Examining History, Design, and Pedagogy through the *Eat, Waste, Make Project*: A Feminist New Materialism Exploration of Canadian Food-based Waste

Pamela Tudge

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By: Pamela Tudge

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_____Chair
Dr. Varda Mann-Feder

_____ External Examiner
Dr. Mairtin Mac Con lomaire

_____Examiner
Dr. Jordan Lebel

_____Examiner
Dr. Rhona Richman Kenneally

_____Examiner
Dr. Anya Zilberstein

_____Thesis Supervisor
Elizabeth Miller

Approved by _____
Dr., Graduate Program Director

August 31, 2023 _____
Dr., Dean of Faculty

Abstract

Examining History, Design, and Pedagogy through the *Eat, Waste, Make Project*: A Feminist New Materialism Exploration of Canadian Food-based Waste

Pamela Tudge, Ph.D.
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This dissertation uses a critical design praxis to explore domestic waste practices and their link to food consumption in the Canadian context. Employing feminist new materialism discourse, which challenges nature-culture divisions and human-nonhuman distinctions, I examine waste through a broad lens covering living and non-living entities. This involves three main approaches: analyzing design and pedagogy history in Canadian archives; studying the experiences of three Canadian women raised in the 1950s; and reflecting on the "Eat, Waste, Make" project, an iterative series of public pedagogy workshops designed to engage diverse food publics with food waste. The historical investigation targets key points in design and pedagogy that contributed to household waste, especially in the post-World War II era (1950s-1970s). Cultural shifts during this time promoted immediate disposal over salvage practices. I highlight the life histories of three women to whom I am related, in relation to food and waste in order to challenge archival discourses and highlight the role of everyday pedagogies. For the "Eat, Waste, Make" project I describe and reflect on the evolution of the workshops, and explain the incorporation of critical design and public pedagogy practices in the workshop series. This research contributes to interdisciplinary understandings of food waste practices, revealing gender dynamics, materiality, and patterns of consumption. Through historical analysis, personal narratives, and creative interventions, this study sheds light on the complex human-waste-materiality relationship in food consumption.

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Dedication

This dissertation is dedicated to the remarkable grandmothers featured in this work, who have been a wellspring of inspiration throughout this academic journey. This work stands as a tribute to you, the unsung heroes, whose strength, and grace continue to guide me. Thank you for being my foundation and for enriching my life in immeasurable ways.

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> Does waste even exist…it is a folklore. Anything and everything can be waste, or not. (Wilk, 2014, p. 226)

In late summer 2011, I made the move from rural British Columbia to Montreal, one of Canada's largest cities. The transition was overwhelming initially, with the city's bustling cars, crowds, and constant noise. Amidst the cacophony, one thing that caught my attention was the sheer amount of waste. Garbage bags were stacked on sidewalks, scattered outside apartments and storefronts, and debris cluttered the streets and alleys. It seemed like every day was garbage collection day. I noticed bins overflowing with debris, garbage and recycling bags torn open by squirrels and birds, and the occasional raccoon scavenging for scraps, creating a mess in parks and alleyways (see Figure 1.1 for a typical example). Furthermore, the garbage trucks were a vivid sight from my apartment. I could hear, see, and even smell them from a distance. The trucks had several men hanging off their sides, deftly jumping back and forth between the curb and the truck, tossing anything and everything from the streets. It was like watching a performance. Over the first few months of city life, I observed these young men throwing old televisions, couches, tables, and various appliances into the truck with ease. To adapt, I tried to understand and follow the city's household waste management rules. I separated my garbage from recyclables, reluctantly disposed of food leftovers, and sought ways to reduce my contribution to the city's mess. I diligently placed my garbage bags outside at the right time and in the designated location on the sidewalk. Eventually, the garbage trucks would come, making my waste, and everyone else's, vanish, leaving the streets temporarily clear and unobstructed.

Figure 1.1 Montreal Street Garbage

Note. A photograph in my neighbourhood from my Instagram account @eat.waste, May 27, 2022.

This dissertation centres on the issue of waste from food, which is a prevalent problem in Canadian cities. All sorts of food-related garbage, stemming from cooking and eating, can be

regularly spotted on the streets and within homes across the country. Disturbingly, Canada holds the unfortunate distinction of being the top producer of solid waste per capita worldwide (Hird, 2013, 2021; Richter et al., 2017). With each Canadian generating approximately 720 kilograms of waste annually, the collective output stands at a staggering 31 million tons of solid waste per year (Environment and Climate Change Canada (ECCC), 2018). Comparatively, our waste production surpasses that of other countries, with two times more solid waste per capita than Japan and ten times more than most African nations (Wilkins, 2017). Surprisingly, we even outpace the United States (US), renowned for its consumerism. Shockingly, only a small fraction of this waste is recycled or composted, and a mere 9% of discarded plastics in Canada are recycled, leaving 91% to end up in landfills worldwide (Geyer, 2017). The major culprits contributing to food-based waste are single-use plastics (SUPs) used for packaging and food waste itself. These materials dominate the waste generated by Canadian households and our daily eating and cooking practices.

Despite our efforts to remove waste from our homes and streets, the problem persists, merely shifting across borders or oceans, primarily ending up in landfills. This waste crisis, particularly food waste, is intricately intertwined with our daily experiences, making it an urgent and intimately connected matter. To provide a context for my exploration of household waste, I want to dive into what scholars in Canada highlight when examining Canada's waste crisis, understanding it from a systemic and structural perspective. Primarily, while individual Canadians produce a lot of waste, Myra Hird in her 2021 book, *Canada's Waste Flows*, highlights that it is a mere fraction of the total waste produced by larger industrial systems. Examining the statistics from the 2012 she notes that industrial waste accounts for 97% of total waste, while households come in at a fraction, under 3%; this smaller percentage also includes

institutions like hospitals or businesses like dentists. She argues that household waste is mostly described as solid domestic waste in public and government discourse, and therefore industries are not held accountable, and the responsibility is on the public's ability to manage post-consumer waste. Liboiron and Lepawsky (2022) align themselves well with Hird's (2021) work, citing similar statistics, but they position waste within the wider frame of what they refer to as discard studies. Discard studies question waste and wasting by interrogating social structures that acknowledge the waste crisis and broaden the definition of waste beyond a basic focus on the materials themselves, to question what is valued or devalued in terms of materials, practices, people, or regions. Hird's research and Liboiron and Lepawsky's book both situate the waste crisis within capitalist structures. They argue in different ways that capitalism is problematic because decision makers are motivated to redirect blame towards individual Canadians, diverting attention from the significant impact of large industrial forces. Consequently, these forces continue to exploit labour, resources, environments, and other elements without proper mitigation. In my research, I have chosen to examine waste at the micro-level within this much broader perspective, at the household and individual level, and through the very personal relation to food and eating. It is from my vantage point that I aim to unravel the colossal problem of unfettered capitalism and the waste crisis, narrowing it down to a scale where intervention becomes feasible. By starting from where I am, I wish to explore food-based waste as a gateway into the profound insights that scholars like Hird, Liboiron, and Lepawsky have unearthed regarding one of the significant challenges of our time.

My argument revolves around the notion that in order for Canadians to truly care about the broader issues of industrial solid waste, which may seem distant and abstract to many, there needs to be an accessible entry point—a starting place for understanding. I believe this can be

achieved through personal connections and relations. My intention is to cultivate concern not only for the 3% of waste that directly relates to households, but also for the remaining 97% of industrial waste. I aspire to advocate for systemic changes on a larger scale. To embark on this journey, I have chosen to anchor my starting point in my identity as a woman, focusing on food and the (potential) waste I encounter in my everyday life. From this foundation, I aim to build a comprehensive understanding and pave the way for meaningful action.

My first premise for this dissertation is that we all produce waste — but we do not all know waste; our everyday interactions with discarded materials are so mundane and normalized that we ignore the problem. Second is that we (as Canadians) all waste but not in the same way and not in the same quantity. Therefore, through this work, I explore these differences in waste practices, historically from the archives, and through lived experiences, through my own exploration and working with others. My lens into waste and food is from attention to materials which draw from theories of Feminist New Materialism (FNM) authored by scholars who support this concept by undermining the binary between nature and culture and humans and nonhumans (Fox & Alldred, 2022). Nonhumans are a common concept that runs through new materialism and includes organic and inorganic systems. Serpil Opperman (2021) defines nonhumans as "…organic systems (from animals and plants to microorganisms) and inorganic systems, which include all forms of materiality, such as planetary ecosystems, geophysical processes, xenobiotic substances, technological objects, elements, and subatomic particles" (p. 258). I reference nonhumans throughout the dissertation, keeping with new materialist theory and positioning the non-living entities of food-based waste into this broader view of weaving materials within more comprehensive systems. Nonhumans are living and non-living entities,

like scraps of paper and bits of fruit peels, remnants of life-sustaining organic systems yet encountered by humans in unrecognizable forms. Repositioning these relations is essential.

Early scholars of new materialism, such as Bennett (2010) or Haraway (2013, 2016), advocate for identifying agency across all nonhuman entities and the relations between humans and nonhumans. From this perspective, managing waste by diverting it from one destination to another does not resolve the problem. Instead, this strategy simply moves the things around to have an effect somewhere else, and it is that very disconnection away from the production chain and the consumer that perpetuates the cycle for materials to be made and discarded regularly (Acuto, 2014). Collectively, most experts agree that we cannot resolve the waste crisis without reduction, and we cannot reduce without changing behaviours and thus practices. New materialism and, more recently, FNM, provide a theoretical orientation to interrogate waste that identifies the separation of humans from nonhumans with a feminist lens. Placing humans above or beyond nonhumans is one significant cause of the waste crisis we are in today. The nonhumans discarded have an effect in that they act back and can create harm across other life; a renewed relation can work to reduce harm to all of us.

For many of us, landfills are outside our everyday view: we see the trucks that collect the garbage, but we do not see the result of the landfill. Landfills are a kind of mystery, the end of one part of the waste process. In those early days of arriving in Montreal, I considered the quantity and diversity of materials collected astounding. All the waste from my street, the neighbouring streets, and beyond to the entire city and suburbs was transported to a piece of land filled daily with the discards of the city. For the most part, it is municipalities and private companies that are tasked to make sure all the waste collected prevents any harm back to us. In 2017, Charles Wilkins wrote an article, “Canada’s Dirty Secret,” in the popular magazine

Canadian Geographic, which detailed Canada's waste, landfills, and the heavy climate-changing damages that disposing of waste in landfills cause in Canada's largest city, Toronto. Wilkins describes what is, for most people, invisible, namely the secret life of things dumped in landfills: "what really hits the uninitiated is the *flow* of it all—the nightmarish relentlessness with which the waste keeps coming, keeps needing a place to go, to hide, to die, sometimes to be reborn" (para.7). Wilkins's argument in this article is akin to that of many other experts: the only real solution to the crisis is to stop wasting so much (Hird, 2012; Thyberg et al., 2016). From his reporting, it seems Canada's recycling efforts have failed, the landfills are filling up fast, and the environmental consequences are dire. Like other complex problems of modern society, we are at risk of merely identifying the issue without developing productive strategies to solve it.

The primary concern about waste is the environmental toll that it takes. Most of the damage occurs before the product even reaches consumers—from the consumption of all the energy, resources, and virgin materials that go into making products, including burning fossil fuels, using, and polluting land and water, and mining or clearing forests for the materials (Acuto, 2014; Food and Agricultural Organization (FAO), 2017; Kaza et al., 2018; United Nations Environment Program (UNEP), 2021). Another concern is that after we discard materials, the waste is piled into landfills, creating methane gas and leaching toxins into soils and groundwater (ECCC; Hird, 2013). Ultimately, material waste is a physical representation of this age that some call the Anthropocene, characterized by humans and our material life dominating other forms of life (Zalasiewicz et al., 2019). In the Anthropocene, we are collectively altering the earth's surface in ways that are detrimental to our species, and yet we persevere. The mass culmination of waste into the very layers of our earth demonstrates a lack of care across society. Myra Hird (2012) in her article, "Knowing Waste: Towards an Inhuman Epistemology,"

describes waste as a symptom of our disconnection and attention to the materials we interact with and use daily. As a result, as a society, waste is invisible, in that we do not *see* waste or *know* waste; ultimately, the disconnection produces waste and wasteful practices. How can we change the relationship to materials wasted in our everyday life?

Montreal's assertion, in its documentation, is that it does not produce more waste than any other Canadian city (Ville Montreal, 2020). Nevertheless, in my initial city experience, the waste felt radically present to me in those first few weeks. When Montreal was new to me, the built environment, coupled with the very presence of garbage blocking passages, sidewalks, and entryways, made it hard to ignore. Nevertheless, after this initial observation, I refocused my attention on more inspiring elements of the city as a way to adapt. By doing this, I was able to make the garbage invisible; it melted into the larger view of the cityscape and my daily routines in such a way that the garbage at my feet became normal and I accepted it. Myra Hird (2013) in her article, "Waste, Environmental Politics and Dis/Engaged Publics," examines public participation in waste management and calls our removal of waste an act of "self-erasure" (p. 188). The practice of removal results in an inability to witness the waste in our daily lives. She contrasts removal with other cultural methods by examining the ways Inuit communities and Australian aborigines manage waste. Practices she finds follow an ethic of leaving waste in its place (or closer to where it came from) and demonstrates that these communities consider removing it to somewhere else "the performance of a lie" (p. 190). In contrast, the removal of waste in the urban area of Montreal allows us to keep wasting, and its erasure contributes to the lie that it is away.

1.1 Finding Food in Waste and Matters in Food

Fast forward from my early observations in Montreal to a few years later, and my initiation into my doctoral program on food studies. My first task in my urban design course was to observe and practice mindfulness as I moved through the built environment of the city. As a food scholar in design, this meant identifying my food spaces, finding food things, and documenting my food practices. A little homesick for Canada's west coast and thinking about ways in which I found inspiration in my previous neighbourhoods and built environment, I set out to discover what kinds of foods were in and around my new neighbourhood.

Growing up and becoming a food scholar on British Columbia's coast, I learned how to identify edible berries in the forest and find delicious mushrooms under trees and wild greens for teas and soups. I harvested and ate all kinds of local food growing in the green spaces during my neighbourhood walks. I learned about ancient root vegetables and their association with healthy forests. I ate kelp and seaweeds from local harvesters. I was able to name many indigenous plants, and through naming and eating and being with others, I learned to care about and advocate for the forest and ocean. So, in my new urban home, tasked with mindful documentation of the urban landscape, I took up the challenge of the design program I entered as an opportunity to get to know my city and my neighbourhood through food. I walked the streets of my neighbourhood—back and forth from the grocery store—walking my dog through alleys, and I started slowly to acknowledge the things that lived in these spaces. I wanted to find inspiring bits at my feet, like edible plants growing through a street crack or neglected fruit trees in a green space. I searched but found few examples. If I re-oriented my view and was a little more honest about what things were in every corner of my walks, however, I would see that the food things were the scraps and discarded pieces of eating—waste from food. My dog pulled me

to get the leftovers, sometimes entire meals left on the street or food packages with strong scents discarded into the corners of alleys. I would constantly step and trip over food packages. Waste was never something I aspired to research; it was waste, not the exciting stuff of people doing and making food and culture. Yet here I was amid the subdued messy assemblage of waste and food in spaces and the uninspiring material representative of our dysfunctional society.

As a food scholar, I am fully aware that subject matter on food is endless, infused with flavours and people doing and eating good things. As a feminist-oriented researcher, I start from who and where I am, situated in my geographic locations and socio-cultural contexts that implicate my life experience in my research pursuits, to seek out, address, and contemplate those topics that scream out to me in some way. Remarkably, the food waste that I came across was not screaming; it is so abundant and mundane in an urban environment that it was initially hard to find my focus. From my initial experience in Montreal, I was able to stop paying attention to the city garbage, but eventually I saw, through my daily food and food practices, that the waste was not going away. Like naming plants in a forest, once I thoughtfully paid attention, the remainders of eating—the chicken bones, parts of hamburgers, and dirty Styrofoam containers—became things that required attention and a better understanding. Jane Bennett, in *Vibrant Matter* (2010), rationalizes her focus on things (including the garbage on the street) because "the image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasises of conquest and consumption" (p. ix). For Bennett, the waste materials do something to humans, the environment, and other materials. I can see how the wastes of food are urgently a part of the larger food systems and structures I had studied for many years. Yet every day, I too throw out food and food materials with weekly mounds of recycling and garbage and, inevitably, this reality became a point of departure for the research I have undertaken. Food materials

connect to my everyday existence, and once noticed, they are hard to turn away from—it is challenging to waste when I can see the materials and I know that other options exist.

