socially acceptable forms of violence (which included violence against women of colour) and, on the other hand, unacceptable forms of violence (such as violence against animals).

One problem that continues in the promotion of veganism today is that it centers the experiences and interests of white women in defining "virtuous" eating. This definition is inflexible, as it does not account for all of the cultural, economical, ecological, and geographical complexities that inform people's food choices. Because of the ways veganism and morality have been aligned in complicated ways, vegan food media offers a rich site to study

how language shapes, reflects, and produces ideas about food and morality.

This chapter explores how the language of morality tries to place **mainstream veganism** within a neat politics of consumption without critically examining how it is implicated in violent systems. By examining two examples of vegan food media, I explore how the language of morality operates as a pervading **rhetorical strategy** that takes away from the transformative possibilities of vegan practices. I have employed the literary method of *close reading* to locate and problematize the language of morality in mainstream vegan narratives. Close reading requires deep and sustained attention to how words are used and what those words connote and/or evoke. By using this method, I locate a pattern in the ways in which vegan practices are communicated in popular culture examples, and explain how this pattern interacts with race and gender in the space of food.

MORALITY AND RACE

PETA, or People for the Ethical Treatment of Animals, is probably the most controversial voice on veganism. Founded by Ingrid Newkirk in 1980, PETA has historically catered to white-middle class ideals and sentimentalities. On the one hand, PETA demonstrates outrage against the animal-related cultural practices of Black, Indigenous, and people of colour. On the other, they continuously appropriate vegetable-based recipes from these communities in order to promote an abundance of healthy veggie options on their website and other platforms.

In May of 2020, in the midst of the COVID pandemic, PETA held an investigation on the status of **wet markets** in Asia. This investigation was titled "Filthy 'Wet Markets' Are Still Selling Scared Animals and Rotting Flesh Despite Mounting COVID-19 Death Toll." (The tagline on the PETA website goes on to say, "It's

bloody, filthy environments like these in which zoonotic diseases originate.")[1] In the investigation, PETA relied heavily on racializing morality to promote veganism and posited that wet markets in Asia are a locus for disease. However, the investigation did not address the importance of wet markets in urban spaces, where access to fresh foods is limited; nor did it account for any religious, cultural, geographic, or economic variances that inform people's food access and food decisions. After all, not everyone has equal access to food, and not everyone eats the same foods for the same reasons.

In contrast to publications like *Chatelaine* and *Goop,* which use words like "clean" and "pure" to describe vegan recipes, PETA uses words like "bloody," "filthy," and "rotting" to illustrate wet markets in Asia. What does this kind of language imply about the people who acquire or sell fresh food there? By excluding important context, such as the existence of wet markets in North America and Europe, PETA's language highlights the racial biases and binaries embedded in the organization's mainstream messaging.

BRANDING VEGANISM WITH KINDNESS AND LOVE

In the age of social media, brands have gone online to participate in cultural activities and social movements. Language plays an important role in how brands position themselves in these spaces. Sometimes the sentiments expressed on social media are extensions of an organization's commitments to social justice. Other times, these sentiments overemphasize a brand's advocacy work by deploying culturally and emotionally charged words. Words like "consciousness," "love," and "kindness" are particu-

1. PETA 2020.

larly popular in the branding of vegan businesses as they work to sell veganism as an entirely virtuous form of consumption.

This kind of morally coded language was mobilized at large after the murder of George Floyd in May 2020. At this time, many businesses flooded social media with statements about their brand's commitment to ending racial violence. However, many did not take responsibility for their racist business practices, nor were they transparent about the steps they would take going forward. One example of how this played out in the vegan community was with two cookbook authors and vegan bakery owners. These two white women posted a response to anti-Black racism that claimed to "welcome an open dialogue of kindness, love and support" on Instagram. Shortly after the post went live, Black women spoke out, stating that their questions and criticisms of the brand were being deleted from the comment section of the post.

As the post gained more attention, the owners disabled the comments entirely, hiding the initial concerns from view. They then posted two follow-up apologies that were accompanied by graphics reading "With love" and "We are built for love," but refused to re-open the comment section. In these posts, the owners used the business's branding as evidence of their innocence; they claimed that their vegan business had always been a place of "love" and "inclusivity," for people and for animals. By erasing the words of Black women, the business owners re-centered their virtue narrative, using morality and animal-rights as the anchor. Comments and articles that were posted in defence of the owners similarly evoked these ideas to cast the women as victims of an angry and mean-spirited digital mob. The concerns of Black women were transformed into a narrative about white women's virtues.

CONCLUSION

Although it is deployed differently in each observation, the language of morality in mainstream vegan discourse serves to persuade readers or customers to think or feel a certain way, not only about their food, but also about the brands they support. By paying close attention to the language of mainstream veganism, one can observe how words can reinforce violent structures of power. While vegan food writing and marketing may seem inconsequential in the face of issues like starvation, institutional racism, settler colonialism, and environmental degradation, there is much to unpack in terms of how appeals to morality enable people, institutions, and businesses to deny their complicity in violent systems on the basis of their food choices. These examples point to the ways in which food practices, and the people who partake in them, are represented in cultural conversations.

As a cultural practice, veganism certainly carries transformative possibilities. From destabilizing hierarchies between human and other-than-human animals to increasing the availability and affordability of culturally specific foods in the diaspora, to reducing the environmental impact of the food system, veganism (or plant-based eating more broadly) is rich to think with. There is a lot of exciting and collaborative work happening in the space of vegan food. However, the transformative potential of these kinds of shifts are limited by the ways that mainstream veganism, as a practice and a cultural text, continues to perpetuate narratives about eating that frame some people's diets and cultural practices as more virtuous than others. At the same time, these same narratives ignore big factors that shape people's food choices, including geographic location, cultural and religious practices, and structural barriers within the food system. Paying close and careful attention to the narrative of mainstream veganism is one

place to begin reframing conversations about food to address topics of access and equity.

Discussion Questions

- Why do you think the topic of morality plays such a critical role in conversations about veganism?
- How do food media and popular culture shape the way we talk about food? How might this reflect and/or enforce systemic barriers to food access?
- What would a more inclusive veganism look like? How can vegans not perpetuate some of the problems examined above regarding race and gender?

Additional Resources

Cooke, S. 2021. "Learning to Unlearn with Dr. Emily Contois," May 7.

Harper, B. 2016. *Sistah Vegan – Anti-oppression, food justice & veganism*, January 27.

King, M.T., and W. Jia-Chen Fu. 2021. "Rumor, Chinese Diets, and COVID-19: Questions and Answers about Chinese Food and Eating Habits." *Meant to Be Eaten*. Heritage Radio One. Accessed May 12.