This research journey, then, began with encounters with waste, urban human-material messes. Food, like waste, is a material with all the complexity of relationships between other materials and humans that determine the way it becomes with others and the broader environment—waste that harms or food that nourishes. From my initial observations of waste, I explore different interventions I created into the mess through a food lens in this dissertation. I frame my exploration into food and waste through a theoretical frame of FNM (Coleman et al., 2019; Hinton & Treusch, 2015; Hinton, 2014). FNM makes sense of my initial premise that food-based waste can be made more materially visible through a hybrid understanding of waste that starts from a food-based approach. I consider how current interactions with food materials need to become visible encounters; through this understanding, I learn to interact, work with, understand, and ultimately care for these materials in such a way as to know them — not as waste but as individual actors with vitality and agency (Bennett, 2010; Latour, 2005). I am concerned about all our waste, yet I find a way to grasp and understand waste through a food-centric perspective. Essentially, I want to understand waste through a food lens and food-based waste through a material lens. Through food, I can examine how we create waste and practice food in daily life. Thus, this dissertation focuses on the wastes of eating and cooking in everyday life—the food waste, packages, the leftovers from our meals, and discarded remains of our cooking practices. I examine this *food-based waste* through an approach that incorporates a history to inform a critical design and public pedagogy method to conceive of food-based waste materials anew. I examine how these methods provide a deeper ability to know waste that enables care for the materials of waste. Viewing waste through food allows for a specific kind of

connection to waste that draws on our immediate interests of nourishment and extends the concern for food to the waste it produces.

1.2 Material Relations and the Research Statement

> Waste may be seen as nothing more than a symptom of a failed relationship, in the form of unfinished repair or reconstitution. (Martinez, 2017, p. 347)

In this dissertation, food-based waste is about gender, domestic labour, and food, and our relationship to material and the material itself. As Francisco Martinez suggests in the opening quote of this section, waste can represent failure and a broken understanding between humans and materials that requires a renewed sense of care**.** In another way, Bennett (2010) states "...inanimate things have a life that deep within is an inexplicable vitality or energy, a moment of independence from and resistance to us and other bodies" (p. 18). This vitality of the material's composition can harm the environment or provide nutriment to humans and other life. Therefore, the primary way I look at the research problem of food-based waste is that waste production occurs because of a lack of material knowledge and general interest in waste materials, positioned from within the historical rise of industrialization and capitalism that privilege consumerism and efficiency above conservation. Theories from FNM suggest that this has resulted in a severed relation, which disables caring for the materials (Puig de la Bellacasa, 2017). I explore and develop a methodology for my last chapter to re-establish this relation, by fusing c*ritical design* with *public pedagogy*; this methodology is tested in the workshops I held as part of my investigation, but the severed relation itself is explored in the historical research and lived experience interviews. *Critical design* is defined as an approach to design and making, where the designed artifact offers a critique or a challenge in some way to the role of everyday objects, whereas p*ublic pedagogy* is learning that takes place outside of formal pedagogical environments such as universities or any classroom environment (Dunne & Raby, 2013;

Malpass, 2017; Sandlin et al., 2011). Together this methodology and discursive perspective aim to take the process of design to the public, to conceive of creating and experiencing materials of waste that allow for a different relation to take place. The goal of my research is to create a method that enables material relations; I consider the process realized when I and others can learn how materials are understood to have agency. I interpret relations in two ways, through attention and interest in the materials and knowledge of the materials—knowing the materials in a way that allows for creative re-use or inhibits the materials from entering our spaces such as the city's landfills, street corners, or trash cans. In other words, acquiring knowledge of materials allows for an understanding that is beyond a singular purpose and therefore can create an awareness of the entire lifecycle.

My research in this dissertation begins with a feminist critique of specific historical moments that resulted in household waste. Such waste radically increased during the post-World War II (WWII) period (the 1950s to 1970s) in Canada, a period which, notably, is also considered the beginning of the Anthropocene era (Subcommission on Quaternary Stratigraphy, 2019). For most of history, women's knowledge, and labour averted waste from food. Women were responsible for the care of humans and nonhumans and, historically, caring required an attention to all the materials that collectively comprised household sustenance. The relation between women, the kitchen, and the materials resulted in a kind of interdependency that was motivated by the need to take care of the household, including economic conservation. Food histories and selected Canadian archives demonstrate how changes to food practices, materials, and domestic spaces influenced waste production and transformed material knowledge. Canadian cultural shifts influenced waste production through a change to household work, which promoted an immediate removal of materials rather than material salvage practices that were once integral.

Before and during WWII in North America, women were primarily tasked with household management, and this included re-using materials and preventing waste (Strasser, 1999). This material re-use required a particular kind of knowledge, labour, and creativity that, I propose, constituted a complex form of heightening, recognizing, and responding to the agency of food — both as a resource and as waste. I contextualize my research and use my findings from Canadian historical evidence to develop a brief history of this activity. I align these histories with women's lived experience from this period through life-history interviews to further understand how individuals experienced the cultural changes in Canada and their effect on daily food practices.

My theoretical position, derived from FNM, identifies the problems with human relations with food-based waste and offers a way to examine my results. Critical design and public pedagogy provide a means to enable what I will call food-related *material relations*—to make the agency of food-based materials discernible, visible, through an embodied process of making and designing with food-based waste. The methodology also encompasses methods for sharing the process, to engage a wider audience and evaluate, with other human stakeholders, possible means to achieve material relations as a prerequisite to mitigating waste. Throughout this dissertation, I employ the tools of autoethnography to share my lived experience within the research and as an extension of my methodologies. Autoethnography acknowledges and situates the relationship and exchange of knowledge between the author and the audience, and thereby positions me in the research and makes apparent my own human-material exploration that formed this project and its outcomes.

Two significant goals motivate and shape this work. The first is to assemble a feminist-material history of food-based waste in Canada, which is presented in Chapters 2 and 3. The second is to present a method to intervene in the current waste production and cycle. As a

feminist food scholar/researcher, I am interested in research that works within and outside the academy; therefore, I interpret the second phase of my research through an exploratory project that invites social change through developing a critical design public pedagogy in the project *Eat, Waste, Make,* presented in Chapter 5. *Eat, Waste, Make* was an exploratory educational framework that proposes an approach to move forward a collective conversation on waste and how to be a more sustainable society. In summary, the integration of public pedagogy and critical design allows for a deeper exploration of how learning occurs outside academia. By creating spaces and interventions that encourage engagement and public participation, this research aims to challenge prevailing norms and foster transformative learning experiences beyond traditional educational institutions.

Through a feminist and material understanding, then, my research goal is to present a historically informed process to re-engage with food-based waste and awaken and enhance relations associated with food-based practice, especially regarding waste. In particular, my research is grounded in the understanding of women's critical role in making material knowledge, leading to a goal of developing an informed feminist method for material engagement. From this position, the broad overall question is: *In what ways can a Feminist New Materialism lens be applied to explore food-based waste, shedding light on contemporary relations and structures that facilitate its excessive production?* To answer this central question, my key research questions that correspond to Chapters 3, 4, and 5, include:

1. In what ways did domestic-centred design and pedagogies influence post-war cultural shifts for food production in Canadian homes during the post-war period, leading to shifts in waste practices and an increase in waste production?

2. How can an understanding of women growing up during the post-war period in Canada, particularly in relation to food, waste, and domestic offer valuable insights into their daily realities?
3. How can critical design and public pedagogy serve as a practice-led approach to foster collaborative efforts in reshaping our relationships with food materials, thereby creating greater resistance to their disposal and entry into the waste cycle?

As a means to explore these questions, Chapters 3 and 4 engage research on a selection of archival materials and life histories as evidence. The last research chapter (5) examines the process of developing a contemporary critical design public pedagogy, first through contemplating my experience in developing my design practice and second, in producing the workshop series. In each research chapter, I will elaborate on the respective methods. This collective mixed-method approach includes creative practices such as experimental video, collage, printmaking, photo documentation with archival research, interviews, and workshop design and delivery.

Chapter Two traces my research project from problem to response. I begin by situating food-based waste within the global waste crisis, arguing that the crisis requires immediate attention to mitigate global climate and environmental change. I define and explain my main concepts of critical design, public pedagogy, and FNM, which I use to articulate my concepts of food-based waste and material relations. I then proceed to demonstrate my response through an interdisciplinary strategy encompassing communications, design and history presented through an autoethnographic approach. Theory and methodology required a mixed-method approach that

includes a range of methods from each discipline; FNM serves as the framework on which I build my exploration of critical design and public pedagogy.

Chapter Three presents a feminist critique with a design lens to examine how historical food practices, materials, and domestic spaces altered Canadians' way of using materials from cooking, shifting practices away from salvage and re-use. My historical approach examines evidence from Canada's post-war era (the 1950s to 1970s). Broadly, I look at history for the emerging values and ideas of this time as demonstrated through changes to the built environment, domestic practices and new materials, food, and food things. In a selection of archives and published histories, I investigate how domestic waste production was promoted and considered a sign of modernity in typical Canadian homes during the post-war era. I use specific archive materials from the Canadian Mortgage and Housing Company (CMHC), the Federated Women's Institutes of Canada (FWIC) and the regional Women's Institutes (WIs)[1] along with other archival media, to reveal the ways changes were taking place. My findings offer ultimate lessons in engaging a conversation on constructing spaces, understanding materials, and finding practices that prevent waste.

For **Chapter Four,** I narrow my focus to the life-history interviews of three women, each presenting a micro-history of family life and food from the 1950s onwards. The stories are richly detailed and reveal moments in history that echo the archival research. These life histories comprise my autoethnographic exploration, as I interviewed women connected to me and whose practices have informed how I view food-based waste. This interview exercise, replete as each

[1] WIs are secular, women-led organizations in communities across Canada that started in 1897, primarily focused on improving rural women's lives. The FWIC is the organizing body, located in Ottawa, for all WIs in Canada. See https://www.fwic.ca/ for more information.

was with memories about care and practice, contributed a perspective of live experience to my research and also underscored the need to explore methods of intergenerational learning.

Chapter Five elaborates on the development and implementation of the *Eat, Waste, Make Project*. I begin by presenting and explaining the creative projects in phase one that informed the design of the workshop series itself. I interpret my process through describing the making of artifacts and elaborate on the critical design method and its contribution to the workshops. Next, I present five workshops I developed and facilitated in terms of description, analysis, and interpretation. The description includes the iterative process that I undertook, namely my adoption of new activities or structure based on the lessons learned from my creative practice and from each workshop once it was completed. The workshops' activities aimed to reveal a kind of engagement with waste materials that promoted care—by stimulating participants' questions, ideas, and future directions with a tactile process that experienced the materials in composition and aesthetic. The workshops were held intentionally outside the domestic environment, to recreate a space where the waste materials could be interpreted through an unfamiliar lens, thereby changing the relations between humans and materiality. In particular, the workshops were groundwork for understanding creative methods towards public engagement with a complex and critical environmental issue.

In **Chapter Six**, I conclude by summarizing my main findings that connect the three research chapters to underscore the idea that analyzing waste production through critical design and food provides a method to foster caring relationships. I conclude by reflecting on the future directions for the research and the urgent waste crisis in Canada. My final thoughts call for continued exploration and innovative approaches to address waste issues on individual and systemic levels due to the significance of waste in society.

Chapter 2: Research Design

2008 was the Year of the Potato, a United Nations (UN) designation to increase the awareness of the role of potatoes as a staple food in the world food supply.[2] That year, I was working with small-scale farms in rural British Columbia on a mapping project for my master's research at University of British Columbia-Okanagan. Despite this work, I only learned of the designation toward the end of 2008, when community artist Cathy Stubington,[3] a new graduate student at the time, invited me to assist her for a day with her potato project. Cathy's objective was simple: to get people talking about potatoes before 2008 ended. Her idea involved setting up a large table in an area of the university with high visibility and foot traffic. We set up stacks of brown paper, paint supplies, and a box of potatoes from her farm. She then immediately started asking everyone and anyone to make a potato poster and encouraged strangers, students, and colleagues alike to create whatever they wished with pieces of potato and paint on paper. Reactions were mixed. Some of her Fine Arts colleagues were generally confused by what she was doing and refused to engage; other people were curious to see and try. With years of experience in community-based art, Cathy knew exactly what she was doing, and the experiment worked brilliantly. Everyone was talking about potatoes. As people made their prints, they shared childhood memories of potatoes and printmaking; others asked questions about potatoes.

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[2] More information for the 2008 United Nations designation at: https://news.un.org/en/story/2007/10/236382-top-official-launches-un-international-year-potato

[3] Community artist Cathy Stubington is the founding Artistic Director of Runaway Moon Theatre in British Columbia. More information on her work as a community-engaged artist can be found at: https://runawaymoon.org/about

Some people talked about their favourite dishes, and others reflected on the potato's contribution to food security. At the end of the day, we hung the posters on poster boards around campus. Their simplicity and childlike appearance caused a bit of controversy: whereas some university administrators did not consider them art, others did not consider them posters. Cathy insisted on displaying them in order to continue the conversation. Once displayed, these prints were simple and strange, which ultimately drew attention to them and increased the visibility of the Year of the Potato. See Figure 2.1, a photo of my potato print I did for this research and later used as an activity in workshops.

Figure 2.1: Rotting Potato Print

Note. A photograph from my experiments in potato printing and documenting processes in 2016, inspired by Cathy Stubington's work

My engagement in Cathy's project was integral to learning about and appreciating creative approaches to pedagogy that informed this dissertation. The experience with Cathy stimulated a learning process that provided an understanding of potatoes as critical food and vibrant nonhuman materials. Participating in creative projects with Cathy and other artists throughout the years allowed me to observe the effects on participants. My research design, presented in this dissertation, is motivated by these experiences in learning through making. My research strategy is an interdisciplinary approach comprising design, communications, and history, incorporating ideas and practices from each of these three disciplines to develop my research design. What I am proposing in this chapter is an investigation and intervention into food-based waste through the theoretical lens of FNM and through the approach of design theory, which I apply as both a historical design assessment and a contemporary methodology developed for the *Eat, Waste, Make Project*, of a fusion of critical design with public pedagogy. The process that unfolds in this dissertation has been iterative and exploratory. I began with initial conceptions of a research topic—food, food waste, kitchens, and cooking—and built on my initial findings and ideas as I developed the project. The result for the dissertation is three investigations, presented in three research chapters that examine the spaces, the materials, and the practices that generate food-based waste from a historical, life history, and critical design and public pedagogy experience.

In the first section, I review the research problem on waste and food-based waste in Canada. First, I start with the examining the concept of waste through history. I briefly explore the word "waste" itself, which I have chosen to use specifically because of its evolving meaning through history. From eighteenth century England to present-day Canada, what is considered waste is contested and shaped to the broader concerns of elites. Next, I focus on the contemporary waste crisis overall, my objective being to highlight the problems with food-based

waste, such as food waste and plastic packaging, as considered in published reports and policy papers of the UN, Canada, and the City of Montreal, my research locations. In keeping with this cross-disciplinary dissertation, the research problem moves between Canada's past and present to deal with the question of *how did we get here*? A response to the waste crisis requires the undoing not only of current everyday practices but also the deeply embedded ideologies that have worked to disconnect the binaries of humans and nature or humans and nonhumans.

In the next section, I will present my framework with the ideas and concepts from FNM and early new materialism. This theory orients my interrogation of food-based waste through the broad binaries of nonhumans and humans through examining the intersections of materials, spaces, and practices. New materialist ideas from Jane Bennett (2010) first directed me to waste as a subject; Donna Haraway's ideas (2016) in *Staying with Trouble*, which link care and relations to things, brought me further into the topic. Other theorists have continued the conversation on evolving concepts of FNM (e.g., Coleman et al., 2019; Revelles-Benavente et al., 2019). Their work has guided me to make specific choices in this dissertation, particularly in choosing different areas to study, such as looking at relations amid the spaces of kitchens, the materials of food, and the practices of people who make dinner and either generate waste or create alternatives. Next, I turn to my methodology that fuses critical design and public pedagogy, including participatory design approaches from designers that act like scaffolding to build a historical design critique and a practice-based way to think about food-based waste. Public pedagogy literature defines and places pedagogy as a tool for bringing the practices of critical design to others. Finally, I explain how reflexivity and autoethnography give me a means to use my voice to weave all the parts together, explicitly placing myself in the results of the dissertation to reflect and find sense in the everyday practices of wasting.

2.1 Research Problem: Exploring Waste through Food

2.1.1 Speaking of Waste in History

As mentioned in the introduction of this dissertation, Canada produces enormous amounts of waste (Conference Board of Canada, 2017; Hird, 2013; Kaza et al., 2018; Wilkins, 2017). Identifying Canada as a top producer of solid waste per capita makes food-based waste and thus household waste a critical research area. In my exploration of food-based waste, two observations are noteworthy. The first is that the term waste itself is both denotative and connotative. For example, waste can be defined in terms of volume or content, but it is also conceptually rich in conjuring up ideas of transgression, waste being something that is no longer or never was helpful for human productivity. Most literature that covers waste, garbage, or refuse employs the term waste to encompass all kinds of materials and processes. For example, in Canada we refer to all of the processes involved in dealing with garbage as waste management, whereas garbage references the materials themselves that are discarded (Statistics Canada, 2017). Myra Hird's 2021 book, *Canada's Waste Flows*, emphasizes how waste becomes a critique of efficiency, which I explore throughout this dissertation. She states:

> Within capitalist societies, waste is often associated with resources that are out of place, and which span the gamut of lost work time and incomplete production to the failure to maximize profit through the non-use of potentially usable objects such as land (p. 12).

In this way, Hird connects waste to larger structural systems in how it is defined. Waste can signify the inefficient use of time, or excessive use of processes or practices, or improper consumption habits, such as wasting food. As a verb, it describes acts of destruction, such as laying waste. In its old English origins, waste meant specifically desolate land and later, as a verb, was used to describe useless activity (Wilk, 2015). Wasteland comes from these early

definitions and finds its way to Canada through colonization; for European settlers, a wasteland represented a piece of land, unused for farming and still today, land generally not used for some kind of profit but that is often biologically diverse, like a wetland or bog, is labelled a wasteland. To use the term waste as my central subject is to include all of these meanings and historical baggage, so to speak, as I untangle and attempt to comprehend waste in each research chapter.

The historical baggage can best be traced to Canada's colonial roots in England. What waste historians depict is essentially the becoming of waste—the evolving meanings of waste to render something valueless. Specifically important is how this short period of colonial history examines the role of beliefs and values in making waste. Environmental historian Marco Armiero (2021) describes waste as a relationship which comprises "… the assemblage of power hierarchies, socio-environmental inequalities, and racist structures that make it possible to impose a toxic regime" (p. 427). Armiero thinks of waste as the outcome of society's structure under capitalism and the rise of ideas that support this economic system. His concept of "wasting relationships" are relationships imposed by a capitalist society, which led to the Wasteocene (p. 426). In naming this period the Wasteocene, which he considers having begun around the 1950s, his intention is for historians to reveal the stories of waste aligned with the narratives that made these histories invisible in the first place. Thus, the task Armiero suggests for historians is to present the "histories of contamination" while piecing together the structural narratives. Tim Cooper (2010) begins from a similar viewpoint within the current age of planetary destruction and charges that environmental history must contend with the urgency of this era, asking "how did it come to this" to inform a way forward (p. 1114). Armerio's structural narratives focus on unpacking specific community experiences of waste. Alternatively, Cooper (2010, p.1115)

advocates for a "totalizing" account of waste through history, where top-down ideologies shaped changes on the streets and in homes for waste production in Great Britain.

Both Cooper and Armerio name capitalism as the central structure that enables waste; it is the ideologies of capitalism, along with the unequal social realities it produces, that render people, things, and places less valued. The nature-culture binary is necessary under capitalism to enable the exploitation of resources and the dumping of excess. Accordingly, Cooper considers waste a consequence of ideologies and argues that evolving meanings of waste enabled the appropriation of nature. Cooper, drawing on John Scanlan (2005), points out that waste is a material outcome of the ideas embedded in modernity. He implicates rational philosophies from the Enlightenment era that ascribed new values and meanings to nature, reducing the worth of materials and spaces to human utility. In England, the meaning of waste evolved alongside socio-ecological systems of agriculture and farming. Cooper (2009) explains that, up to the early 1900s, waste referred to any uncultivated lands around the English medieval manors. The wastes and the common lands of the property were open to tenants for animal grazing and other activities and were managed in common. Although useful and vital to the tenants, the lands were marginal areas in the context of the main cultivated areas, whereas the wastes were the edges of the manor containing forests or wetlands. Cooper traces how wastes were targeted under the capitalist project and agricultural revolutions in Europe from the 1600s to the 1900s, most notably contested for whether they should be privatized or remain in communal management. Proponents of capitalism and privatization, such as Enlightenment philosopher John Locke (circa 1632-1704), argued for the privatization of farmland and deemed all uncultivated lands—the wastes—to be land that needed to be reclaimed and taken out of the common. Locke's ideas were instrumental in reshaping the organization of land and people in England. The enclosure of

land, the removal of wastes, and the industrialization of farming in England worked to separate humans from nature; it defined all wild things as unproductive or useless. Land as waste became a symbol of inefficiency and anti-progress. It was morally corrupt not to make the wastes productive and productivity required draining wetlands, logging forests, and creating farms, gardens, or housing—essentially designing the landscape for human use only. These concepts, explored more thoroughly in Chapter 3, became apparent in Canada in the 1950s, where modernity was equated with efficiency that privileged saving time and labour over materials. Waste was that which did not respond to the values of modernity.

Key principles of the Enlightenment in England were exported to Canada by European settlers, who also described the unfarmed landscapes in Canada as wastes, regardless of Indigenous understandings of the land.[4] Designating lands in this manner had severe consequences for Indigenous communities. The lands not farmed to European standards or enclosed by fences were simply taken or questionably negotiated on the rationale of making lands profitable and productive. What the early settlers to Canada deemed wasteland became a place with no worth and thus could be given to subsequent settlers or extracted for resources. Ultimately, Cooper (2009) makes the case that these meanings of waste and the repercussions are intertwined with capitalism's conceptions of value and nature. He states that "…the wastes of capitalism were treacherous, exposing the entropic, degenerative reality underlying the capitalist conception of progress" (p. 249). Arguably, in Canada's history, this naming and claiming under

[4] See R. Douglas Francis. (1987) From Wasteland to Utopia Changing Images of The Canadian West in The Nineteenth Century. *Great Plains Quarterly*. 424. This article details the Western expansion and conceptions of land by settlers as wastelands. I consider it common history that early settlers considered bogs or wetlands as wastelands for dumping, while Indigenous communities had a radically different understanding of landscapes, including wetlands for growing and collecting food and other materials. From my own personal communication (experience?) in working with Indigenous communities on the west coast of Canada, they often discuss how this different perspective impacted their use of the land.

the guise of progress has led to vast transformations of ecologically productive and biologically diverse landscapes contributing to the planetary crisis, as well as hardship for Indigenous peoples. These areas in Canada, in turn, became the sites where urban waste is landfilled, further transforming ecologically productive land to actually unproductive wastes—toxic piles of leaching trash.

2.1.2 Food-based Waste: Impacts and Responses

> … the point is that we need to landfill no further, and the problem of what has already been landfilled remains (Hird, 2013, p. 119)

As the quote above from Hird (2013) denotes, landfills are not predetermined, they are produced through actions and choices. All the waste is removed from homes to landfills in Canadian cities or exported to other countries and the vast quantities of human waste that dwells on the land has consequences. The problem includes the effects of waste and the challenge of reaching the population to create the necessary changes—to make the public care in order to engage in actions at the household level and support new directions across society. In the *Sustainable Development Goals Report* (2021), the UN demonstrates the complexity of tackling waste globally, describing how waste is increasing across most countries and how the 2030 targets are far behind, as is the overall target of reducing global waste by half. In its assessment of sustainable consumption patterns, the UN indicates that nations are adopting new policies, but that unsustainable use of national resources continues to rise, "having a devastating impact on our planet—propelling climate change, destroying nature and raising pollution levels" (UN, 2021, p. 50). Given these challenges, it is evident that multiple interventions and strategies for public engagement are necessary to meet waste reduction goals and mitigate the consequences of global environmental and climate change.

My focus on food-based waste comes from knowing that waste production is a complex and multi-faceted research problem. Like examining an old tree, I am choosing to untangle one root in a mass. My research problem, at root, is the waste produced through food practices within the domestic spaces—a strategy to relate waste to a necessary and perhaps pleasurable part of people's lives. I review existing policies and programs on food and waste because they represent the most common type of public communication on waste. For waste materials, I zero in on data for food waste and plastic waste, as the literature identifies these two kinds of food-based waste as the most common and problematic types related to food in Canada. As a local case study, Montreal is my adopted city and the site of the *Eat, Waste, Make Project*. I am at once researching waste and experiencing the city's waste as I navigate the streets and the city's management plans while trying to understand the labyrinthine, delayed, and confusing plans as bans on certain materials are announced and retracted. In this way, the city, as the wider built environment of this research, informs my research process and findings through the everyday experiences of my encounters at home and the knowledge accumulated here. Addressing the local conditions of Montreal offers an opportunity to examine food-based waste in a microcosmic way since that management is unique to each city and municipality across Canada.

The UN's Sustainable Development Goals (SDGs)[5] are the primary go-to source for Canada to develop policies, targets, and strategies for waste reduction (UNEP, 2021). There are 17 goals, with each goal proposing targets with measurable indicators and providing descriptions of the method the UN will use to measure how to achieve these targets for 2030. Each partner country, like Canada, reports on progress and shares data annually. In the 2021 annual report

[5] All 17 SDGs are outlined in detail at: https://sdgs.un.org/goals. The main goal for this research is *Goal 12: Ensure sustainable consumption and production patterns.*

cited above, the UN data highlights that the global material waste footprint has grown by 70% from 2000 to 2017, and waste production has skyrocketed since re-use and recycling efforts have been unable to keep up (p. 19). Waste and waste management are explicitly covered in *Goal 12: Responsible consumption and production.* The material footprint is a central indicator for goal 12; it is calculated as a sum of all biomasses, fossil fuels, metal ores, and non-metal ores consumed by a country (p. 19). The material footprint is a valuable communication tool, demonstrated using a foot icon illustrating the ranges that different countries consume as well as the massive growth overall in the world. In the goals, waste reduction and better management are framed as targets to alleviate environmental impacts. The SDGs have developed two key waste categories: food waste and SUPs.

Food waste is a global problem for several reasons, including exacerbated food insecurity issues and as a significant contributor of greenhouse gases. Current UN data from the FAO suggest that houses and home kitchens are the most significant source, specifically of food waste, worldwide (FAO, 2017). However, the FAO 2017 report discusses how in countries with more affluent citizens, like Canada, food waste is primarily domestic, but in countries with poorer citizens, the total nation's food waste includes farmers' fields or manufacturing. Additionally, wasting food on the table needs to be understood in the larger context of all resources consumed through its lifecycle, such as water, fertilizer, and transportation, all of which come with attendant pollution. From the estimated total global food waste numbers at 931 million tons each year, with 570 million tons just at the household level—this is a staggering quantity of wasted resources and pollution from uneaten food. Therefore, the UN's goal for 2030 is to reduce global food waste by half (2021).

The *Food Waste Index 2021 Report* from the UNEP (2021) considers greenhouse gas contributions to be the most pressing concern. The report opens with the attention-getting line that if "food loss and waste were a country, it would be the third biggest source of greenhouse gas emissions" (p. 4). Food waste and any organic matter in landfills produce methane gas. The organic matter cannot break down because the landfills' compacted mixed material environment is anaerobic. Methane is 25 times more potent than carbon dioxide, making food waste a concern for implementing any climate change action plan (UNEP, 2021). The reports estimate that 8 to 10% of all greenhouse gases produced globally come from unconsumed food. Food waste in a landfill cannot break down without the worms, bacteria, fungi, or air present in a backyard compost heap. Industrial compost facilities can reduce food waste pollution, but the problem starts at the beginning of the lifecycle. Like many contemporary environmental issues, the paradox is that food waste causes pollution in landfills but is a source of rich nutrients for the soil when composted. In addition, while methane production occurs at the end of life, other greenhouse gases are produced in the growing and production of food as well due to agricultural practices, processing, transportation, and storage.

Food waste in a landfill pollutes through the process of it breaking down, while plastic pollutes in its inability to break down. Plastics have garnered global attention as solid waste pollution: they are choking oceans, filling up landfills, and finding their way into almost every part of the planet, even human and animal organs (UNEP and World Travel & Tourism Council, 2021; Daly, 2018). Food-based plastic waste is a significant part of the plastic waste problem. The UNEP's (2021) estimates show that up to 40% of all plastics produced are for food packaging. The main problem is that most of the plastic used daily is synthetic and does not degrade in the environment. Indeed, Greyer et al. (2017) estimate that of all plastics consumed

since the 1950s, over 60% still exist somewhere in a landfill or the environment—they never went away.

The primary plastics of concern, in terms of food-based waste, are SUPs—like most food packaging that is used once or for a short period before discarding (Greyer et al., 2017). These are common in everyday life, such as plastic wrap, utensils, take-out containers, straws, coffee cup lids, and grocery bags, to name only a few. Over the last 65 years, more products were made from plastics than any other manufactured material, with 40% of those products designed for single use only (Greyer et al., 2017). Global estimates of the impact of SUPs on the environment are alarming. For example, the UNEP's 2021 report on SUPs and tourism emphasizes that the only way forward is to reduce SUPs and drastically recycle whatever is left (UNEP et al., 2021). From the UN to municipal governments, policies aimed at reduction bring attention to the crucial role played by industry and encourage or mandate alternatives to synthetic plastics. Industry incentives to stop manufacturing SUPs are critical, along with diversion plans and experiences that make people care enough to participate.

Over the last few years, numerous public campaigns, documentaries, and emerging plastic-pollution organizations have all tried to increase awareness about the plastic problem. In *National Geographi*c, Laura Parker (2019) outlined the overarching issues of the global plastic problem. An image that resonates is her description of plastics moving around the globe through rivers and oceans, caught up in currents. She reveals how one remote uninhabited Pacific Island between Chile and New Zealand found plastic waste from Japan, Russia, the US, Europe, China, and South America. The message here is unmistakable: plastic waste made and used anywhere is a global problem—no matter how I manage my plastics at home, they could go on to choke something somewhere in the ocean. In addition to this stark image, Parker explains that the

production of plastics is steadily increasing; she cites that in 1950, 2.3 million tons were produced globally, whereas, in 2015, this became 448 million tons in one year. Looking at current rates, this will double by 2050. Plastics even drew the attention of the fashion magazine *Vogue,* which in 2020 ran the article by Emily Farra, "Our Plastic Problem Has Reached a Tipping Point—Here's Why We're Still Hopeful," focusing on the influence of the COVID-19 crisis on plastic pollution and set within the context of plastics in the fashion industry. It is a hot topic that is getting a lot of media attention, yet all the literature, from the UN to *Vogue*, says it is a problem that is not going away. Plastic production is rising, recycling plants are closing, and the public is just starting to learn about the health dangers of realities like microplastic pollution (UNEP, 2020).

In Canada, numerous activities and organizations are working to address food waste through strategies to reduce, recover, and recycle food waste. Canadians sit relatively high on the per capita range for food waste; published data from 2015 to 2020 and analysed by the UNEP showed that Canada produces approximately 79 kilograms per year per person. Americans, in comparison, were lower, at 59 kilograms per person (UNEP, 2021). The federal government report (2019) *Taking Stock: Reducing Food Loss and Waste* outlines a plan for managing food waste across the country and presents different actions by industries, citizen organizations, and provincial government mandates. The 2019 report demonstrates that Canada's federal policies mostly target household management strategies that divert, recover, or recycle food waste to prevent it from going into landfills. Food distribution is a primary concern for food insecurity, and a critical national goal is to redistribute food before it becomes waste. Recovery of food waste is defined by companies or similar organizations as donating food to be consumed by others, such as food banks or other charities (ECCC, 2019). Recovered food can also be made

into animal food products. Recycling food, on the other hand, refers to producing energy, like biodiesel from plant oils or creating compost for municipal horticulture. Even so, implementation of recovery plans is limited at the federal level because most programs are managed locally, and the federal government's role is restricted to profiling priorities and providing grants to projects.

In Canada, the majority of SUP waste from food occurs at the household level, so although the average Canadian has more control to reduce consumption through consumer habits at home, focusing on regulating the industry is essential to limit what is available in the market. Issues with plastics include accumulated piles in landfills and plastic entering waterways in Canada. Scientists at the Rochester Institute of Technology found that about 10,000 tons of plastic enter the Great Lakes every year (Hoffman & Hittinger, 2016). In addition, private waste management companies in Canada ship plastic waste to overseas recycling markets, where it can end up landfilled in open sites and local waterways (D'Amours, 2017). SUPs are a focal area for Canada and for the United Nations Development Program's (UNDP) SDGs 2030 program, but reduction efforts are slow to be implemented. Municipalities determine which types of plastic they will collect, and many do not include typical plastics used in food packages—these are, instead, landfilled or end up in the environment. A study by Greyer et al. (2017) found that the recycling rate in Canada was close to 3% or even lower for plastic food packaging; indeed, only about 9% of plastics produced became new products at the time their data was gathered. Recycling programs have significant issues across Canada, particularly with regard to plastics. This study suggests a solution to increasing recycling rates is in better educating Canadians on how to sort plastics to support optimal recycling conditions and reduce having to landfill contaminated collected recycling from households. Canadian waste diversion programs identify recycling by a number assigned to each type of plastic which indicates the plastic type (Canadian Council of

Ministers of the Environment (CCME), 2018). Determining and understanding plastic types[6] with recycling practices is one aspect of daily management under Canada's waste management system. Still, keeping plastics out of the recycling bins or the landfills really requires grocers and manufactures to stop using it for packaging—for that to happen, governments need to create better policy.

Plastics are the primary target for Canada's zero-waste[7] strategy, which was launched in 2018 by the federal government to meet international commitments to plastic reduction, including the UN's SDGs. The strategy, outlined in the report by the CCME "Strategy on Zero Plastic Waste," introduced specific policies to target different kinds of plastics (CCME, 2018). The federal government emphasized a combination of infrastructure and creating programs with citizen organizations to expand public education. One significant issue for educational efforts identified by the CCME (2018) is the increasing diversity of plastics and products. Consumers may not have any means to compost or recycle new-to-market, plant-based, or degradable plastics. Identifying the diversity of materials in the household is challenging, and data shows that it results in landfilling hard-to-identify or mixed-material products. A study by T.R. Walker, E.S. McGuinty, and J. Charlebois (2021) also suggests that a diverse approach is needed to better manage plastic. Their large-scale survey across Canada looked at consumer motivations to

[6] The Plastic Action Centre outlines Canada's plastic types by the numbers on the containers. The numbers are used to indicate whether a container can be recycled or not, depending on the municipal guidelines. Typical plastics for food packaging are 1 to 6. Out of all the plastic types, number 6, polystyrene (PS) or Styrofoam is one of the most problematic and frequently used for food. Basically, numbers 1 to 6 are SUPs related to food packaging in some way, making SUPs a primary source of food-based waste. Access at: https://plasticactioncentre.ca/directory/plastic-by-the-numbers/

[7] The federal government's definition of zero waste is from the Zero Waste International Alliance, which states, "the conservation of all resources by means of responsible production, consumption, re-use, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health." Access at: https://zwia.org/zero-waste-definition/

understand consumer perceptions and reasons for eliminating SUPs. They found that consumers were aware of SUPs as a problem and were interested in acting but did not necessarily want to spend more money on biodegradable options. A solution that elevates placing the burden on the public is for governments to prohibit plastic packaging at its source: industries. Since 2020, Canada has recommended bans across the country for hard-to-recycle plastics, including plastic grocery bags, straws, stir sticks, six-pack rings, cutlery, and most food containers (ECCC and Health Canada, 2020).