McGregor, H. 2020. "Episode 3.17 On Veganism." *Secret Feminist Agenda*, January 29.

Satterfield, S., A. Kennedy, Y. Narayanan, Y. Batista. 2020. "Episode 29 The Morality of Meat." *Point of Origin,* produced by Whetstone Media (podcast), November 18.

PETA. 2020. "'Wet Markets' Still Killing Despite COVID-19." *PETA Exposés and Undercover Investigations* (blog). Accessed January 19, 2022.

ANNIKA WALSH

CATTLE AROUND

Annika Walsh is a transdisciplinary artist who was born in Chuzhou, China and adopted at 11 months of age by her family in Canada. She works with a variety of ingredients, materials, and collaborators to form her conceptual pieces. Her practice ranges from exploration of cultural identity to participatory food performances, and everything in between. Striving to blur the lines and push the boundaries, Annika makes a habit of traversing many disciplines, including sculptural installation, performance, and media.

CATTLE AROUND (DEC. 2020)

When cows are in a large open pasture, the main objective that drives their movement is to find more food. In my observations,

they do not socialize much, other than when they are eating together. During the COVID pandemic, our global condition often kept us socially distant from each other. We learned to cherish the 'physical time' we have with each other; sharing a meal with someone has come to mean more than it used to. Food has always been a centralizing part of our human culture, not just for survival, but because of its power to facilitate socialize.

This installation connects two surrounding establishments near its site: The Ottawa Civic Hospital and the Central Experimental Farm (both in Ottawa, Ontario). My intention was to create an opportunity for human interaction that mirrors the way cows might interact in a similar, large, open field. The coldness of the glass panes read as human-made and bring aspects of the hospital—such as the blue-white light of the emergency room—into the colour scheme of the sculpture. The structure itself was inspired by food troughs that might be scattered in and around the farm. The placement of the trough in the open field echos the layout of cow pastures. Even though the image projected within the structure may not read as "food" to humans, the way people are drawn to it, and move through the site, suggest a kind of consumption that is similar to the way more-bovine mammals interact with their feed.

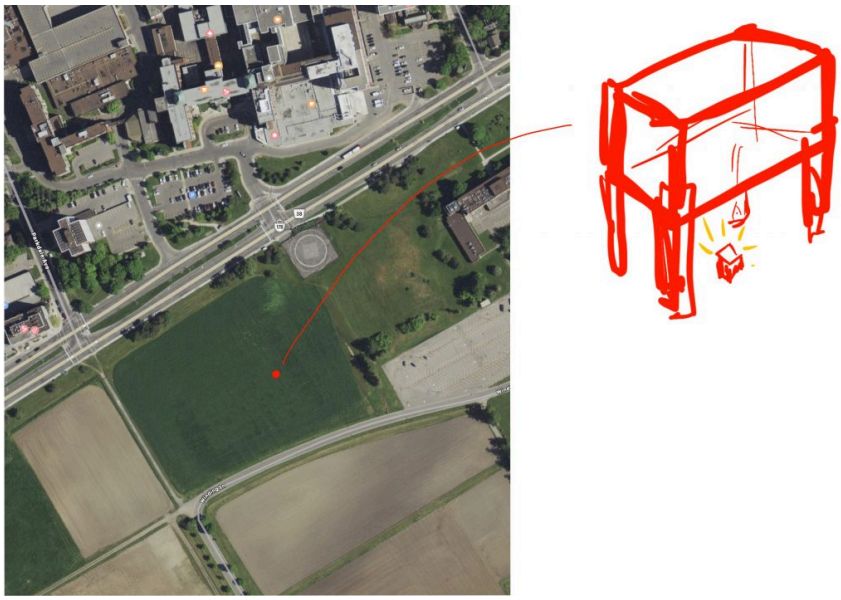

Figure 1: *The placement of the installation.*

Figure 2: *The installation at night.*

Figure 3: *The construction of the 'trough'.*

Figure 4: *The 'trough' lit up at night.*

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/foodstudies/?p=575#oembed-1

GLOSSARY

acetic fermentation
: the process by which bacteria such as Acetobacter convert oxygen and alcohol into acetic acid or vinegar.

advertising
: a type of paid promotional messaging intended to compel consumers to purchase the promoted product or service.

aesthetics
: the system of evaluating sensory stimuli; in the case of food, aesthetics tends to relate to the pleasurable experiences of taste, smell, sight, and texture.

affect
: an embodied experience of impact, related to the ways in which living things perceive, feel, and sense interaction with other living or non-living things.

affective relationships
: the set of emotions and feelings that produce visceral and personal connections with other people, objects, and ideas

ag-gag laws
: laws that ban people from exposing cruel and/or unsafe conditions at farms and slaughterhouses; they include making it an offence to gain access to agricultural property under false pretences, effectively shutting down undercover investigations.

agency

the capacity to act and affect other things; in humans, the will and ability to make change for oneself or others; in non-humans and non-living actors, agency (also "material agency") recognizes that reactions can be elicited when intention and cognition are not present.

agri-food certification

a practice of agri-food governance through which the origins or qualities of food are verified by certifying bodies; Certified Organic and Fair Trade are prominent examples of agri-food certification.

agri-food governance

the rules, regulations, and institutions that shape the production of and trade in food and agricultural products at multiple scales (e.g., local, national, transnational, global).

agri-tourism

tourism premised on agricultural landscapes, rural heritage, farming, and food cultures.

agricultural futures markets

futures contracts in which the underlying assets come from the raising of crops and/or animals; *futures* are exchange-traded derivatives that lock in future delivery of a commodity or security at a price set today.

agroecosystems

the organisms and environment of a cultivated agricultural area.

agroforestry

Multi-functional agricultural production systems that integrate trees (for fuelwood, timber harvesting, or other products) and non-wood forest products (such as medicinal

plants, fruits, and nuts) with the cultivation of food crops and sometimes livestock.

alcoholic fermentation
: the process by which yeast converts sugars such as glucose and fructose into alcohol, acid, and carbon dioxide.

alliteration
: a literary device in which consonants, especially at the beginning of words, are repeated for resonance and impact.

allusion
: an implicit reference to people, places, events, literary works, myths, works of art, or other elements an author believes readers may recognize.

alternative trade organisations
: shops in commercial districts that appeared in the 1960s and 1970s to sell products from then-decolonising countries; in past, ATOs were action centres for the fair trade movement's activists.

anaphylaxis
: a severe, potentially life-threatening allergic reaction.

animal husbandry
: the breeding, farming, and caring for farm animals such as chickens, cattle, dogs, sheep and horses.

animal welfare activists
: people who protest or otherwise work against factory farming, animal testing, or cruelty to animals in other forms. Many animal welfare activists are either vegan or vegetarian and work towards ending *speciesism*, which is the domination of one species over another.

anorexia nervosa
: an eating disorder marked by a restriction of caloric intake resulting is significantly low body weight with detrimental health effects. In the "restricting" type of anorexia nervosa, an individual controls their weight solely through caloric restriction, while in the "binge-eating/purging" type, a person may demonstrate similar behaviours as in bulimia nervosa, including self-induced vomiting and/or misuse of laxatives.