In 2021, still in the middle of the pandemic, Montreal's mayor Valérie Plante launched a Zero Waste plan as part of the city's commitment to the UN's SDG targets. In a press conference on CBC News (2021), the mayor acknowledged the challenges to her plans to reduce garbage in the landfill by saying, "[I] … think we have a lot of education to do, and it's our responsibility, the City of Montreal, to explain to people why that is important." At the time, the public engagement strategy was on hold because of the pandemic, and so were several plastic bans due to the complications of the health emergency. Following 2021, the city re-announced bans on plastic, which at the time of writing in 2023, were just implemented. The evolving rollouts of new plans, bold ideas, and press conferences appealing to city residents to cooperate in household waste reductions and diversions speak to the difficulties Canadian cities face in tackling waste.

Introduced in 2020, Montreal's Climate Action Plan 2020-2030[8] outlines strategies to implement sustainability objectives, radically transform waste production management, and reduce landfill waste (Ville Montreal, 2020). Like other Canadian federal policies, several

[8] *City of Montreal's Climate Action Plan 2020-2030* has a comprehensive report that outlines all four main sectors with 46 actions. Report is downloadable at: https://montreal.ca/en/articles/montreal-climate-plan-objective-carbon-neutral-2050-7613

initiatives target food-based waste, with food waste and SUPs as the primary focus. Primarily, the city compost program plans to expand to reach all households, schools, and businesses by 2030. Public engagement for supporting and participating in the programs that aim to reduce and divert waste is instrumental to their success. A few initiatives include building local compost facilities, increasing recycling collection, and expanding consignment or deposit programs to include more types of beverage containers. Additionally, projects are in proposal stages to build local recycling facilities in Quebec to transform materials locally and limit the reliance on overseas markets (Ville Montreal, 2020). Aligned with increased recycling are new bans on several materials directly involving food. As of 2023 there is now a complete ban on plastic grocery bags, and the city is moving to ban or reduce many other hard-to-recycle plastics. For example, the mayor announced on CBC News (2021) a complete ban within city limits on number-six plastic-type polystyrenes that are not recycled in Montreal. Interestingly, several of the bans involve the kind of food-based waste I typically brought to and discussed in the *Eat, Waste, Make* workshops (discussed in detail in Chapter 5) because of the obvious issues with unrecyclable food packaging that are prevalent in Montreal grocers.

One of the most controversial city plans is for every household to reduce their garbage by ten kilograms per year. The city cannot force compliance, so it will persuade citizens by limiting garbage pick-up to every two weeks. As of 2023 this new schedule is not implemented yet and it is unclear when it will be. Given my observations for this research, this goal seems highly challenging in view of the piles of garbage bags and myriad waste materials that appear on and between collection days. An additional objective of the waste section of the Climate Action Plan is to increase its education efforts. Indeed, in all recent communications, the city has emphasized the importance of reaching the public to participate in the new initiatives. For the city, the plan's

education programs are aimed at reducing opposition to the new management regimes, including the recent plastic bans. Equally significant, education programs reflect strategies to increase participation in waste reduction, since managing waste at home—crucial to Montreal's evolving plans—requires knowledge, an interest in, and commitment to the issue, and an understanding of the different materials for zero waste to be realized.

During the writing of this dissertation, it is unclear what impact Canada and Montreal's plans will have on reducing waste and removing the international shame of being amongst the largest waste producers in the world. When I started my research in 2015 there were no zero-waste plans in Montreal and not much action in Canada. It is at the end of my research that these actions are taking place, and therefore there is little data available to gauge their effectiveness. What is clear is that food-based waste is on the agenda and that governments are finally paying attention and looking to make changes. Public education is a major focus but limited thus far to teaching management regimes, mostly occurring via announcements on news outlets, flyers delivered to households, or information available on the city website, with practical information such as what can go in the compost bins. However, the 2021 annual report (City of Montreal, 2021) proposed ideas on public education including collaborating with local cultural and art institutions for waste-related exhibitions in the future. This specific proposal highlights how the city is currently trying to find ways to engage city residents with the topic in more imaginative ways, and thereby decrease waste overall through household cooperation. For this reason, this dissertation's focus on exploring public engagement through the *Eat, Waste, Make Project* is all the more relevant.

Building on initiatives for greater citizen involvement, acknowledgement of individual responsibility and possibilities regarding waste, and especially food waste, my research ambition

resides in developing a critical design pedagogical method that targets food-based waste in alignment with Montreal's plans and Canada's national strategy. My objective is to develop a comprehensive understanding of food-based waste that examines the social-design history of waste at home, highlighting the transformations that took place which rapidly increased waste at home. In this dissertation, I want to argue a case for attracting the public more creatively towards the aspirations inherent in the policy initiatives outlined in Montreal and federally. My goal is to understand food-based waste through the lens of design and history. This context then allows for an imaginative exploration of waste with the stakeholders who are directly implicated, with the intention that they come to know waste in ways that interrogate the affected materials, practices, and spaces. Specifically, my focus is to enable experiences that can change people's direct relationships with the materials the government wants the public to stop discarding. In the next section, I will present the theories that construct this vision, based on theoretical perspectives derived from the literature on FNM.

2.2 Theoretical Framework and Research Approach

2.2.1 Feminist New Materialism

> …the language of creative research is related to the goal of material thinking, and both look beyond the making process to the local reinvention of social relations. (Carter, 2004, p. 10)

My interest in waste, or non-living materials in general, was sparked by reading *Vibrant Matter* by Jane Bennett (2010). Bennett argues, or rather shouts, from a theoretical mountaintop for us to look at and think deeply about things and recognize that nonhuman and non-living things have agency. She describes simple gestures of examining pieces of garbage at her feet or contemplating edible matter and its relation to our health in complex and nuanced ways. Overall, recognition of and respect for the effect nonhumans have on humans and other living beings or

other things is thoroughly advocated by her as a political project. These ideas redirected my own perspective to things at my feet and to question what materials or objects I ignored in my everyday experiences.

Thinking and acting in the context of new materialism centralizes a material-discursive position and is particularly useful for exploring the human-material relation to waste and, for the purposes of this dissertation, food-based waste. New materialism is a re-imagining of agency distributed across all matter, including the human and nonhuman, the animate and inanimate (Revelles-Benavente et al., 2019). Specifically, new materialism informs the definition and development of food-based waste, as well as my conception of relations with the materials I encounter throughout this project. Based on my premise that food is the most prominent material force that impacts our daily life, I will argue that thinking about waste through food is a fundamental step in realizing the visibility and relations of waste in daily life. The concepts I discuss in the rest of this section, appropriated from literature on FNM, comprise the theoretical framework through which I contemplate my results in each subsequent chapter. Those concepts then serve as another step to understand waste in terms of material relations.

The new materialism of Bennett (2010) and, more recently, the still-emerging ideas of FNM frame a process to assess the world's materiality coming, as they do, from the wider "material turn" in the humanities and social sciences (Coleman et al., 2019; Revelles-Benavente et al., 2019). FNM encompasses the feminist objective to transform patriarchy and foregrounds a new material lens whose focus is on the multiple connections or relations between materials and humans. From within Western philosophical traditions, the theoretical objective is to break down the roots of Western-partial perspectives. That perspective dominates other species, resources, and the things created, enabling a systemic force of environmental degradation. Modern Western

ideas place human agency and all human activities at the centre of other animate and inanimate beings; in response, the "new" in new materialism is a means to address those longstanding anthropocentric ontologies that dismiss all nonhuman forms of agency, favouring human forms of reason (Gamble et al., 2019). New materialism, including FNM, is set apart from what is considered historical materialism, which focuses on human forms of material production and consumption. And while historical materialism is concerned with power relations, the focus is on human access to material goods, not on the agentic materiality of things. New materialism maintains attention on the material by decentring materiality from the hierarchy of human power over all nonhuman and non-living things (Fox & Alldred, 2022). Thus, FNM scholars share a desire to break down "the mind-matter and culture-nature divides of transcendental humanist thought" (Dolphijn & van der Tuin, 2015, p. 155).

This new kind of material orientation is necessarily porous, with several options for interpretation and reconfiguration that were highly influential to my research. My understanding began with how new materialism highlights notions of agency and considers the agency of materials, highly relevant to understanding waste and how it acts in the world. The vibrant materiality argued for by Bennett positions my view of how waste is a material with agency that is crucial to comprehend. For that reason, throughout the research process of this dissertation, I have explored how waste *becomes* waste, with an approach that examines both relations between materials and between humans and materials. For my interpretation and framework, my thinking extends from Jane Bennett to incorporate ideas from well-known theorists Donna Haraway (1988, 2003, 2016) and Karen Barad (2007), with more recent contributions from T.J. Demos (2019) and Debbie Lisle (2021). These theorists take an intersectional perspective in the breaking down of discrete boundaries or hierarchies between species and objects to refocus on the

relations of entities, and, for this reason, their approach sits well with my own bias of experiences as a researcher and with what I bring to this research. FNM argues for attention to relations: in this dissertation, relations incorporate spaces, materials, practices connected to food, and domestic lives. For example, in Chapters 3 and 4, I examine domestic food spaces like kitchens, practices of cooking, and materials like food and other materials as revealed in a selection of historical documents. I try to understand how the materials, spaces, and practices are gendered—largely conducted by women—and how waste is largely determined through women's experiences, knowledge, and practice. I then extrapolate ways to remake or reconceptualize these relations in Chapter 5 by using critical design practices to get closer to the materials through making with food-based waste and use the process to explore ideas and make artifacts that represent those ideas on waste. Such relations are, for reasons of experimentation, reconstructed outside domestic environments, and creatively explored in a series of design experiments and later workshops which recreated domestic spaces out of public places. Throughout this process, FNM supports a particular way to examine the historical documents and to understand the relations with food-based waste occurring across human/nonhuman domestic relations and between spaces, practices, and materials in Chapter 3, as well as the lived experience of women with food, waste, and food spaces in Chapter 4. Moreover, FNM considers gender by explicitly addressing situated knowledge and intersectionality. All of these critical FNM concepts—companions, distributive agency, intersectionality, and situated knowledge—have inspired my own conceptual framework, guided how I analyze my results in all subsequent chapters, and informed the workshops, which will be explored in greater detail below.

The idea of companions is taken from Haraway's conceptions as an extension of FNM thinking in acknowledging material effect. Haraway (2003, 2016) introduced the concept first in

The Companion Species Manifesto: Dogs, People, and Significant Others and continued to develop in *Staying with Trouble*. She characterizes companions as deeper relations humans develop with other species, like dogs and cats, which go beyond utility. Profoundly realizing human relations with other species as companions provides the basis of her argument for what she calls "staying with the trouble"; she says,

> In the face of unrelenting historically specific surplus suffering in companion species knottings, I am not interested in reconciliation or restoration, but I am deeply committed to the more modest possibilities of partial recuperation and getting on together. Call that staying with the trouble (p. 10).

Haraway's future is to develop better relations with nonhumans and humans partially by recognizing them as companions. She uses companions as an expansive concept including scholars that inform her ideas, entire biological systems, and her dog. Similarly, I understood how my theoretical companions and my pedagogue companions were critical to this research, in that through them, I had a more unique lens into imagining different collaborations and relations to food and waste, a way of thinking forward to other ways of doing daily food, and thinking differently through, for example, making new things with leftover scraps in the kitchen. For this research, these pedagogues are human, (grandmothers interviewed in Chapter 4; the workshop participants), nonhumans (e.g., the pieces of food and waste scraps in my kitchen), and the material remnants of humans—the archives.

Distributive agency is the most central concept across FNM and new materialism and is particularly interesting for studies on waste and food because it is a theoretical orientation that underscores, in human cognitive understandings, the agency of other things and beings that are nonhuman. Moreover, the concept of distributed agency draws attention to the destructive human

relations with the environment, other beings, and inanimate material objects (Fox & Alldred, 2015, 2022). Re-orienting attention to inanimate objects is significant to understanding the vitality and agency advocated by Bennett (2010). Thinking about material vitality counters the idea that inanimate objects are passive or inert. Distributive agency identifies explicitly how the vibrancy of an individual material object relates to other material things or animals, including humans, and the effects of this relation. In other words, all matter can have affect and be involved. New materialism is thus attractive because it provides an opportunity to explore how the agency of each nonhuman acts within its capacities and with others to create an outcome, and, moreover, focuses on these relations in multiple ways. One possible outcome of the distributive agency between materials is waste; thus, waste interacts with other waste, acts back, and impacts us and other aspects of the environment. Through the lens of new materialism, then, social worlds and human experiences are implicated by the agency of materials.

Conceptualizing waste in terms of vitality and agency to act in the world specifically positions food-based waste within broader relations and frameworks. Food, for example, has a vital agency in itself and in relation to humans because, "… it enters into what we become" (Bennett, 2010, p. 51). Bennett characterizes waste creation as antimateriality, the "hyper consumptive necessity of junking" (p. 5). Antimateriality is the effect of daily habits and consumption patterns which, for example, allow for materials to be discarded moments after encountering them, and these actions require little knowledge of the materials. It is antimaterial because the relation is care-less. To think more about waste, I can choose a relation that nourishes a garden through compost or contributes to producing methane gas in my region. It is not merely my agency that I scrutinize: such scrutiny is distributed between my relationship with the materials and the garden compost or landfill. Distributive agency is not straightforward; to

acknowledge this concept and think through all the relations between myself and materials and the spaces they occupy is messy, with many overlapping and dynamic relations. Yet it is crucial to consider that how humans relate to nonhumans creates massive events like climate change and devastating biodiversity loss.

The feminist aspect of FNM offers another thread of instructive consideration. Intersectionality, in terms of feminism, acknowledges the overlapping forms of oppression of gender, class, sexual orientation, race, and other identities. Kimberle Crenshaw, a Black feminist scholar, introduced this fundamental part of feminist theory in 1989 to identify the ways multiple identities "intersect" to compound forms of oppression and associated power relations. Intersectionality, as part of my framework, contributes to another perspective for understanding material relations, namely an examination of interactions as forms of power that occur between entities and gendered practices—in the kitchen, for example—and thereby facilitates a more in-depth politics of what and how entanglements take place and are negotiated. In addition, new materialist theories can contribute to intersectionality through understanding the different connections between intersecting identities within entities. For example, domestic practices, considered women's work through time, which prevent the discarding of food are systematically undermined by male-dominated economic systems, such as industrial producers of disposable kitchen things or food distributors (Strasser, 1999). Finding methods for identifying and deconstructing such hierarchies is part of the work of FNM.

Of all the concerns that FNM is advocating for, care ranks amongst the highest. In her book, *Matters of Care*, Maria Puig de la Bellacasa (2017) argues that "… not to care about/for something/somebody, inevitably does and undoes relation" (p. 12). She carefully articulates the significance of care in the relations with more than human worlds—all things, animals,

organisms, physical forces, and so on. In critical reflection of the location of her work on care, she proposes staying with care as part of an effort to disrupt what is not valued or taken care of, inclusive of relations between people, materials, and ecosystems. She proposes feminist values of care, starting where people are in daily life. A central objective for my research design is to find a way to extend the ideas from FNM into a practice and within that, for the process to increase care and ethical relations between humans and nonhumans. Care, and how care is understood culturally, is embedded in the past. I seek to unpack a part of history that sought to undo feminist practices of care at home, which led to framing food and things as resources to be exploited and discarded carelessly. The ways caring for others takes places happens in different ways or intensities over the course of lives, such as caring for an infant or an adult child. Therefore, my objective is to understand how it is remembered as lived experience. From a FNM perspective, Puig de la Bellacasa (2017) returns to how care for something requires a familiarity that resonates personally in some way; therefore, a practice that creates an intimate experience is vital. In this way, participation moves from thinking to doing—to make materials visible, visceral, and embodied. How can I design an experience to create new practices of care?

FNM, then, opens up profitable ways of addressing the material vibrancy of things and the problems associated with normative practices of dealing with food and thus creating waste. However, FNM does have important limitations, one being the limited degree to which it enables consideration of Indigenous agency and knowledge with regard to human/nonhuman interaction. In their article, "The New Materialisms, and Indigenous Theories of Non-Human Agency: Making the Case for Respectful Anti-Colonial Engagement," the authors argue that new materialist scholars have not substantially addressed the evident similarities in theories, and then proceed to position Indigenous agent ontological theories and new materialism in the

conversation. Moreover, conceptions of ethical reciprocity that run across Indigenous literature are absent from new materialism. Ethical reciprocity is the term Rosiek et al. (2019) use to explain practices from Indigenous communities and embedded in knowledge systems in North America that come from deep-rooted notions of agentic relations and connections with the nonhuman world. Ethical reciprocity is considered a vital connection between observing agency as new materialism does and practicing making relations. It is characterized by a "… practice of attending to the way our existence is interdependent with networks of relations of other humans, and non-humans" (p. 340). In doing this, the authors say the practices "… embody an understanding that in seeking knowledge, a person becomes involved in a co-constituting relation with an agent or group of agents" (p. 341). In comparison to dominant worldviews, the authors cite Leanne Simpson, who speaks to the difference between how Canada as a colonial nation operates and Indigenous concepts in terms of reciprocal relations. In Canada, for example, government and corporate systems consider everything as a resource. These resources constitute all the plants, animals, soil, water, and knowledge systems. Resources exist for humans to use (mainly those with political power and money); these are not reciprocal relations. In contrast, an Indigenous conception of a relation is about being connected and relevant to one another. Relation is a word that denotes a way to recognize mutual reliance between people and things, and people and other species. Therefore, the two English words, resource, and relation, are fundamentally different when applied to how a material is regarded. Leanne Simpson (2014), as quoted in Rosiek et al. (2019), says, "… the alternative to extractivism is deep reciprocity. It's respect, it's relationship, it's responsibility, and it's local" (Rosiek et al., 2019, p. 342). Finding appropriate ways to ally with this worldview is connected to a situated and intersectional stance and is necessary work for FNM scholars. A response is twofold; non-Indigenous people have to

find new practices and part of those practices is to ally with worldviews and knowledge systems different from Euro-centric thinking. Changing relations with nonhumans can work towards better relations with those nonhumans and Indigenous communities who are still fighting for their land and cultural rights. From this work, I argue to situate reciprocity through practices that care for non-living materials as a way to sustain and make relations with the nonhuman world.

A way forward, then, is to understand how feminism integrated with new materialism acts as an ethical guideline that offers hopeful possibilities to care better. The critiques provided by Rosiek et al. (2019) and others require further reflections on actual practices. Can scholars of FNM do the work to repair the fractured relations identified by the theorists, especially coming from within the same cultural frameworks, or will it become another way of knowing that eventually needs to be undone? In the next section, I explore the methodological possibilities of critical design and public pedagogy that together offer embodied practices to work with materials directly, creating relations not through just observations but through a practice-based methodology that includes a process of sharing. My methodology is framed through design concepts for history, such as redirection by Tony Fry (2008), discussed in the next section, which inform how I look at waste histories at home aligned with practices at home. I then build my critical design public pedagogy aligned with the critiques of history and, as a situated response to Rosiek et al. (2019), Indigenous conceptions of agency. My methodology outlined in this chapter proposes one possibility to put FNM into practice, care-fully.

2.2.2 Historically Informed Critical Design Public Pedagogy

> … critical design strives to keep alive other possibilities by providing a counterpoint to the world around us and encouraging us to see that everyday life could be different. (Dunne & Raby, 2013, p. 45)

My methodology, which evolved over the research process, is an interdisciplinary and practice-based methodology that brings together the history of domestic designs with critical

design (from the discipline of design) and public pedagogy (from communications and educational research). Design in my methodology works in three ways, but differently in each research chapter. Chapter 3 examines the history of sites of food and waste production, such as drawing on design archives of kitchen spaces and print media of design advertisements or articles. In Chapter 4, I draw from lived experiences to reveal how interactions occurred at home through the cultural transformations happening in the post-war period and how emerging new domestic designs were implicated. Finally, in Chapter 5, I employ critical design with public pedagogy to develop the workshop series. My FNM framework informs how I construct the methodology, how I analyze the results throughout this dissertation, and what I choose to bring into the practice-based workshop series. As in our global environmental and socio-economic problems, multiple responses to waste are necessary.

Design throughout history informed and shaped Canadian domestic lives across spaces, materials, and practices, and it will form futures. That sentiment is shared by design writers. A re-examination of history to ponder the nuances of everyday life is a crucial dimension of this project of intervening into waste and finding better ways to encounter it today. Throughout this dissertation design, in history and in practice, is the lens to explore relations between humans and things. Tony Fry is a designer and theorist who considers the role of design in transforming society throughout history. In *Design and the Question of History,* Fry (2015) writes, "… we need history as an object of critical overcoming because it delivers signs and narratives indicating directional error" (p. ix). The historical inquiry in this research aims at filling a gap identified in the literature on histories of waste and food in Canada. My approach begins with published waste and food histories and continues to design archives to find these signs and narratives from the people not part of the grand narratives—the women, mothers, and

grandmothers at home doing the vital work of repurposing food and household materials to prevent waste.

Redirection is a central concept presented by Tony Fry (2008) in his work *Design Futuring: Sustainability, Ethics and New Practice,* which provides a way to think through design as an agent of change through a historical lens. It involves a rereading of history in a way that locates the errors, seeks to understand where humanity is now, and attempts to circumvent our current destructive course. I consider Fry's ideas of redirection as a way to view my historical inquiry and inform this methodology, locating the historical moments from the 1950s to 1970s that developed into the current waste crisis. Through this concept, Fry's premise is that history understood through design profitably seeks to find historical accounts that identify where a society went wrong. Redirection responds to Fry's central conception of *defuturing***,** which is defined as the process of humans limiting the future ability to exist on earth, a taking away of a future for humans and nonhumans because of overconsumption of resources. Fry charges that "huge numbers of human beings are going to die because of the forces of defuturing which we humans ourselves brought into being" (p. 5). In contrast, *sustainment* is the "… project of making time" that includes design practices that prevent pollution or reduce energy consumption (p. 3). As a method for sustainment, redirection assessed the past design practices and choices made that led us to drastically increase waste from Canadian kitchens, which contributes to defuturing.

Situated doing, presented by Susan Stewart (2015) in her chapter in *Design and the Question of History,* highlights *performative associations* as a lens to view connections between designs and materials that create relations, attachments, and erase neutrality. Stewart explains that a dominant worldview in Western cultures forms a kind of neutrality between humans and

nonhumans, which causes detachment from the practices that occur. The process and ideology of detachment presents objectivity and reason as the foremost approach to designing and making things and processes. The ideology of detachment,[9] Stewart argues, has fuelled society's ability to create, consume, and waste with less attention to consequences. According to this view, materials are resources to better human lives and feed economies. Stewart labels situated doing as a new way of practicing design that is centred on *care.* She argues being in the moment is necessary and that the "arc of experience and anticipation informs what is recognized within the trajectory of the present" (p. 154). Positioning design at the centre of these associations, as Stewart suggests, draws attention to how the designed thing alters performances and changes possible futures. She explains how education must include an understanding of how specific associations in the past and present are performed and how this directs the present trajectory and posits that the "learning occurs when the contingency of the assumptions and presuppositions that orients us is revealed. The possibility of other orientations is recognized" (p. 162).

Critical design is a fundamental element of the methodological approach to my research and is a way to act on Fry's and Stewart's design-based concepts. The prime directive of critical design is to create design moments that can reflectively tackle questions of redirection and offer a practice-based design method for situated doing. Critical design artifacts proposed by Dunne

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[9] Stewart (2015) refers to the European Enlightenment as the root of her concept of detachment. This is generally understood as an intellectual movement of the 18th century and considered responsible for transitioning Europe towards modernity, with its philosophical turn to secularism, rationalism, and the advent of the scientific method. She writes that this period, *"... in its quest for detachment, for objectivity, was struggling against the tendency of the world to create binding attachments*" (p. 279). The thinkers of this time sought an "absolute distinction" between what could be observed or not. Relations required rational reasoning, for example, in the form of exploitation. She presents it as the roots of severed relations, unfolding over the centuries and becoming the accepted and privileged way of knowing, and in Canada, at the foundation of colonization and attempted erasure of Indigenous relations across worlds.

and Raby (2013) and Malpass (2017) are meant to challenge the role objects play in our daily lives. Critical design can challenge the status quo by opening up the design process to things that do not necessarily seem possible at the present time and fostering, instead, hypothetical, speculative possibilities, and perspectives that challenge normalized ideas. The designer Ian Gonsher (2016) defines critical design as a "creative strategy that establishes design as a medium for making visible that which is usually obscured in our daily interactions with the quotidian objects of our material culture, including the relationship between the object and the labor that went into its creation" (p. 1). This definition includes Dunne and Raby's idea that "…critical designs can suggest that the everyday, as we know it, could be different, that things could change" (p. 95). Both emphasize relations between the objects and the designers, a close connection because designers must know and understand a material's identity through its composition for the design to work. By means of critical design, entanglements between designers and artists with the materials they collaborate with create conditions that help promote understanding of the agency of things, of the dynamic of human-to-nonhuman, and so on.

Examining the waste crisis through creative material representations, guided by the tenets of critical design, is a way to access inspired narratives that themselves can be contemplated as visions. This strategy, as opposed to the conventional presentation of our predicament through statistics and quantitative studies, for example, can provide a way to dig a little deeper, more personally, as well as more creatively into challenging problems to consider how we can increase attention to what tends to be quiet contributions to the waste crisis undertaken in the privacy of one's own domestic space.

Critical design is a reaction to both industrial design and affirmative design practices. Industrial design is the common approach to designing new products in general for the

marketplace. Affirmative design builds on existing design to create certain improvements, for example, redesigning an existing refrigerator to make it more energy efficient. Alternatively, critical design aims to challenge the market and product design; it counters affirmative design in the sense that it does not simply focus on iterating existing designs as a means of improving them but, rather, welcomes entirely new ideas generated by the experimental strategies of speculation and experimentation. Nevertheless, Malpass (2017) explains that for "critical design to work as commentary or inquiry, its objects need to be viewed as industrial design" (p. 76). In other words, when a critical design artifact resembles a designed product, such as a refrigerator, yet contains within the design some kind other possibility, the artifact can make a more powerful and disturbing critique. In this way, the process does not simply aim to solve problems; rather, it asks questions, encourages debate, and finds problems. For example, replacing a package with another kind of plastic may seem like a solution—kind of like recycling—yet it exists within the same world, the same way of relating to materials that caused the waste crisis. The difference here is significant because, as a methodology, I am not trying to design better packaging. The objective is to use materials, making, and creativity from critical design to explore experiences, information, practices, and redirective histories of waste to present a strategy for others to become interested in waste and to ask their own questions.

Design activism aligns with practices and ideas from critical design to inform my methodology aiming towards social-environmental-material change. Design activism articulates a way to offer alternatives to the status quo, while the concept of *design justice* explicitly addresses the position of design/designers within social structures that maintain inequalities. In his 2005 article, "Design activism for whom?", Randolph Hester proposed that "every design action is a political act that concretizes power and authority" (p. 8). He suggests design that

makes a city change is already a form of activism. He articulates this broad application of activism further through design postures, “which place the designer and their motivations on a spectrum from naive to catalysts” (p. 8). The catalysts would be closer to other authors writing after Hester that consider design activisms, for example, the designers who intentionally create designs for change. In this initial articulation, Hester places the designer within the broader social system to emphasize their position and how the results of their work matter.

In *Design Activism: beautiful strangeness for a sustainable world*, Alastair Fuad-Luke (2009) centres his activism within sustainability and environmental agendas and explores how this area of design plays a critical role in making and creating lasting change. Central to his ideas is that activism through design creates a counternarrative, which aligns with critical design goals. He proposes that design activism is about “... design thinking, imagination and practice applied knowingly or unknowingly to create a counter-narrative aimed at generating and balancing positive social, institutional, environmental, and economic change. The implication is that design activism voices other possibilities than existing ones, intending to elicit societal change and transformation” (p. 27). Like critical design, the outcome of design activism aims to present other possibilities**;** however, these suggestions may be closer to solutions than critical design, working to change specific spaces or products to achieve sustainability goals. Critical design remains porous, where the process can focus on exploring proposals or explorations while building the relations between entities.

Co-design is designing with other non-designers, including the public at large. Fuad-Luke (2009) includes co-design as fundamental to design activism. Co-design is a method that is participatory, aiming to distribute power within the design process, prioritizing relationships, and relations between all participants; for my research, this includes the materials. The design activist

is a co-creator, a facilitator, and uses the design process to create positive change. The designer facilitates participation and everyone at the table is active in the process. Methods from co-design are crucial to my methodology; within the participatory process, design ideas become something that diffuses power to others and works towards collective changes.

Design justice takes on the role of design and its power in larger social structures. The concepts and ideas presented by Sasha Costanza-Chock (2018) return to Randolph Hester's question on whom design is for within society. Costanza-Chock presents a definition of design justice and further develops a series of Design Justice Principles that emerged from the Design Justice Network in 2016, a collaboration of design theorists and practitioners dedicated to this goal. As Costanza-Chock explains:

> Design justice is a field of theory and practice that is concerned with how the design of objects and systems influences the distribution of risks, harms, and benefits among various groups of people. Design justice focuses on the ways that design reproduces, is reproduced by, and/or challenges the matrix of domination (white supremacy, heteropatriarchy, capitalism, and settler colonialism). Design justice is also a growing social movement that aims to ensure a more equitable distribution of design's benefits and burdens; fair and meaningful participation in design decisions; and recognition of community-based design traditions, knowledge, and practices. (p. 4)

This definition refers to specific components of this methodology, such as placing design within the matrix of domination and challenging it. The matrix of domination identifies structural inequalities that occur through the intersections of capitalism, heteropatriarchy, white supremacy, and settler colonialism. It does this by identifying how people receive benefits and

harms from the system and how this occurs based on their position within the system and at different scales. The explicit naming of systemic inequalities within design provides a starting point for designers to avoid reproducing the inequalities. Towards that end, design justice principles encourage "… full inclusion of people with direct lived experience of the conditions the design team is trying to change" (p. 6). Like co-design, it is participatory.

The guidelines Costanza-Chock discusses provide explicit ways to acknowledge and respond to inequalities through the design processes. Collaboration, participation, and positioning the designer as a facilitator aligns with critical design and design activism. Additional methods include encompassing accessibility and accountability as part of participation to ensure the process includes community members (or the public). Furthermore, the guidelines advocate recognizing participants' lived experience as a form of expertise and explicitly starting from what is already working within a community. These principles are highly relevant for this research going forward and to include as key components of my overall methodology. To incorporate into the critical design process an understanding of existing community-based solutions that work is vital; it is a place to build from and initiate from places where relations are already formed and forming.

Critical making is the next layer I consider. Carl DiSalvo's (2012) critical making is similar to methods I adopted in the workshop series and speaks to the power of the experience of making things with materials. Critical making is considered a participatory design process, specifically with the public. Making is distinguished from critical design because its public inclusion in designing is explicit in the process. In his article describing one project for which he experimented with critical making—the *Growbot Gardens Project*—Di Salvo traces the ways in which various participants including farmers, health practitioners, students, researchers, and

designers, each with a stake in the outcome of the project, engaged with and created critical designs through a workshop series. The project aimed at researching technologies for small-scale agriculture through design and addressed particular design issues to overcome. Di Salvo notes that while making prototypes, a particular dialogue occurred amongst the participants, with and through the materials of design; indeed, he emphasized the significance of such discussion. The making process brought thinking with the materials and the objectives of the project together to create maquettes that represented these conversations and represented the creative process. In Chapter 5, I look further at this practice and consider how my workshops used DiSalvo's critical making ideas, including his notions of public.

In this research context, the concept of public pedagogy I leverage in conjunction with critical design explores the interplay between engagement, audience, and the public. Critical design involves the creation of artifacts or representations that serve as vehicles for critique and thought-provoking ideas. On the other hand, public pedagogy examines the learning process and educational activities that take place beyond formal educational settings. Public pedagogy, as a subgenre in educational research, investigates educational activities occurring in extramural spaces and discourses, such as media, popular culture, public spaces, and social media. The goal is to understand how society, politics, and cultural norms shape the dissemination of knowledge, values, and beliefs, ultimately influencing public opinion, attitudes, and behaviours (Biesta, 2012; Di Leo, 2002; Giroux, 2004; Sandlin, 2017).

The idea of the public is defined by the space in which the educational activity occurs and requires accessibility that is different from that of a formal space like a school. These public spaces need to be open to the community, like library workshops or art gallery tours, and the subject matter is of concern to the public, such as the focus on food-based waste in this particular

research. Biesta (2012) offers another definition of public pedagogy, seeing it as an educational intervention aimed at improving the public quality of spaces and human togetherness. It emphasizes the connection between the political and educational endeavours within the public sphere. This framing of public pedagogy does not aim to teach individuals what they should be or impose learning upon them. Instead, it seeks to create opportunities for "becoming public," fostering engagement and public participation. Within this understanding of public pedagogy, the research proposes a strategy to create publics and promote public engagement by designing public events that facilitate conversations, connections, and opportunities for making and sharing discourses that challenge the status quo in these public spaces.

Public pedagogy, as discussed by Sandlin et al. (2011), encompasses various conceptions that hold significance for this research. Three specific areas stand out as particularly relevant: "Informal Institutions and Public Spaces as Sites of Public Pedagogy," "Everyday Life as Pedagogy," and "Dominant Discourses as Public Pedagogy." These conceptions shed light on different aspects of public pedagogy and its interaction with critical design in the context of this study. The first relevant concept, "Informal Institutions and Public Spaces as Sites of Public Pedagogy," aligns closely with the design of workshops explored in Chapter 5. This conception focuses on educational activities that occur outside traditional school settings, taking place in spaces such as art galleries or public parks. In these non-formal settings, learning often adopts a subtle, embodied mode, emphasizing affect, aesthetics, and presence rather than strict cognitive rigor (Sandlin et al., 2011). Additionally, visual pedagogies, as introduced by Hanson and Uhman (2022), play a significant role in this research. Visual artifacts, including those created by the researcher and participants during the workshop series, become valuable texts to explore their potential as educators of agency and vitality. The interplay between visual and discourse-based

pedagogies is crucial to the analysis presented in Chapter 5, which aims to achieve the pedagogical objectives of building relations and realizing the agency of food items.