Anthropocene
: a proposed geologic epoch characterized by significant human impact on the natural world.

anthropogenic
: originating in human activity.

aquaculture
: the farming of fish and other aquatic organisms.

artificial intelligence
: systems that are built from human-defined objectives and that generate outputs that can influence the physical or digital environment with which the systems interact. Overall, what is meant by *artificial* and *intelligent* remains contested.

artisan cheese
: a product made using specific conditions of production (smaller in scale, based in singular geographic locales, connected to the identity of the cheesemaker).

arts-informed research
: an emerging mode of qualitative research process that harnesses the creative, expressive, and evocative nature of arts to explore research questions.

autoethnography

a qualitative research method that analyzes personal experience and sense-making through reflection; autoethnography differs from autobiography by taking a wider framework are the site of examination, i.e., one's own experience.

balancing feedback loops

cycles of systemic processes that counter reinforcing loops within a system, and which serve to alter or correct systemc relations at a larger level.

bee bread

a mixture of pollen and nectar or honey made by honey bees; the main source of food for worker bees and larvae.

bento

a portable, packaged meal of Japanese origin usually consisting of steamed rice, vegetables, meat or fish dishes. Although bento can be purchased in stores or bento shops, it is customary for Japanese women (especially mothers and wives) to prepare bento for their families every morning.

bias

within research, a positioning that produces a systematic change in perception, findings, or analysis; in a more material sense, bias refers to the inclination, angle, or diagonal with which a substance is aligned.

binge eating disorder

an eating disorder characterized by recurrent episodes of intense and large-scale eating that are not followed by the compensatory behaviours (such as purging) that are a part of bulimia.

biodiversity hotspot

A biome or region that has extremely high levels of biodiversity and endemism, meaning that many of the species are only found in that biome. Hotspots are also at high risk of destruction from deforestation and other forms of environmental degradation.

blockchain technology

an unchangeable and distributed digital ledger, in which each transaction or record is stored in a 'block.' Information contained in a block is linked to that of previous blocks, forming a chain of transactions. The most well known form of blockchains are cryptocurrencies.

body maintenance

an approach to human health that emphasizes individual responsibility for eating well and getting adequate exercise, along with other individual practices that treat the human body as a machine.

bulimia nervosa

an eating disorder characterized by recurrent episodes of binge eating, followed by recurrent compensatory behaviours such as purging that is used to avoid weight gain.

capital accumulation

the ways in which wealth is generated.

capitalism

an economic and political system in which trade and industry are governed and controlled by private owners for profit, instead of collectively owned by the state, public planning, and/or labourers themselves.

capture fisheries
: the harvesting of wild fish stocks in marine and freshwater ecosystems; often classified as small-scale or industrial/large-scale.

carnist
: the dominant ideology that considers meat-eating desirable and normal.

case study
: an examination of a particular subject, event, group, or other unit of analysis; can be used as a means of comparison across two or more units.

causality
: describes linear or clearly defined relationships within a system, in which consequences or effects are directly associated with prompts or stimuli.

cell-cultured meat
: meat produced using by the propogation of animal tissues in a laboratory environment, i.e., without being grown within the body of an animal.

CHamoru
: an Indigenous person from present-day Guam and the Northern Mariana Islands.

charismatic microfauna
: small animal species that serve as rallying points that stimulate awareness and action.

classification
: the action or process of arranging or categorizing things according to pre-determined qualities or characteristics.

close reading

detailed, critical examination of a text to discover its meanings and assess its significances and effects; considers imagery, setting, diction, syntax, point of view, form, characterization, style, symbolism, and figurative language.

code economy

an economy in which digital technologies, which use computer code, are commercialized and permeate individual and social life.

Codex Alimentarius

the international standards, guidelines, and codes of practice regarding food, established by the United Nations.

coevolution

a reciprocal evolutionary change that occurs between pairs of species or among groups of species as they interact with one another.

cognitive behavioural therapy

a form of psychotherapy that aims to help individuals restructure dysfunctional thought processes and challenge the reinforcement of unhealthy behaviours; overall, CBT aims to increase coping and well-being.

colony collapse disorder

the name given to the phenomenon, observed in the early 2000s, in which millions of honey bees disappeared in the United States, with similar reports from Canada and parts of Europe; the term has become a catch-all for mysterious, undiagnosed deaths of managed honey bee colonies.

commercial infant formula
: a prepared food (often in powder or concentrate form), made to resemble human milk, and which is marketed for the feeding of infants.

commodification
: the conversion of a resource, good, or service into an object of exchange within a capitalist market system.

commodity
: a resource, good, or service that is transformed into an object of exchange within a capitalist market system; commodities are bought and sold in the marketplace using money as the intermediary between seller and buyer.

commodity fetishism
: the association of production, exchange, and consumption relationships with money and merchandise, rather than with humans; commodity fetishism disassociates human social relations from, for example, the making of food products.

commons
: a resource that is shared or held in common by members of a community and governed by rules developed and overseen by that group.

community food security
: A approach to achieving food security through the rebuilding of place-based and sustainable food systems.

community of practice
: A group of people who share a concern or an interest and come together to pursue common goals through a set of shared methods or processes.

community-based research

A participatory process of co-learning amongst project participants (researchers, practitioners, community members) to identify a research question and the ways by which knowledge will be generated to address the question.

complete proteins

foods that contain all the amino acids humans require for good health; animal proteins tend to be complete; plant-based proteins generally are not, although combining different plant-based proteins can be a way to ensure all required amino acids are obtained.

consolidation

a process in which separate, smaller companies are combined to create larger and fewer companies that exert more influence in the economy.

cooking

narrowly defined, the transformation of food through the application of heat; more broadly, a range of food preparation activities, from butchery to preparing food 'from scratch' to heating up packaged foods.

copra

dried coconut, from which coconut oil is obtained and used in a range of cosmetic and soap products, among others.

critical

referring to academic approaches that focus on observing, analyzing, and acting upon systemic structures such as bias, inequity, or difference.

critical design

the creative practices of design to make artifacts that stimulate debate and challenge the status quo, in some way. The

critical design artifact is not intended for utility but to provide a critical perspective on an issue.

critical dietetics
an interdisciplinary field that draws on critical social theory to explore power in relation to food, nutrition, and healthy eating; includes the knowledge base, education and training approaches, and regulatory frameworks within the dietetic profession.

critical ethnography
a qualitative research practice that involves immersive research and the exploration of cultural patterns through direct experience and observation.

critical nutrition studies
an interdisciplinary field that draws on the perspectives and tools of critical social theory to illuminate the ways in which nutrition and healthy eating are shaped by and shape social and structural inequities in society.

critical reading
examining and interpreting texts while also examining and interpreting the context or environment in which that text was produced, i.e., to better understand the author or creator's biases and positionality and therefore better understand the ideas and information provided.

cross-nursing
the practice of breastfeeding other women's children without pay.

cultural capital
a form of distinction or power that a person acquires by being fluent in social norms and knowledge.

cultural humility

an ongoing process, rather than a state of being, that requires the development of self-awareness about personal and cultural identity, as well as knowledge about others.

cultural knowledge

understanding of the history, social context, and values of a cultural group.

cultural relativism

an approach in which traditions and other cultural patterns are evaluated within their own systemic context, rather than analyzed from the 'outside' of that culture.

culture

the customary beliefs, social habits, and traits of racial, religious, and/or social group; culture encompasses language, religion, cuisine, social habits, music, and arts.

diction

word choice; contributes to the tone of a text and and creates context; may reflect attitudes, ages, eras, regional locations, subcultures, emotional charges, etc; may also relate to symbols and metaphors, or to refer to something elsewhere within or beyond the text.

diet culture

the pervasive system of beliefs and practices that associates thinness with optimal health and moral virtue, reprehends certain ways of eating while praising others, and oppresses people whose bodies do not fit into a given society's supposed picture of health and wellness; diet culture is sustained through print and digital media (among other channels), and disproportionately harms Black women, Indigenous women, and women of colour, queer and trans folks, people in larger bodies, and people with disabilities.

dietary specialists
: animals that collect food from a narrow range of plants; some bees are dietary specialists that, without access to certain plants, cannot provide food for their larvae.

dietetic management
: deliberate, day-to-day eating practices, in which the goal is to consume appropriate amounts of food that is deemed 'healthy'.

dietetics
: an ancient Greek philosophy concerning the care of the self, which included the regulation of eating, drinking, sex, exercise, and sleep.

direct marketing
: any marketing practice that relies on direct communication to individual consumers, rather than through a third party (such as media).

discourse
: talk or text in social and historical context, about any subject, at any time, and in any form, where materializations of meaning or ideology exist.

disposable workforces
: groups of people that deliver labour in contexts with weak employee-employer bonds, which exist as short-term labour sources, and which are valued based on their contributions to productivity alone; characteristic of neoliberal structures and systems.

distance
: in food studies, a concept used to describe the physical and cognitive space between eaters and the sources of their food, as created by the modern, globalized food system.

diversity
: the variety of different species present in a given community or ecosystem.

Doctrine of Signatures
: a Middle Ages, folkloric understanding of medicine, in which foods resembling various parts of the body were used to treat ailments of those body parts.

eco-gastronomy
: an approach to understanding food that recognizes its influences and impacts on ecology and the environment.

ecosystem services
: The wide range of contributions and benefits that ecosystems provide for human well-being, including: supplying food, fuel for cooking, and water; regulating functions of the environment such as pollination and maintaining a stable climate; creating cultural opportunities such as recreation; supporting functions like water cycling and photosynthesis.

embodiment
: the process of incorporating physical or abstract things into one's body, such as food, race, or knowledge—so that they become part of one's body.

emergence
: the unplanned and uncontrolled appearance of a physical object or abstract notion within a system, creating the sense of a spontaneous force giving rise to sophisticated structures.

emergent potential
: the capacity for emergence to occur.

enabling environment

(in policy) a policy environment that supports the ultimate goals and intentions of a program by providing delegated authority, flexible policy frameworks, and/or adequate resource support.

endemism

A species that is found in a unique and specific geographic location is said to be endemic to that place. Endemic species are more limited than species that are considered indigenous to a place, which means that they can also be found in other geographic locations.

environmental oral history

A discipline that combines methods and concepts from oral history (such as interviews, narratives, and memory) and environmental history (which focuses on the relationship between people and their environments throughout history). It is used to examine the range of perspectives people have on ecosystems, forests, conservation, among many other environmental issues. Environmental oral history focuses on peoples' perceptions of, and relationships with, their environment, which enables an understanding of the ways people produce meaning from the places they inhabit, and how they perceive and value the natural world around them.

environmental racism

the reality that polluting industries and waste sites are routinely located in areas predominantly occupied by low-income, non-White, and Global South communities.

Environmental subject making

environmental subject making and identity
: the ways in which people perceive themselves and their surrounding environment as being shaped by their daily interactions with the local ecology.

epistemology
: a branch of philosophy focused on the theory of knowledge, specifically its nature and origin; the processes and structures of making knowledge.

ethos
: a worldview and value system.

export-oriented agriculture
: An approach to agriculture that provides more support and incentives for producers growing food at a large scale that can be exported to support economic growth than for producers growing food at a smaller scale to feed local communities.

externalities
: the costs, consequences, or side effects of an economic or prodcution activity that affect unrelated parties (human and non-human species), and which are not taken into account in the prices of the goods or services produced (e.g., the health effects of air pollution caused by food transportation).

extrinsic attributes of food or drink
: the external conditions that determine perception of a food/drink's quality (e.g., location of production, group identity, marketing strategies).

fair trade
: a form of ethical commercial exchange, embodied by a movement that operationalizes the idea of justice in commerce.

Fairtrade certification program
: a system of standards embodying fair trade practices that both buyers and sellers have to comply with to obtain a certificate issued by Fairtrade International.

feed conversion ratio
: in animal husbandry, the relative efficiency with which organisms transform food inputs into desirable outputs such as meat or milk.

fermentation
: a process in which food matter (and sometimes meaning) is transformed through the metabolism of microbial life (e.g., milk into cheese, grapes into wine).