The second relevant concept presented by Sandlin et al. (2022), "Everyday Life as Pedagogy," emerges as essential in Chapters 3 and 4. This conception delves into how everyday life serves as a pedagogical project, with learning taking place within the home, social networks, and popular culture such as magazines and food advertising. These informal sources of information and experiences shape identity formation and can reinforce or resist dominant ideologies. In the context of this research, in Chapter 3 I examine changes in waste practices by analyzing formalized pedagogies in domestic science alongside informal sources like home design magazines and women's magazines. In Chapter 4, I explore pedagogies embedded in family dynamics, mother-daughter relationships, cookbooks, and other nuanced daily experiences to construct narratives of women's food and waste life histories. Understanding how values motivate waste prevention and how practices are established through everyday pedagogies is critical for intervention and reform in waste management practices.

The third relevant concept, "Dominant Discourses as Public Pedagogy," complements the exploration of learning through everyday life. This concept explicitly focuses on the influence of dominant discourses within society and their impact on individual behaviours, including daily consumption patterns. It encompasses public policies and informal government messaging, which act as pedagogical texts shaping collective and individual identities. In Chapter 3, I provide an interpretation of how dominant cultural discourses from the post-war era, functioning as public pedagogies, inform strategies for reforming perceptions and practices related to waste in contemporary Canada. The analysis in this research delves into the effect of various Canadian

authorities' messages on waste management and explores the potential for resistance to such discourses.

In summary, the conceptions of public pedagogy explored in the research—informal institutions and public spaces, everyday life, and dominant discourses—provide valuable insights into how it can be employed to address waste-related issues. By understanding and engaging with public pedagogy in these varied contexts, I aim to understand how to foster inclusive and functional learning spaces for public engagement and intervention in waste management practices. By examining the interplay between visual and discourse-based pedagogies, exploring everyday life learning, and challenging dominant discourses, this study seeks to contribute to broader cultural change regarding waste in contemporary society.

2.2.3 Autoethnography and Reflexivity

In my research chapters, I integrate self-reflective text and first-person narratives, utilizing autoethnography as a means to account for the iterative research process undertaken in this dissertation. Autoethnography allows me to acknowledge the choices made, the individuals involved, and the perspectives brought into this research. Employing critical reflexivity, as proposed by Bettez (2015), I strive to be conscious of the social construction of my perspective, assumptions, and identity, recognizing the influence of power in the research process and writing. Through autoethnography, I position and contextualize the knowledge I produce, demonstrating how my identities as a woman, mother, and researcher influence the interpretation of results. In response, I am writing necessarily from the first person, starting from my observations and accounts. Furthermore, I chose the topic of food-based waste because it is close to me; it is something I experience personally on a daily basis from the gendered lens of a woman, in my kitchen, making a meal for my kids, taking care of with my labour the various

materials I encounter and use—and carrying forward the countless women through the generations that laboured to care.

Autoethnography, as described by Ellis and Bochner (2000), allows me to write and research in an autobiographical genre in sections of this research, connecting the personal to the cultural. This approach permits researcher reflexivity and situated accounts, aligning well with research-creation practices. I utilize autoethnography as a method to provide a personal retelling of my experiences and to identify the reflective and iterative process behind developing the *Eat, Waste, Make Project*. Interviewing three women from my family who are grandmothers further enriches the research by accessing historical lived experiences and situating my own personal life within the context of the study. In Chapter 5, I employ a first-person account to interpret my design process and the development and implementation of the workshop series.

Connected to reflexivity and autoethnography is situated knowledge, which encompasses my research design but also contextualizes results. The concept of "situated" knowledge serves as another useful method for unpacking the significance of lived experience within the research context, both in the interview narratives in Chapter 4 and in positioning myself within the broader narrative of this research. Donna Haraway first coined this term in her 1988 essay, "Situated Knowledge: The Science Question in Feminism and the Privilege of Partial Perspective." It functions as a way to challenge the notion of objectivity—assumptions that the researcher remains unbiased—within scholarly endeavours, particularly in the realm of science. It also recognizes the embedded power dynamics that shape the production of knowledge, for example, in forming the research process and in how I share the results.

Situated knowledge demands the practice of placing myself within my identity, experiences, societal position, and acknowledging potential biases throughout the entire process

of knowledge creation. Haraway highlights how the notion of objectivity conceals a specific normative agency in knowledge formation that is predominantly white, male, heterosexual, and human, establishing this perspective as the norm. This privileging of the norm occurs at the expense of feminist objectives aimed at recognizing alternative ways of understanding.

Consequently, the challenge lies in interpreting knowledge by recognizing that it emerges within a historically and geographically situated viewpoint, as well as through an embodied identity. Operating from this standpoint, I commit to situating myself in relation to the information and ideas that shape the research. Ensuring my audience comprehends the potential biases becomes a feminist approach to producing knowledge. Undertaking this process entails that I assume responsibility and making my presence evident in the course of knowledge production.

As a result, both the research process and the creation of outputs inherently involve identifying and incorporating myself. This involves locating my perspective and voice within the text and tracing the trajectory that leads to my findings and conclusions. Therefore, this dissertation does not offer a singular solution to the waste crisis. Instead, it presents a situated and iterative idea, born from unique narratives between people and waste materials, allowing space for adaptation and extension of the findings by others. I embrace the idea that not all aspects of the research need to be relevant to everyone; instead, the work is meant to inspire diverse perspectives and responses. By grounding my research in autoethnography and critical reflexivity, I aim to contribute to a more contextually situated representation of knowledge.

2.2.4 Research Methods and Iterative Process

In each subsequent chapter, I offer a comprehensive explanation of the methodologies and materials employed in my research. My approach draws from historical inquiry, design, life

history, public pedagogy, and critical design, with the latter having some distinct characteristics from emanating from these primary methodologies. Chapters 3 and 4 comprise archival research and life history interviews, respectively, to create a cohesive narrative of the past. In Chapter 5, on the aforementioned workshops that I held, I utilize participatory methods, incorporating reflexive notetaking and employing video, audio, and photo documentation as data sources. To ensure reflexivity, I meticulously document my personal experiences and thoughts, as well as my interactions with materials and individuals. These notes were promptly taken after each artifact development, workshop, or interview.

Alongside qualitative data collection, I engage in creative practices to test critical design concepts using different materials, thus enhancing the evolution of the workshop series. The research activities undertaken followed an interpretative and iterative pattern, rather than a linear one. I mean "iterative" in two essential ways: firstly, in relation to the overall research process, and secondly, in the development of the *Eat, Waste, Make Project*. Smith and Dean (2009) propose an iterative cyclical model that examines the interplay between practice-led research and research-led practice, highlighting how creative work and research work mutually inform one another. This model is particularly useful in illustrating how I integrated various methods into a non-linear process, oscillating between creative practices such as crafting from waste and research methods like life history interviews. This approach involved overlapping diverse methods at different stages of the research, yielding outputs like critical design artifacts for exhibition or research data sourced from archives and interviews.

The iterative method, rooted in the role of creative design work, allowed for a thinking-through-making approach, providing the freedom to experiment with ideas, creative processes, and new directions. This departure from prior research methodologies, which followed more

formal linear progressions, such as literature review to method development, implementation, and result analysis, marked a significant shift. Exploring different materials for creating and examining food-based waste not only prompted reflective activities but also initiated research phases delving into articles, archives, and kitchen design related to women's role in waste prevention. These diverse methodologies coexisted, enriching one another, and contributing to the gradual evolution of the final research over an extended period. The dissertation embodies a deeply embedded learning journey, inspired by artists like Cathy Stubington, propelled by each fragment of information, concept, and experience, fostering meaningful connections with both individuals and objects.

Chapter 3: Transforming Material Relations in the Post-World War Two Canadian Home

> … garbage provides a shadow history of modern life where the conditions for its production and the means by which it is rendered invisible cast it as an unwelcome double of the person; the uncanny and spectral presence that only in death recombines with the body to realize fully the modern hope of self-identity. (Scanlan, 2005, p. 36)

Stepping into my grandparents' basement during my childhood in the 1980s, my eyes would immediately be drawn to the vast collection of egg cartons. Stacked meticulously in the corner of my grandfather's workshop, they co-existed with a large wooden dollhouse, inviting my siblings and me to unleash our imaginations and build various structures using these humble containers. Our upbringing differed significantly from that of our parents and grandparents, as we grew up in homes with manicured lawns and dinners sourced from grocery stores. Our parents didn't engage in the rustic practices of baking pies from backyard fruits or reusing plastic bags; such thrifty behaviours seemed outdated and time-consuming to them. The contrast between our homes and my grandparents was stark. Theirs was a place brimming with piles of re-usable items and abundant kitchen and yard-grown produce, creating a unique space that we couldn't fully appreciate at the time. Instead, my family viewed these practices affectionately as something belonging to our grandparents, particularly my grandmother. This was not uncommon for their generation in Canada; many people recount how their grandparents had less and saved more. As a result, they rarely wasted food, and food gardening was a matter of family food security. My grandparents learned how to save out of necessity in their early years but continued these practices beyond needing to do so. At the advent of the 1950s, the swift removal of waste from sight seemed to signify progress and prosperity. The remnants of discarded items were increasingly concealed in the designs of modern homes, discreetly swept away to maintain the illusion of an efficiently run household.

Susan Strasser would describe my grandparents as *bricoleurs*. Bricolage, according to Strasser (1999), is the practice of fixing, re-using and generally taking care of household things to extend and expand their uses; it is making do with what is available. For bricoleurs, the egg cartons, food scraps, tin cans, or a plastic box are "not waste at all" (p. 28). In Strasser's history, *Waste and Want: A Social History of Trash*, American homes prior to the mid-20th century were mostly places of production, not consumption. In her history, she traces the ways women were responsible for waste prevention through their knowledge, skills, and care for their households. She examines how this was undervalued and systematically undermined to make way for consumerism. Before industrialization, Strasser emphasizes how "… people of all classes and in all places have practiced an everyday regard for objects, the labor involved in creating them and the materials from which they were made" (p. 22). Likewise, bricolage took place in all households as a means to prevent food-based waste.

Bricolage was a form of everyday design, of making things and crafting; it was part of what became domestic science, and for those still practicing it, it is today's quiet activism (Hackney, 2013). Referencing the US, Strasser argues that bricolage and other women's traditions were deliberately destroyed by capitalist campaigns to make way for male-dominated industries. These industries produced disposable goods and created a market for mass consumption, creating mountains of trash. The process of devaluing of women's traditions and domestic work conceptually allowed for the fracture in relations, understanding not just the loss of practice but the larger ideologies and pedagogies that fueled the changes are key to finding the way out of the trash. And these ideologies influenced the space of the home, not just practices. New and emerging housing designs in the 1950s responded to the push for consumerism. Home designs and the promotion of these designs in women's magazines focused on leisure,

entertaining, and convenience. No more vegetable gardens or root cellars, and kitchens were built around large appliances with efficient workspaces and marketed as the new modern design aiming to liberate the housewife.

To comprehend Canada's current pivotal situation, I delve into the recent history of the time of my grandparents' and parents' generations, exploring how new home designs, coupled with revisions to formal training programs in home economics, emerged in the post-war era. This emergence led to the gradual undoing of traditional practices and relationships. In the following account, I will trace the 20th century's evolution of waste through the lens of pedagogies focused on women's work and home, innovative home designs, and newly engineered kitchen tools. This investigation aims to unveil the impact of modern kitchen conveniences on waste and underscore the importance of reassessing past practices to discover improved solutions for the future. In this pursuit, I delve into three central themes: Evolving Pedagogies in Domestic Science; Redesigning the Modern Post-war Home; and Enhancing Modernity through Food and Objects. These themes unpack and address the primary research question here that I presented in Chapter 1: how did design and pedagogical approaches centred around domesticity influence cultural shifts in post-war Canadian households regarding food production and waste practices? To respond and establish a comprehensive account of food-based waste throughout Canadian history, I've curated an assortment of archival data to analyze the transformation of domestic practices related to food-based waste in Canada. This investigation spans from the turn of the 20th century to the post-war era (circa 1900 to 1960s). The primary sources I've curated encompass selected archives from the Collections Canada digital database, digital repositories of household manuals, and physical archives housed within Canada's national archives such as the FWIC, CMHC, and the Sigrun Bülow-Hübe Fond at McGill University. Additionally, I've drawn

attention to pertinent articles from archived Canadian women's magazine *Chatelaine* and photographic references sourced from the Collections Canada digital archives. It is worth noting that a caveat comes from this particular set of sources: a consequence of my chosen primary sources for addressing this question is a historical perspective that highlights the experiences primarily of middle-class, white, English-speaking women. This is a trend that runs, I find, from print media to the FWIC archives, and even in the marketing materials of the CMHC architectural drawings. Therefore, large segments of Canadian women are left out of this narrative. What remains and is nevertheless worth considering, however, is a snapshot of what was promoted and taught to Canadians at this time.

In the section Evolving Pedagogies in Domestic Science, I review selected domestic sciences movements starting in the early 1900s, alongside subsequent home economics programs of the 1950s. This exploration considers how the evolution of educational programs aligned with changing concepts of home management and women's roles. Employing a FNM lens, I delve into how experts' redefinition of waste influenced relationships between elements such as food leftovers and cooking practices of contemporary housewives. Drawing on archives of domestic science and the Federated Women's' Institute, in conjunction with insights from select Canadian historians focusing on domestic labour, I construct a narrative that engages with these concepts. I question the fate of Strasser's bricoleur within 1950s households, which paralleled broader societal dialogues about women's positions in both the workplace and home.

Domestic science schools, in tandem with Women's Institutes (WIs), present a multifaceted picture of women's involvement in domestic science reforms preceding the 1950s. The WI archives serve as a pertinent historical source, given that the organizations' initial goal was to increase education and disseminate knowledge on food safety in the home. The WIs'

digital and physical archives reveal how the organization's structure and purpose constituted a form of public pedagogy. The FWIC, formed in 1919 as a national entity, set general mandates, orchestrated national gatherings, and most notably, issued annual resolutions aimed at influencing Canadian policies on women's issues. From these sources, this section delves into the transition of early waste prevention tips and related advice from domestic science to the subsequent home economics programs.

In the section, Redesigning the Modern Post-war Home, I focus on spaces, examining the design influences on the modern post-war home through a 1950s boom in new suburban family homes. The large archive of the CMHC reveals the design plans with motivations behind the new designs and the ways they were promoted as the modern Canadian home. The extensive CMHC archive offers a wealth of design blueprints along with the extensive research that went into the designs. These designs were actively promoted as emblematic of the modern Canadian household. In contrast, the archive of Montreal designer Sigrun Bülow-Hübe stands out. This collection delves into her research collaboration with CMHC on kitchen design, showcasing her distinctive and critical approach to crafting kitchen designs through collaboration with women and a keen understanding of their practices. Her work is an interesting departure from other designers of her time; she maintains the focus on efficiency, but her approach and clear motivations to support women's needs complicated the argument that the move to consider waste as labour undermined women's autonomy.

In the final section titled Making it Modern with Food and Things, I continue the design perspective to assess the intentional ephemerality and swift disposability of food and kitchen things through the adoption of new things like modern garburators, large trash cans, canned food, and disposable cutlery. My sources in this section focus on select published histories that explore

the intersection of design, modernism, women, and the 1950s. I begin by discussing Lupton and Abbott's (1992) viewpoint on how the design trend of streamlining promoted waste production. In particular, the introduction of new materials like plastics created a specific aesthetic, which they argued promoted waste and for some things, the inherent design was meant for quick discarding. These new designs, influenced by emerging consumer-centred pedagogies, transformed the relationships between people and non-living entities within the home. I reference *Chatelaine* articles, analyzed in depth by Korinek (1999), and the seminal work by Parr (1999) on design and housewives. These articles provide valuable insights into interior and industrial design's influence on waste generation, reflecting the changing focus on leisure and an increased emphasis on the home.

The historical articles I evaluate not only embody the ideals promoted in contemporary print media for that era but also complement the preceding section on pedagogies and home design, offering a snapshot of what was considered modern and exemplary at the time. The published histories in this section, alongside my archival sources, prompt two questions: what things were promoted as ideal, and how was waste prevention considered within the framework of consumerism?

In the context of the last two sections, my primary sources and complementary historical perspectives centred on design provide a broad perspective on the transformation of post-war domestic spaces and their impact on waste management. By including design-based archival sources, I uncover how relationships in new domestic spaces underwent reconfiguration towards consumerism. Susan Stewart's observation in "Design and the Question of History" (2015) that "human history cannot be disentangled from the shaping force of design; it cannot be understood except in relation to what it has made" (p. 286) underscores the significance of design in shaping

human-material interactions. In light of this influence, this chapter explores the motivations behind the 1950s' new home designs and examines their impact on waste production. Assessing the extent to which women embraced these changes in their practices and living spaces for the sake of modernity goes beyond evaluating the quantity and consistency of messages in design pattern books, print media, and cultural stimuli alone. To enhance this understanding, I complement my archival research by conducting the interviews that appear in Chapter 4. Nevertheless, it is essential to establish the context within which women shaped their individual responses to the new products, designs, behaviors, and priorities prevalent during this period.