FLOCERT
: an independent organization carrying out the auditing process for Fairtrade International.

folklore
: the scholarly study of tradition.

food bank
: a place where food—generally basic, non-perishable provisions such as rice, pasta and canned goods—can be accessed by those experiencing food insecurity.

food culture
: culinary practices and meanings shared among a certain group of people that shape one's engagement with food.

food desert
: an area of a city or region (often low-income) that has limited access to affordable and nutritious food.

food identity
: the result of the way people constitute themselves by following a set of nutritional, cultural, symbolic, collective, and/or ethical values.

food insecurity
: the condition that exists when one or more people are not able to gain access to food in sufficient quality and quantity, often due to lack of economic resources, in order to live a healthful and active life; note that there are multiple ways that food insecurity has been defined, depending on context.

food justice
: the process of eliminating oppression and inequity in food systems; note that there are multiple definitions of food justice, depending on context.

food meanings
: the social, cultural, and religious significance that is associated with foods.

food practices
: includes food access and acquisition, food preparation, food preferences, and eating behavior; akin to *foodways*, the term used in food studies to describe food and meal preparation, religious and symbolic uses of food, and gardening, among other activities.

food rescue
: the process of acquiring food that is edible and no longer part of the food supply chain for the purpose of donating to food shelters and pantries.

food rescue network
: people who work together to donate, transport, deliver and receive otherwise wasted food.

food rescue networks

food safety
: the combined practices of ensuring that food and food products are free from harmful substances, both chemical and biological; food safety procedures can exist at all stages and within all spaces of food production, transformation, retail, preparation, and consumption.

food security
: the condition when all people, at all times, have sufficient access to safe and nutritious food to meet their needs and cultural preferences for an active and healthy life.

food sovereignty
: a political framework developed by the international peasant organization, La Via Campesina, emphasizing the rights of peoples to determine their own food systems, including the production and consumption of food through methods that are environmentally, culturally, and socially sustainable.

food system
: all the steps and processes involved in feeding people and how foods are transformed along the way; includes harvesting/production, distribution, marketing, retail, consumption, and waste.

food traceability app or mini-program
: a software application containing basic, traceable food production and distribution information that is supported by a range of technologies such as artificial intelligence, blockchain technologies, cloud computing, data analytics, and sensors in the 'internet of things'; food traceabiltiy apps are embedded in one or many platforms owned by big technology corporations.

food traceability system

the many layers of technology-enabled food information embedded in highly monopolized platforms that are composed of food traceability apps, mini-programs, smart supermarkets, and offline access QR codes.

food-based waste

the reduction in quantity or quality of food that comes about through practices throughout the food system, including those in the field, factory, retail environment, and home.

foraging

harvesting wild plants for consumption.

gastrocolonialism

any systemic relationship in which military, corporate, educational, and media powers (generally those of large and economically powerful nations) shape, influence, and dictate the food choices, options, and knowledge of other nations and territories.

gastrodiplomacy

a coordinated effort by a nation to use food to promote its national identity and culture.

gastronome

a practitioner of gastronomy, used in connection with both older (French/culinary) and modern understandings of gastronomy; synonymous for many with 'gourmet'; see also 'gastronomer'.

gastronomer

an alternative to *gastronome*, used to describe a person who has studied gastronomy, or someone who takes a holistic, critical, and connected view of where their food comes from,

how it is produced, and the impact it has on both society and the environment.

generalist
a person who has broad general knowledge and skills in several areas or many fields of study; a person whose knowledge, aptitudes, and skills are applied to a field as a whole (as opposed to a *specialist*).

geographical indications
a marker or tool used to identify the geographic origin of a product.

global food systems
The complete system governing food production, processing, distribution, and consumption at a global level. Generally refers to large-scale production and distribution of food products through mainstream, centralized networks.

globalization
the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, and flows of investment, people, and information.

governance
the ways in which decisions are made, including the government, civil society, and market actors involved, as well as the norms, rules, and institutions shaping decision-making.

Great Depression
a period of history that started with the Wall Street Stock Market Crash known as 'Black Tuesday' (on October 29, 1929) and ending when World War II began; a decade marked by conditions creating food shortages, unemployment, and poverty.

greenwashing
: the deceptive use of unsubstantiated sustainability arguments to promote a product or service.

gross domestic product
: the income of a country's economy; used as a primary marker of how well an economy is doing.

health disparity
: a difference in health status connected to individual or group disadvantage (e.g., socio-economic, environmental); affect people experiencing systemic barriers related to race, ethnic origin, gender/sex/orientation, geography, ability, religion, and other identity-related qualities.

hedonic qualities
: aspects of a given thing that relate to pleasure, in this case related to the consumption of food.

hegemony
: the systems by which one country or socio-political group rules, governs, or dominates another.

history of the present
: a term coined by French philosopher Michel Foucault (1977) to understand the social construction of the present moment.

homesteading
: the Canadian system in which white, settler, male farmers were given 160 acres of land (under the Dominion Lands Act of 1872), provided they agreed to cultivate at least 40 acres and built a permanent dwelling within three years.

human donor milk bank
: a depository that collects surplus breast milk from nursing mothers with the intent to pasteurize it and feed it to infants in need.

human rights and environmental due diligence
: the voluntary or mandatory actions companies take to examine all social and environmental risks and impacts related to their their supply chains.

human subjectivity
: a sense of self defined by characteristics understood to be uniquely human; see also *subjectivity*.

human-bee-crop relationship
: the ways in which human and bees are connected through agroecosystems.

humoural medicine
: an ancient and Renaissance system of medicine in which foods were understood in terms of their hot/cold, wet/dry properties and used as medicine to rebalance bodily states.

identity
: the sense of self; how a group or individual characterizes themselves.

ideology
: a system of ideas, beliefs, and values that are shared by a group and that inform how individuals in that group interpret and react to the world.

inclusive

inclusivity
: the practice of making sure that all people—particularly those who have been historically marginalized or excluded

from certain contexts—have fair and equivalent access to opportunities, spaces, and other common social resources.

individual transferable quotas
a type of fishing quota that can be transferred or leased to other fishing license holders through a free market system.

individualism
the privileging of the individual person over the collective; implies that people are responsible only for themselves and their households, and that their fortunes, good or bad, are of their own making.

industrial cheese
a dairy-based food product that is made to be consistent across time and space (large-scale, framed by homogeneity, produced in generic settings).

industrialization
the process of state or regional planning and development of facilities, equipment, energy sources, and manufacturing processes that transform raw resources into manufactured products on a large scale, allowing for mass production.

industrialization of food systems
the transformation of agricultural systems to make them reliant on external inputs (e.g., fossil fuels, synthetic fertilizers, pesticides) and monocultures; a process of maximizing food production per unit of land or space.

inference
a conclusion reached on the basis of evidence and reasoning.

information barrier
inefficient, unclear, or incomplete information that has a negative impact on the receiving end of a given communi-

cations process; aspects of systems of communications systems that produce inefficient, unclear, or incomplete information.

instantiated
(of abstractions) represented by a concrete instance or example.

integrated pest management (IPM)
a wide range of intentional practices ranging from reducing or using alternative pesticides to complete agroecological redesign; IPM minimizes the need for pesticides through pest monitoring strategies, careful observation of pest activity, the use of alternatives (biological and cultural controls), and judicious, targeted use of pesticides only when economic thresholds are reached.

intercropped
Intercropping is a practice used in agriculture in which two or more crops are grown together in the same field or area. These can be conventional species such as oats intercropped with rye, or they can include tree species—such as coffee trees—planted alongside chili peppers. Intercropping provides benefits such as improving the nutrient availability in the soil and pest management. It also takes advantage of the natural differences in plant growth, for example planting species that require greater levels of shade in the understory of tree crops.

interdisciplinarity
the creation of a new space of academic investigation through the blending or hybridization of two or more disciplines.

internet of things

a global network of interconnected objects, including sensors, smart devices, and microchips, that are uniquely addressable through standard communication protocols; applications exist in many contexts, from healthcare to agriculture to domestic space.

interpretive epistemology

the practice of viewing knowledge as created through and inseparable from the observations and context of the observer; interpretive epistemology is always subjective.

intersectionality

the relationship among the multiple identities, policies, systems, and structures that have an impact on an individual's relative position in society

intrinsic attributes of food or drink

the sensory qualities of a food as understood as a physiological response (taste, flavor, texture, etc.)

invisibilization

the process of making people or processes less apparent or present to a given audience, either by not identifying, talking about, or valuing those people/processes.

kin-making

(also, *kinship*) a relational process of creating and maintaining familial relationships from a place of nurture, care, love, and acts of respect and accountability, rather than strictly due to one's traditional marriage ties, blood, or birth relations.

laissez-faire

a habit or policy of doing nothing; not involving policy intervention; commonly used in economics to describe a

context free from or having minimal governance intervention.

land rematriation
: processes and actions that help to restore living cultures to the Earth; conditions in which lands, waters and our relationships to them are intentionally returned to their natural or spiritual context; returning land to 'Mother Nature'.

Lapita peoples
: the descendants of Austronesian-speaking peoples from modern-day Southern China and Island Southeast Asia, and Papuan-speaking peoples from modern-day Oceania, specifically from the Bismarck Archipelago, the Solomon Islands, and Vanuatu; named for the site in New Caledonia where their distinctive pottery (dating as far back as 1600 BCE) was first identified by 20th-century archaeologists; Lapita peoples were masterful oceanic navigators.

local food
: Food grown for, by, and within a community or communities.

locavore
: a person who eats predominantly (or only) foods produced in their immediate region.

mainstream veganism
: the form of plant-based eating that is perpetuated in food media and popular culture; often centered around profit-generating industries, including diet and wellness.

mainstreaming fair trade
: the process by which fair trade products are increasingly commercialized in non-alternative markets.

market-based solutions
attempts to solve social and environmental problems through the operations of a capitalist market.

marketization
turning over the regulation of a given industry, sector, or problem to market forces (see *market-based solutions*).

material visibility
the capacity of an object or a thing to demonstrate its vitality in the world, and make understood it lifecycle, activities, composition, and relationship to other things.

materiality
all that relates to the concrete, physical characteristics of substances like food, including how they are created, used, and call forth particular responses from people; a counterpoint to *discursivity* (that which relates to language, meaning, and symbolic characteristics) and *processuality* (that which relates to making, doing, and transformation).

maximizing efficiency
the effort to increase productivity; in food, debate remains about whether industrialized systems of production are more or less efficient than small-scale family farms.

mead
a fermented drink made from honey; also known as 'honey wine', although some forms of mead contain very little alcohol.

media culture
the ways in which mass media, including digital platforms, are integrated within society and culture, producing lasting effects in human interaction; includes processes of mediation in broader cultural discourse.

member checking
: a validation technique used in qualitative research, in which researchers ask participants to review their preliminary analysese and check for accuracy and resonance with the participants' own experiences.

menu literacy
: the ability to interpret the specialized language of a restaurant menu and order a series of dishes that adhere to culinary norms (e.g., a starter, a main dish, and a dessert, as opposed to three salads).

metacognition
: awareness and understanding of one's own thought processes.

Métis scrip
: a form of substitute currencty that was used to remove Métis title to their lands, which then enabled settler expansion; scrip was issued by the colonial government to Métis families in exchange for their land title; Métis were often coerced or fraudulently forced into selling their land, and many were left homeless.

milk-sharing
: the practice of donors giving expressed human milk to an unrelated infant.

monoculture
: the practice in industrial agriculture of producing a single species of plant or animal, generally over a large area and using extensive chemical and petroleum-based inputs.

more-than-human
: a concept that re-orients and widens perspectives beyond human-centred concerns; shifts human awareness toward the experiences of plants, insects, and other animals.

more-than-human relations
: interactions among humans and non-humans that draw attention and care to the ways in which our actions affect others and vice versa; non-humans may include entities that are often understood to be inert, such as rocks.

multidisciplinary
: in academia, any activity that combines or involves several different or distinct academic disciplines or professional specializations in an approach to understanding or researching a topic.

municipal policy
: governance systems (rules, regulations, procedures) made by a local form of government, such as a city or town; more localized than federal, provincial, or regional governance.

narrative structure
: the organization of a story that follows and/or includes specific elements; e.g., the elements of a tour include a visit to a place, a series of stops, and commentary by a guide.

neighborhood divestment
: the process of reducing or ending investment of private and/or public resources in urban neighbourhoods, often in conjunction with racial discrimination and segregation.

neighborhood resilience strategies
: residents' efforts to cope with and adapt to various forms of physical and emotional stress resulting from economic marginalization, racism, and other forms of oppression in cities.

neo-gastronomy
: aligned to Carlo Petrini's restatement of gastronomy for the 21st century; draws together associations of food-related pleasure with an awareness of food's many environmental, economic, and social impacts.

neoliberalism
: a philosophy of governance that emerged in the 1970s in Europe and North America that is premised on the market as a regulator of social and economic life; emphasizes commodification, privatization, and other forms of marketization as solutions to social and environmental problems; shifts power from the state to non-state actors.

neonicotinoids
: a class of persistent pesticides, commonly used in agricultre, that are highly toxic to insects including bees.

non-state actor
: an individual or organization that has significant political influence but is not allied to any particular country or state.

non-state actors

nonagenarians
: people aged 90 to 99 years old.

nutricentric
: a way of understanding and discussing food that centralizes nutrient components (e.g., "high in Omega-3s").

nutrition transition
: a shift in dietary consumption and energy expenditure that coincides with economic, demographic, and epidemiological changes.