3.1 Evolving Pedagogies in Domestic Science

Teaching domestic science in schools was not without controversy from the very beginning. In 1911, the *Atlantic* published an article titled "One View of Domestic Science" by an American teacher and journalist named Mary Leal Harkness. Harkness wrote, "the idea that every woman needs practical instruction in housekeeping as a part of her education is as absurd as would be the claim that every man needs to be taught in school to plant corn or milk a cow" (p. 1). She believed women should reserve school hours for the fundamental subjects like mathematics and learn domestic skills outside of formal education. Harkness was responding to the fact that the US was slowly implementing domestic science programs to teach women the profession of housework. She refers to Canada as already implementing these programs in formal schools, ahead of the US. Her opinion was revealing for the time, as she says it was "… ungracious of domestic scientists to try to prove by statistics that it is they who are raising the level of *our work.*" She challenged her audience to question why it would be assumed that young women were going to be housewives instead of another profession. She stressed that domestic science in the US was just a reframing of work already taking place in the homes of the early

1900s. This teacher's response back in 1911 is noteworthy because she demonstrates resistance to domestic science; in this case, she was both challenging the role of formal education in skills such as baking bread or washing clothes and criticizing the educational time given to housework for young women over more fundamentally academic studies. In particular, her opposition strikes at how domestic science was limited in its ability to improve the intrinsic value placed on women's labour and skills while simultaneously limiting women's positions to this work.

Likewise, over time, domestic science evolved in meaning and intentions, transitioning from providing advice on repairing or re-using materials in the late 19th century to promoting the best and most modern solutions and technologies through consumerism by the mid-20th century. In fact, by the 1950s domestic science in public schools was renamed home economics to reflect a renewed focus on training women for consumerism (Attar, 1989). In simpler terms, domestic science and later home economics served as tools to justify the modernization of homes. Governments and industries supported these disciplines through their curricula. The Canadian regional WIs and the formal programs developing in universities were tightly intertwined throughout Canada before the 1950s, and the available resources and literature reveal the same organizations and people influencing both movements for improving women's lives—with the transition from practices of bricolage to waste. Under the guise of science, rules and ideas came from experts outside the home, such as government agencies and the food industry, to advise the professional (unpaid) housewife. What becomes evident from the sources is that what was best practice, evolved alongside political motivations. A closer look at the sources in this section demonstrates how simply preventing waste in domestic science manuals published in the first part of the 20th century shifted from targeting materials—with manuals detailing instructions on

how to repurpose all kinds of food items, like fats to soup, or bones to broth—to home economics—encouraging disposable cutlery or plates to save on cleaning dishes.

In the early 20th century, the initial domestic science manuals advocated for resource conservation. They promoted practices that preserved household materials while incorporating methods to enhance hygiene and food safety. An example may be found in the first domestic science book in Canada, entitled the *Public-School Domestic Science* guide*,* by the WI founder Adelaide Hoodless in 1898.[10] Her book was meant as a textbook for the newly launched Canadian public-school programs. The 200-page guide almost exclusively focuses on food, with nutritional advice, recipes, preparation, and tips for serving. A scientific approach is evident here, in her presentation of nutritional information of food composition, such as charts on proteins and fats in meat or dairy. But the primary focus is on conserving food or other materials for longevity and hygiene. A long section, for example, includes all the ways to use "meat extractives," including instructions to make "beef tea" and "egg soup" using different leftovers from cooked meats. In another section, she lists different beverages, like "apple water" or "flax seed tea," low-cost nutritious drink options. There is one section on "laundry work" with instructions on conserving cloth through careful laundry practices and advice on best practices for dishwashing. Additional sections focus on "caring for invalids" or "hints for school age children" to align with the recipes provided. Keeping with the times, the household economy is managed, in this manual, through care rather than evaluating purchasing strategies. Similarly, a guide for teachers from the archives of the University of Victoria [11] that outlines a 1920s

[10] Hoodless, Mrs. J. 1898. Public School Domestic Science. CIHM/ICMH microfiche series; no. 08944. Accessed at: https://www.canadiana.ca/view/oocihm.08944/219v or an easily readable version at: https://www.gutenberg.org/cache/epub/18097/pg18097-images.html.

[11] From the University of Victoria digital archives, *Domestic Science Curriculum, 1920.* Accessed at: http://curric.library.uvic.ca/homeroom/content/topics/programs/2001/domsci20/index.htm.

curriculum, demonstrates a wide range of activities from needlework to cooking techniques. The guide includes "making and repairing kitchen linen" in addition to full sections on caring for household objects (para 2). Topics include instructions for the "care of white wool," and "care and cleaning of metals in daily use," and "care, cleaning, and disinfecting of the sink" (para 3).

In the cookbook *One Hundred Recipes*, also written by Adelaide Hoodless and published by Halifax's Domestic Science School,[12] the author focused on simple recipes for new cooks, with extensive advice on repurposing leftovers associated with cooking low-cost meals. For example, Figure 3.1 features a recipe for the classic British dish *Queen of Puddings*, a short entry written in simple language and with limited ingredients. Another example stems from Marion Harland's 1871 *Common Sense in the Household: A Manual to Practical Housewifery*[13]. As the title implies, instructions were focused on advice to take care of the home, including saving food from spoiling, such as rinsing butter or shaving bread mould. Considering there were no refrigerators at the time, and food could only be grown for part of the year in most Canadian locations, methods of saving food from spoiling comprised a large part of many manuals. Practices focused on preventing waste and caring for materials out of what seems like necessity. This perception aligns with Strasser's (1999) observations about American history: the initial

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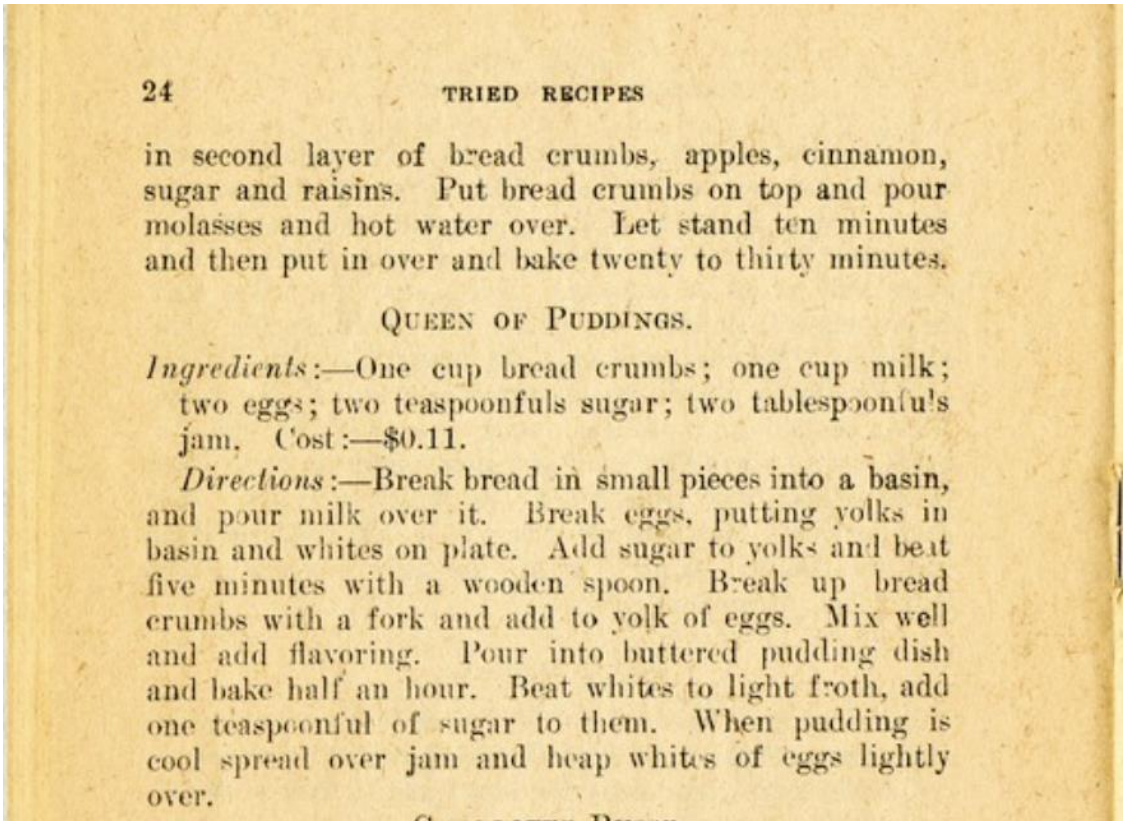
[12] The digital archive for *One Hundred Recipes* by Adelaide Hoodless is within the exhibition entitled *Tried Recipes from Domestic Science School,* Halifax, N.S. Halifax, N.S.: McAlpine Publishing Company, Limited 1906. Gift of Una Abrahamson. Archival & Special Collections, University of Guelph. Accessed February 9, 2022, https://digex.lib.uoguelph.ca/exhibits/show/tried-tested-true/technical-housewifery/tried-recipes-halifax-book.

[13] A filmed version from a copy of the original version of Harland's book was available through the Concordia University library at the Canadiana Archive: CIHM/ICMH microfiche series; no. 91674. Accessed at: https://www.canadiana.ca/view/oocihm.91674. The original archive is Harland, Marion. (1871). Common Sense in the Household: A Manual of Practical Housewifery. New York: Charles Scribner & Co. Gift of Una Abrahamson. Archival & Special Collections, University of Guelph Library.

justification for teaching domestic science was in part to learn how to care and conserve resources for general domestic thrift and to improve women's lives in some way—a theme that runs through the sources in this chapter. Whether early domestic science manuals improved women's lives by decreasing their workload through teaching new skills is questionable; perhaps they helped to save money. It is clear that domestic science in Canada aimed to gain legitimacy by aligning itself with formal scientific principles and institutionalizing practices rooted in women's relationships and experiences. Yet, the formalization of these practices did not significantly enhance the perceived value of the existing work. In fact, it appears to have eroded women's autonomy, measuring their efforts based on the goals set by industries.

Figure 3.1 Queen of Puddings (1906)



24 TRIED RECIPES

in second layer of bread crumbs, apples, cinnamon, sugar and raisins. Put bread crumbs on top and pour molasses and hot water over. Let stand ten minutes and then put in over and bake twenty to thirty minutes.

QUEEN OF PUDDINGS.

Ingredients:—One cup bread crumbs; one cup milk; two eggs; two teaspoonfuls sugar; two tablespoonfuls jam. Cost:—$0.11.

Directions:—Break bread in small pieces into a basin, and pour milk over it. Break eggs, putting yolks in basin and whites on plate. Add sugar to yolks and beat five minutes with a wooden spoon. Break up bread crumbs with a fork and add to yolk of eggs. Mix well and add flavoring. Pour into buttered pudding dish and bake half an hour. Beat whites to light froth, add one teaspoonful of sugar to them. When pudding is cool spread over jam and heap whites of eggs lightly over.

Note. *One Hundred Recipes*: From Domestic Science School. Halifax Nova Scotia. In Tried Recipes from Domestic Science School, Halifax, N.S. Halifax, N.S.: McAlpine Publishing Company, Limited. Gift of Una Abrahamson. Archival & Special Collections, University of Guelph, p. 24.

By the early 1900s, domestic science started to adopt the language of manufacturing, providing instructions on how to be efficient and run a house like a factory. Canadian manuals offered this perspective along the lines of others that were written by renowned authors from elsewhere. One of the most influential authors was Christine Frederick, an American columnist and author of *New Housekeeping: Efficiency Studies in Home Management* (1913) and *Household Engineering: Scientific Management in the Home* (1919).[14] In the introduction for the former, Frederick recounts an exchange with her husband's colleague about scientific management:

> "Now, Mrs. Frederick," replied Mr. Watson seriously, "that is really not too much to imagine. There is no older saying than woman's work is never done." If the principles of efficiency can be successfully carried out in every kind of shop, factory, and business, why couldn't they be carried out equally well in the home? (p. 2)

Frederick describes the many benefits of applying the science of efficiency to housework, while also considering how efficiency can be improved through buying the latest products and household appliances. She lists novel kitchen gadgets and serving items, which she recommends for minimizing labour. Many of these items are now common in the kitchen, like a "measuring spoon set" or a "dish drainer," and would be considered a quotidian part of kitchen routines (p.

[14] A digital archive of the manual *New Housekeeping* is found at the *National Humanities Center.* Frederick, Christine. *The New Housekeeping*: Efficiency Studies in Home Management. National Humanities Center, Frederick, The New Housekeeping, 1913, excerpts. Accessed at: https://americainclass.org/wp-content/uploads/2013/09/Frederick-New-Housekeeping-1913-excerpts.pdf.

3). While the items on her list would not, would in and of themselves not necessarily precipitate more waste, the ideology behind the recommendations, however, paved the way for the adoption of items like disposable dishes for dinner. In household manuals like Frederick's, waste was equated with inefficient time and reducing movements taken in the kitchen to conduct chores was promoted. Because they targeted middle-class women, the message was simple: modernize and save your labour by buying, rather than repairing or repurposing, the latest appliances and food products. These were fundamental ideas that shifted the focus from saving things to saving time. Such ideas paved the way for adopting new technologies and practices, as American and Canadian women gained access to more money and new items came onto the market by the 1950s.

Frederick's book is also noteworthy because it reveals a significant difference amongst its readers, between those who were financially restricted and middle-class women with more disposable income. Frederick's audience was middle-class women—the same group that was joining WIs across Canada, as it happens—who had the time and money to buy and read trendy books like hers. Frederick alludes directly to a new situation affecting both groups that had arisen as a result of industrialization, namely that many middle-class women found themselves in the unprecedented position of having to take on housework, since lower-income women who might, in the past, have worked as servants now had the option to become blue-collar factory workers instead. Along similar lines, Helen Zoe Viet (2013) in *Modern Food, Moral Food: Self-control, Science, and the Rise of the Modern American*, makes an essential connection between these changing ideas on housework and the emergence of middle-class American women taking on chores, beginning around the 1870s and continuing up to the 1930s: women who had moderate family incomes, and could have once employed one or two maids, could no longer afford the

rising cost and faced a lack of workers. The 'servant problem,' in part, created the idea of a housewife who possessed particular expertise in fulfilling domestic tasks. Consequently, the label of "professional" housewife was a new, albeit heavily promoted, identity for women who had previously managed households but might never have undertaken more menial or less attractive tasks such as turning food leftovers into soups or repairing the kitchen linen. Interestingly, the manuals may have helped to retrain middle-class women who previously did not do the work, while these more affluent women perpetuated a new focus that favoured consumption over a "make do" ethos.

Frederick's *New Housekeeping* manual was intended to give her audience ideas about how to become better consumers. In it, she suggests new things to buy or ways of organizing household objects and spaces. She also advocates for efficiency through consumerism in almost every aspect of daily life through promoting her idea of the "efficiency gospel" (p. 3). For example, her main principles included the importance of the standardization of operations, which involves assessing each task to find a method that requires the least labour or creating an arrangement that is the most efficient use of space. She recommends the best tools to purchase, in extensive lists, to create scientific practices. Essentially, her version of efficiency is aimed at transforming housework into an unpaid profession: for example, she writes that "far from being dull drudgery, homemaking in all its details is fascinating and stimulating if a woman applies to it her best intelligence and culture" (p. 7). Frederick asserts that the problem lies not in the responsibility and labour of housework, but the mindset of the individual performing the required tasks. In a similar tone, Frederick directly scolds women, stating that doing labour is a sign of inefficiency:

> A woman's vanity has often kept her from admitting that many of her problems are so distressing simply because of her lack of personal efficiency, not because of circumstances, fate, or other people. In most cases, however, she never even suspects that she is not as efficient as she might be, and points to the hard manual labour she does as proof of her efficiency—as if that didn't prove just the opposite! (p. 9)

She advises that, for women to endure, they need to get advice from efficiency engineers and redesign their spaces according to the latest motion study. Motion studies were gaining popularity as a method to improve efficiency in manufacturing and industry. They were defined by Frank Gilbreth (1911) in his foundational book *Motion Study: A Method for Increasing the Efficiency of the Workman* as the "science of eliminating wastefulness resulting from ill-directed and inefficient motions" (p. 11). Interestingly, he is clearly defining waste as labour not conducted properly, which was the backbone of motion studies. Frederick was focused on improving motions in the kitchens because it is where she considered that women wasted the most time and effort: "she may walk twenty feet to hang up the eggbeater; she may wash dishes in a way that wastes time and effort …" (p. 8). Consequently, reading Frederick's popular work demonstrates how the preference for efficiency led to valuing the product—namely, a spotless orderly home—but not the process of knowledge and skills that women used in making a home. For waste management, this clearly favours swift removal of anything that can be labelled trash, and re-use practices are considered wasteful.