nutritionism
an ideology of food in which understanding of food based on nutrient components are centralized over the composition of the foods as a whole, the diet of which they are a part, and the broader social contexts in which people make dietary choices.

oligopoly
a condition of very limited market competition dominated by a small number of firms.

ontology
a branch of philosophy concerned with the nature of being, reality, and existence; the substance and meaning of a given context.

overwintering losses
the common death of honey bee colonies during the winter period, when they subsist on stored honey.

paradigm
a framework, or way of thinking, commonly accepted by members of a given knowledge community; a model of something that serves as a reference point, or standard, for other iterations of that thing.

participant observation
a qualitative method of data gathering in which the researcher effectively takes part in the process or activity being studied.

participatory research
A research practice that involves a range of collaborative approaches to ensure that community members and other stakeholders are active participants in the design, implementation, and analysis of research results. Methods can

include interviews, focus groups, community mapping, dialogues between communities and researchers, and many others. The goal of participatory research is to ensure that research activities and outcomes are inclusive and relevant to the communities involved, making the active participants in the process of creating and disseminating knowledge, rather than passive objects of academic research.

pasteurization
: the process of applying high heat to food substances over a relatively short period of time, in order to eliminate potentially harmful microorganisms; named for Louis Pasteur, a French microbiologist and chemist who lived and worked in the 19th century.

pasteurized human donor milk
: expressed human milk given to milk banks, who then pasteurize and bottle it.

patriarchy
: a social system widely practiced across the world, in which men hold power and control, and power is transferred along male lines; often manifests in male control over power and resources, and a range of legal, political, and cultural restrictions placed upon women and non-heteronormative people.

peasant
: a word with a complicated heritage that describes a variety of people with varying connections to agricultural production and rural landscapes, who are often partially engaged in markets; in the context of this chapter, *peyizan* (peasant) is how Haitians refer to smallholder farmers, and it is how producers self-identify; much scholarly debate exists around the complexities and contradictions of what constitutes a 'peasant'.

per capita

the average amount of something produced or consumed per person; often used in place of "per person" in statistical observances.

permaculture

farm/garden design and practices that work with nature, allowing for self-contained ecosystems that require no external inputs.

photo-elicitation

one of a number of image making research methods that expands data generation beyond more traditional forms of language-based methods such as interviewing and focus groups.

pilot

a time-limited, targeted implementation of a project, policy, or program to see its effectiveness in achieving the stated goals or intentions.

place

a geographic locale; while more abstract than city, region, or state, “place” nonetheless implies a set of distinct characteristics and qualities.

place-based designations

forms of certification that confirm the origins, practices, and ingredients of a given food product; examples include the Geographic Indication (GI) system and the French *appellation d'origine contrôlée* (AOC) system.

place-based food systems

Moving from a purely geographical conceptualization of ‘local’, place-based food systems consider how food systems

are constructed through everyday practices of relationship building and social networking.

political ecology
the relationships of humans and their environments, manifested through interactions between biophysical, cultural, economic, political, and social factors.

polity
an organized society; a state as a political entity.

pollination
the process that allows plants to create offspring through the transferring of pollen from the male anther to the female stigma of a flower; insects, birds, wind, and humans may all be vectors of pollination.

pollination services
the actions provided by managed bees or wild bees as they interact with flowers and move pollen from male to female flower parts.

polyculture
the cultivation of several different species of plants or animals together in a given area.

polysemia
having or characterized by many (often very different) meanings; the existence of several meanings in a single word or phrase.

polysemic

positivist epistemology
an approach to knowledge that takes empirical evidence—data derived through observation of phenome-

non—as the means to uncovering objective truths about the world.

precarious employment
typically low-wage, short-term, non-unionized work that comes with few protections or benefits; work that does not provide the worker with a sense of security.

primary forest
Forests that have reached their most advanced stage of complexity or succession in terms of age and diversity (also known as old-growth or climax forests). Forests tend to go through several stages of dynamic succession, or development, from initial growth of shrubs and pioneer trees to states that are more biodiverse and well developed, finally reaching a final dynamic stage of complex, primary forests. These forests are some of the most dense and biodiverse biomes in the world and are responsible for a vast amount of carbon sequestration worldwide.

privatization
the transfer of public resources, goods, or services to private ownership and control.

privilege
unearned social advantage that may influence an individual's behaviours in ways that become problematic for those without privilege; often invisible to those that have it.

procurement
The act of obtaining goods or services. Food procurement considers how and from whom food is purchased by an organization or institution.

promotional messages

commercial forms of communications that encourage consumption behaviors; includes advertising, public service announcements, political slogans and campaign elements, health promotion, and public relations efforts.

protein plurality

favouring a range of different perspectives on what constitutes the most beneficial role and make-up of protein foods in a healthy and sustainable diet.

quality of life

an individual's perception of how they are doing, relative to others in comparable context and value systems; may include aspects of health, wealth, work, economic and social status, religious beliefs and freedoms, safety, education, and free/leisure time.

quota

a portion of the total allowable catch, often allocated to individual fish harvesters; can also be allocated at a community or national level and then further divided.

reciprocity

a quality of relationships that involve mutually beneficial exchange; similar to trust, accountability and respect.

regenerative agriculture

a broad set of policies and practices aimed at restoring and rehabilitating the health of food and farming systems; focuses on topsoil regeneration, increasing biodiversity, and ensuring a well-functioning water cycle.

regional food systems

A decentralized food system constructed through collaborative networks across a geographical region that considers

how the production, processing, distribution and consumption of food can support the environmental, social, and economic health of a particular region.

reinforcing feedback loops
cycles of processes that reestablish previous functional patterns within a system; serve to bring systemic relations back to normative patters after a change or disruption.

reserve and pass system
a system of colonial confinement and control by the Canadian federal government in which tracts of land were set aside under the Indian Act and treaty agreements, restricting Indigenous bands to fixed geographic locations; Indigenous people were then required to present a pass or travel document in order to control and restrict their movement outside of reserve boundaries.

responsibilization
a process in which one party shifts its responsibilities onto another; e.g., state responsibilities for the well-being of citizens may be foisted onto individual citizens, especially particular groups in society.

rhetorical strategy
a method of persuasion that conveys a purpose or argument by making logical or emotional appeals using carefully crafted language.

rural exodus
A process of migration in which people, often youth, move away from rural areas to cities in search of improved economic opportunities and education, or due to other social and economic factors such as land dispossession.

scale up

Planning and setting the stage to support growth in one's business without major constraints or roadblocks.

script

a written or unwritten set of rules that govern the way people talk, behave, and appear; a guide for present a particular social identity to oneself or to others; a scenario that is performed.

Seasonal Agricultural Worker Program

a temporary foreign worker program that began in 1966, negotiated between Canada and twelve countries (Mexico, Anguilla, Antigua and Barbuda, Barbados, Dominica, Grenada, Jamaica, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago); workers reside on employer property for up to eight months while cultivating, planting, harvesting, sorting, and packing produce.

secondary forests

Forests in a stage of regrowth after disturbance, due to clear cutting, fire, or extreme weather events like hurricanes.

sedentary

characterized by little physical movement, activity, or exercise.

self and other

(self) one's own distinct identity, as differentiated from bodies that are perceived to be separate entities (other).

self-determination

a concept embedded in the Charter of the United Nations that refers to the right of a people to choose and enact their

own future, including political, economic, cultural, and social realities.

self-governance
an group or organization that is controlled by people not associated with a centralized or local government.

self-pollination
the process in which a plant transfers pollen to itself, often using gravity to move it between strategically located male and female parts without the help of wind or insects.

sensory evaluation
the act of analytically explaining the experience of eating food or drinking beverages, usually with a focus on taste, flavour, texture ,and mouthfeel; can also involve a declaration of preferences.

settler colonialism
a structure and system in which newly arriving populations seek to eliminate and replace the inhabitants of a land or territory; can occur through direct violent means, as well as legal and bureaucratic means; includes mindsets and strategies for occupation, expansion, and genocide, and can include the theft and control of resources and land as well as cultural assimilation; an ongoing process in many lands.

shokuiku
the Japanese term for *food education*; a law enacted in 2005 by the Japanese government to promote healthy eating habits, improve population health, and preserve traditional culinary culture through local food production and consumption.

short mead
mead that has fermented for a brief period of time, usually under 30 days.

silvopasture
: the integration of livestock grazing operations within various types of forestry practices, in a mutually beneficial way.

Slow Food
: an international, grassroots organization established in 1986 by Carlo Petrini in Bra, Italy, that promotes the continuity of local food cultures and traditions; the social movement of those people involved with the international organization and its local branches.

small-scale fisheries
: typically based in a family units, using small boats close to shore, and with catches mostly for local markets and subsistence food needs; often contrasted to industrial or large-scale fisheries; exist across the Global North and South with varying definitions depending upon the regional context.

social and structural inequities
: the unfair and systematic outcomes experienced by different groups in society that are reinforced by the structural organization of that society.

social hierarchies
: systems of social organization that suggest the ranking of people within a society; can be implicit or explicit, but always involve some who enjoy a higher social status, and some who suffer from a lower one.

social inequities
: the inequitable distribution of benefits and burdens, privileges, opportunities, and responsibilities shared among social groups in society.

social location
: the groups to which people belong, due to their position in history and society.

socially embedded
: a description the ways in which individual decisions (e.g., about what to eat) are influenced by feelings of belonging, deeply senses meaning, knowledge, and ideals.

spatio-temporal
: inclusive of both space and time.

structural inequities
: the biases that are entrenched within institutions that structure society such as education, the law, health care, and others, and that undergird social inequities.

subjectivity
: the ways in which knowledge and selfhood relate to an individual; related to positionality and experience; often understood as 'bias' or the counterpoint of objectivity; see also *human subjectivity*.

subsistence
: descriptive of maintaining or supporting oneself, especially at a minimal level; may refers to an economy in which peoples procure, produce, and consume their own food and provisions rather than participating in a market, cash-based economy, and thereby purchasing their food and other provisions.

superfoods
: foods considered to be so high in particular nutrients that they disproportionately benefit the eater's health; generally a term used in marketing; typically not a term used by professional dietitians.

supermarket redlining
: the process by which decisions about where to invest in supermarket development are driven by both profit motives and stereotypes based on income, race, and other attributes of a neighbourhood.

sustainability imperatives
: the obligations necessary to be able to meet our present needs without jeopardizing the ability of future generations to meet their own needs.

syntax
: sentence structure; enhances the meanings found in prose and contributes to its tone, meaning, and atmosphere.

synthesis
: the process by which the whole and parts of the system make meaning through their interactions; reduction of a complex set of elements into a more simplified pattern; the production of a finished element through a set of intentional and planned processes.

systems theory
: a set of understandings that describe how everything, from organisms to organizations, draws from and contributes to its environment.

table d'hôte
: a fixed meal at a fixed price; French for *the host's table*.

taste
: the sensation of flavour perceived in the mouth and throat on contact with a substance; the ability to discern what is of good quality or of a high aesthetic standard; conformity or failure to conform with generally held views concerning what is acceptable.

tavern
: a commercial establishment that serves alcohol as its primary offering; may also serve food in complement to alcoholic beverages.

taxonomize
: to name, classify, and order according to different categories.

terroir
: the characteristics and practices of a given food-production region that are understood to impart specific sensory qualities to the products that are made there; may include climate, soil structure, topography, and traditions; a means of sensory evaluation based in the conditions of production of a product; 'the taste of place'.

the state
: an entity that includes all the people, policies, resources, and practices that support the workings of a government in a particular territory.

Three Sisters
: an Indigenous tradition of growing corn, beans, and squash together; provides mutual nutrient exchange, protection from crop predators, and loss of soil moisture, as well as structural enhancement for all three crops.

total allowable catch
: the maximum amount of any given fish species that can be caught, usually decided by resource management authorities.

tradition
: practices and products connecting individuals to their past, place, and other people; a resource for creativity, social

interaction, and identity; traditions may exist for many centuries or be invented and reiterated over a relatively short period of time.

traditional ecological knowledge
Knowledge, practices, and beliefs that have developed over generations and that relate to the interactions between all living things—including humans (also called local ecological knowledge). The concept often refers to Indigenous knowledge and ways of knowing, but can also be applied to settler communities that have developed continual, historical resource-use practices.

ultra-processed foods
food and drink products that have undergone extensive forms of transformation from their base ingredients, usually by transnational and other very large corporations; often highly stabilized using physical or chemical techniques.

urbanization
the shift in population from country to city areas, often accompanied by industrialization and technological modernization.

vivisection
the practice of performing operations on live animals for the purpose of scientific research and experimentation; the practice was heavily opposed in 19th-century England, which resulted in anti-vivisection protests that were largely promoted and attended by White women.

ward
one way in which a city is divided into units of governance or management; e.g., city councillors may be elected by wards.

wet markets

any marketplace selling fresh products (as opposed to dry products), such as produce, meat, and/or fish; includes but does not refer exclusively to markets selling rare animal products or live animals for slaughter.

wet-nurse

(verb) to breastfeed another woman's infant for pay; (noun) a woman paid to nurse an infant who is not her own.

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