My analysis from the archives of newsletters is based on my examination of notes from meetings from both the WI and the FWIC of meetings, shared food tips and recipes, and different focuses of each local meeting group across Canada. What became clear from these sources was that, while the group was intentionally structured as a secular and informal way for women to

gather in small communities, the women leading the group were the same ones writing manuals and teaching at domestic science colleges. They fit a white, middle-class, and often small town or urban profile—they were not farmers. Although archived newsletters showcased more remote groups, featuring letters from Indigenous women who shared culturally relevant practices with the wider network, this was often presented as a special newsletter contribution. At the peak of the WI's membership in the 1950s, regional groups were not solely white, middle-class, English women; however, most of the FWIC archive is representative of this demographic.

The slogan, "A nation cannot rise above the level of its homes; therefore, we women must work and study together to raise our homes to the highest possible level," along with their motto, "for home and country," originated from the inaugural Women's Institute meeting in 1897 at Stoney Creek. This motto persists to the present day, encapsulating the organization's enduring commitment to collaboration and knowledge-sharing in the pursuit of cultivating and sustaining an optimal domestic environment. As the WIs transitioned from their initial focus on educating women about the latest domestic science to advocating for broader domestic issues, such as "consumer concerns," the slogan became a recurrent motif in their communications and newsletters. This evolution reflects not only the changing landscape of education, where home economics became more accessible in public schools, but also underscores the organization's deeper integration into larger societal agendas aimed at shaping women's roles. The enduring resonance of the slogan highlights the Women's Institute's dedication to elevating homes as the foundation upon which a nation's progress depends.

The examination of the FWIC with the WI commitment to enhancing women's agency requires a more nuanced analysis. On one hand, insights from newsletters underscore the

significance of WIs in fostering a sense of unity among women. A compelling example from a 1945 archived newsletter recounts a member's perspective at an annual meeting, emphasizing the transformative impact of the institute: "Before we had the institute...every woman guarded jealously any recipe she had... the institute changed all that; we learned the best thing in life is the shared thing. The institute gave us the community spirit long before it gave us the community hall." WIs played a pivotal role in establishing a women-led community, leveraging affiliations with colleges and government for legitimacy. Local meetings facilitated the exchange of recipes and valuable advice, while the central FWIC organization advocated for women's rights in alignment with a form of feminist organizing. Despite the organization's promotion of cutting-edge domestic science skills and technology, the emphasis on the latest scientific trends in cooking and eating inadvertently displaced already well-established knowledge and practices—and the values motivating them.

On the flip side, Ambrose and Ketchnie (1999) contend that these organizations compromised women's agency. Their research on the FWIC's evolution reveals a complex dynamic where regional WIs and the FWIC, while supportive in principle, aligned with domestic science colleges' mandates and received government funding. This alignment transformed them into authorities seeking to dictate women's roles as housewives. For many WI members, particularly middle-class women in urban and small-town Canada, formal domestic science programs aimed to elevate their home-based work, justifying unpaid labor and rebranding women as professional housewives. Ambrose and Ketchnie (1999) argue that WIs, connected to governmental agendas through funding from programs like Ontario's agricultural initiatives, inadvertently reinforced authority objectives, undermining their intended support for women in their work and communities.

By the 1950s, after the war ended and the economy in Canada was growing, home economics in public schools was positioned as educating the female consumer. The characterization of home economics as consumer-centred in the post-war years consistently runs across literature from the United Kingdom (UK), US, and Canada. This historical literature demonstrates a drastic change in the content and priorities of domestic science. As already mentioned, domestic science was renamed home economics to reflect how the various authorities, like the governments and school trustees, had aligned the program with Canada's economic agendas. The program was purposely directed at how the growing food processing industry or kitchen appliance manufactures saw the housewife as creating Canadian homes through purchasing goods. For example, Dena Attar (1990) describes the post-war UK curriculum as an attempt to educate working-class girls to middle-class standards through teaching them how to buy, where to buy, what to buy, what to eat, and when to eat. In her study of home economics in the post-war years, she positions the entire program as a waste, titling her analysis as *Wasting Girls' Time: The History and Politics of Home Economics* and documenting the many problems the programs contained in the education of young women. Her central concern after examining countless manuals and textbooks from the post-war years was that she found, "materialism as the basis of home economics." Girls she interviewed in the 1980s, were enrolling in the courses because they were attracted not to housework but to consumerism: "home economics offers girls fantasy: not the trite romantic dream of husband and baby but a more easily grasped materialist, consumerist fantasy" (p. 140). School-aged girls from middle-class households were encouraged to study academics, while schools shuffled girls with limited financial resources into home economics classes to learn how to shop correctly. Evidence shows the early curriculum in the 1920-1940s taught about sustaining materials and maintaining homes

as a place for production; later, especially in the 1950s, the focus changed drastically to consumerism. Women, especially poor women, needed to learn how to shop to be good citizens, echoing early emphasis on reteaching farm women skills they already had. In particular, women's work in home waste management was no longer considered at all, as producing garbage was part of being a good consumer and middle-class woman in Canada.

My grandparents' practice of saving egg cartons and composting in their backyard did not fit with the modern vision in the post-war era. The vision was to cement the idea that all things—food and food packaging in general—were resources for humans to exploit and better their lives. Cooking, making, or repairing things, which formed deeper relations with materials, were best left for the male-dominated industries, like food-processing factories, the icons of efficiency. The details of how to transform materials from whole to cooked, from leftovers to compost, the processes that better realized the inherent agency of, say, raw vegetables, was argued by home economics and the food industry as useless. Donica Belisle's (2020) Canadian history describes how, for teachers in the Faculty of Household Science at the University of Alberta, food was about purchasing and serving, not cooking. Belisle quotes from an archived article from the school's home economics professor, McIntyre, who emphasized the need to buy an extensive array of specialized gadgets to cook appropriately and describes how a lack of tools was considered to reflect poor education and potentially poor households—of course, beating eggs with a fork was not acceptable. Practices that came from memory were not sufficient as, Belisle notes, "gone were the days of intuitive baking" and in were the days of "research kitchens" and "cooking by measurement" (p. 93). The scientific age of cooking meant carefully employing the scientific method to the new recipes emerging from manufacturers' test kitchens, with thermometers, electric equipment, and various processed products. Food was the product of

the post-war industry, and home economics classes were the instruction manual. How did these new ideas and gadgets interfere in cooking practices that were passed between generations? Suddenly, cooking—a practice of sustenance, culture, and family traditions that arguably forms intimate understandings of various materials—was no longer governed by the home cook.

Despite the portrayal and promotion of the housewife who prepared processed food concoctions in the post-war years, home cooks did not universally adopt this modern food. Akin to the idea that all women were professional housewives in the US and Canada, many women worked outside the house, and many were cooking fresh food, using their mothers' recipes, and conserving materials (Shapiro, 2004; Belisle, 2020). As Laura Shapiro (2004) notes in her book, *Something from the* Oven*: Reinventing Dinner in 1950s America*, in the US, women were speaking out against the rise of tasteless, expensive, and uninspiring cuisine, whether it was in recipes in food magazines, television shows, or the latest frozen product marketed in the supermarket. Shapiro's work speaks to resistance in homes and kitchens, which is difficult to assess through the archives of even the FWIC and WIs that are little closer to everyday women's experiences. Shapiro describes a complex weaving of food industry lobbyists—marketing the latest frozen food and claiming science was saving the housewife—and actual home cooks' backlash—writing angry letters into home shows with lists of issues with processed foods. Unlike their mothers, American women from the 1950s to 60s bought bagged flour or washed carrots but were less satisfied with frozen dinners or other industry experiments despite heavy promotion in magazines or televised home shows. She notes that women were specifically not readily adopting the more expensive processed specialty foods, e.g., "the dinners and desserts that were supposed to set women free" (p. 25). Food manufacturers were trying to create empires, while governments wanted to grow the economy through the home, and schools were

promoting it all as the latest and most modern approach to homemaking. Yet, Shapiro said, the "postwar years turned out to be exactly the wrong moment for the industry to try to persuade home cooks to quit cooking" (p. 27). Interestingly, in this assessment, Shapiro highlights the food industry's poor timing: the recent past, characterized by wars and economic collapses, had impacted cooking and food with wartime restrictions, poverty, and farm collapses. In contrast, the 1950s boom promised better foods, not repackaged processed soldier rations. According to Shapiro, it would take another decade and some improved processing methods for women to accept processed foods more readily. I explore this further in the next chapter, as the formal archives do not get close enough to the everyday experiences in the home and kitchen; filling in the gaps will be the Grandmas, who lived through this time in different, personal ways.

Tracing the development of domestic science reveals the transition from bricolage to consumerism with increasing efficiency as the argument. Domestic science's evolving pedagogies focused on the practices of women's housework and the curricula provide a lens into the social context leading up to the 1950s, with the effect on waste production coming in the decades after. Canadian history demonstrates the development of informal pedagogies through WIs in Canada, in various publicly available manuals, and in formal college curricula such as the McDonald Institute. Different scientific approaches to food and housework, such as nutritional sciences and motion studies, and ideas on efficiency, were popularized by middle-class and educated women. Outside Canada, influential authors such as Frederick aimed to elevate women's work or reduce labour. However, Attar, Belisle, and Shapiro, examining food practices from the post-war years, argue that women's actual food practices were more complicated than dominant narratives shown through media, advertisers, and government home economics curricula—narratives that depict women at home, cooking with processed foods, and readily

adopting the latest ideas from home economists. The following sections take the complexity of practice to the spaces, such as the post-war home and the evolving new and modern materials that formed the domestic experience.

3.2 Redesigning the Modern Post-war Home

The post-war Canadian house was designed according to the same ideas of home management that were espoused by the earlier ideas of Frederick's *efficiency gospel,* namely as a space that represented the conversations on efficiency through careful application of scientific principles. Waste was, therefore, increasingly defined through labour, and new home spaces reflected this definition. Families of returning veterans and new immigrants were quickly moving into post-war suburban housing developments across Canada. Women were tasked to make the modern home *her-space* for her modern family (Carroll, 1989; Kapelos, 2009; Partington, 1988). This involved buying new things, and also pertained to the way women conducted their work. Unlike the wartime salvage programs where waste was defined as bones, fat, or other materials to save, waste post-war was defined as inefficient practices, as discussed in the previous section. The way a woman did her nightly dishes could be evaluated as inefficient if she claimed it took too long or was too overwhelming for her to do alone. The evaluation of household work was part of the wider Canadian social pressure on women to return to full-time housework, leaving behind wartime occupations, such as being an office clerk or factory worker. Housewives were told that housework wouldn't be a burden if they performed it more efficiently. However, this imposed a new external value judgment on their practices, expecting them to internalize it instead of evaluating their efforts based on their own values. For example, if they wanted to continue cooking whole food meals and reduce waste, it was their labour to bear, not any other household members; it was perceived by efficiency experts as a poor choice. Given the

rising middle class and national economic prosperity, a concern for material waste was no longer a threat to household budgets—it was, instead, a symbol of the prosperous modern Canadian family. These factors are reflected not just in practices but in the new designs of kitchens and in post-war housing more generally. This translated to homes that were no longer conducive to production and to orienting interior design towards leisure by limiting spaces, such as kitchen workspaces, cold storage, and vegetable gardens, or by creating new spaces for larger kitchen appliances.

Leading up to the 1950s housing development boom in Canada, the domestic design world was turning to conversations on efficiency, looking to apply research approaches to design domestic spaces, such as the time-motion studies from manufacturing and labour. Conversations on what were previously important practices, like fixing and re-using materials in the home, had almost vanished in the print media and home economics manuals by this time. According to Lupton and Abbott (1992), Christine Frederick's ideas on efficiency inspired Austrian architect Margarete Schutte-Lihotzky to create her iconic Frankfurt Kitchen. Schutte-Lihotzky designed the kitchen in 1926 for Germany's new housing estates, which were urban apartments requiring a scalable design appropriate for building numerous affordable housing units. As a female architect, Frederick's writings convinced her that the rationalization of housework was a way to create more equality for women, freeing them up for paid work or personal development (Lupton & Abbott, 1992). In planning her vision, she conducted detailed time-motion studies and interviews with women homemakers and women's groups. Her main goal was to reduce the labour burden for women in the kitchen, and, by doing so, she created an elaborate, but small and narrow, kitchen for a single worker. Norway's National Museum's reconstructed version of this kitchen (see Figure 3.2) contains the basic features of the original model. These features include

a swivel stool with which the homemaker could access most of the kitchen, a gas stove, and several drawers, including a what is referred to as a garbage drawer—noting that garbage did not require an entire bin.

Figure 3.2 A Kitchen for the Modern Woman

Note. A photograph excerpt from the research poster presented at CAFS 2015, documenting cooking a meal as part of a research poster, 2015.

The design is compact but elaborate in its organization, with several built-in storage cabinets and drawers explicitly made for particular standard kitchen tools and food items. In the original 1926 model, she gave attention to materials for specific functions, such as oak flour containers to repel mealworms and beech cutting surfaces to resist staining and knife marks. Critiques of the model note that it did not have space for socializing or eating, and isolated women from the rest of the house. From the lens of waste management, the space filled a specific need to make simple meals in small apartments but was limited to achieving efficiency

through reduced movement—no consideration was given, for example, to storing preserves or other food items that were common ways to save food from waste. No discussion of waste is given in the design, except for the garbage drawer. Waste is only defined through labour by the architect. Aligned with the focus on efficiency, the kitchen mimics industrial designs for workspaces and factories. According to this design, the German government built approximately 10,000 kitchens; since then, several museums have reconstructed originals on exhibit. It remains an icon of the modernist era and a rare 1900s female architect's creation. The iconic nature of this kitchen went on to influence design into the modern era of the 1950s with the approach to redesigning kitchens through time-motion studies, taken up decades later by Sigrun Bülow-Hübe's Canadian kitchen research, which I draw on later in this section.

Similar to the German social housing explosion of the 1920s, which inspired the Frankfurt Kitchen, Canada required a new approach to housing and design in the 1950s that could meet the tall order of building houses rapidly for a growing population and represent the evolving cultural context.[15] Migration from rural to urban and suburban areas shifted the focus for housing to the main cities. Consequently, the 1950s was a pivotal moment in redesigning domestic spaces for the evolving needs for housing and also for the incorporation of scientific principles that had emerged in the previous few decades into the home and housework. What kinds of relations between practices and materials were formed through these new spaces? How were modern ideologies realized through these relations? And—returning to the principal theme of this dissertation— in what ways did redesigning the Canadian home impact the production of food-based waste?

[15] Carrol 's 1989's history on *Post-War Trends in Canadian Housing Policy* assesses how demographic factors from European immigration and a baby boom contributed to a housing shortage across Canada.

Across Canada, CMHC bungalows still line streets in the near-city suburbs and represent a transition to modernity and post-war prosperity for a whole generation of Canadians. The vast number of homes built during the post-war period (1950s to 1970s) make the CMHC critical as a driver for changes to domestic spaces. During this time of increasing demands for new housing, the Canadian government wanted to develop a construction industry for veterans and new Canadians (Carrol, 1989). The demand, coupled with the priorities of industry and the government to grow the economy quickly, dictated the priority of designs. The CMHC controlled the design and financing together at this time, including loans to prospective homeowners and builders and guarantees to institutions and local governments to support housing programs. The national design competitions and pattern books of housing designs published regularly between the late 1940s and 1970s, were two main activities that established the CMHC model as the leader. The CMHC Development Division, which had teams of in-house architects and designers, held a mandate to set the Canadian design standard for all new homes, and, as a result, their influence on home design was paramount at this time. Pattern books offered potential homeowners a selection of designs for houses that also met the Canadian standards for financing. The books were in partnership with local architects in the CMHC-established regions across Canada (e.g., west coast), architects who were commissioned in regions for each design. Designs included a plan, elevation, and perspective drawings with square footage of the house and lot requirements. The books also included instructions and guides on how to read the designs as well as tips on how to select a house.[16] Clearly, the pattern books were inclusive of a non-expert audience. Indeed, the CMHC's main objective was to support the development of high-

[16] I have a scanned copy of archived Pattern Books from McGill Library; the main example is: CMHC.1958, *Small House Designs: Bungalows & Split-level houses*, 2(1). Blackader-Lauterman.

quality housing that could be implemented on a mass scale, was cost-effective to a wide sector of the population, and was adapted to post-war modern lifestyles (Carroll, 1989; Kapelos, 2009). Since the CMHC's focus was national, they designed variations of standardized housing for different regions, with different sizes of lots and budgets. The outcome of the policies and programs was that housing in Canada doubled between 1950 and 1970 (Carroll, 1989).

Through resources such as their free design pattern books and national competitions, the CMHC was successful in setting the modern standard for the post-war house. Each post-war bungalow was built by an individual contractor or the homeowner, with designs purchased from the CMHC. The CMHC offered a selection of house types based on space needs, such as two or three bedrooms and varying lot-size requirements. The CMHC architects and designs were known for their commitment to modernist principles through high-quality designs that prioritized for utility and functionalism. The success of the pattern books and housing programs resulted in similar small single-story houses popping up all over the country. In the beginning of the 1950s, the popular bungalows were typically around 1,000 square feet, with two bedrooms and a kitchen with a connected living room and dining room. Later in the decade, larger homes became more common, with three bedrooms and new features like carports. In the 1960s, the flourishing post-war economy was more likely influencing the choices of Canadians, and these later designs reflect both access to more finances and new modern technologies.

The first CMHC *Canadian Small House Competition*[17] in 1950 set the tone for the organization's intentions for post-war housing designs. The competition, which collected 331

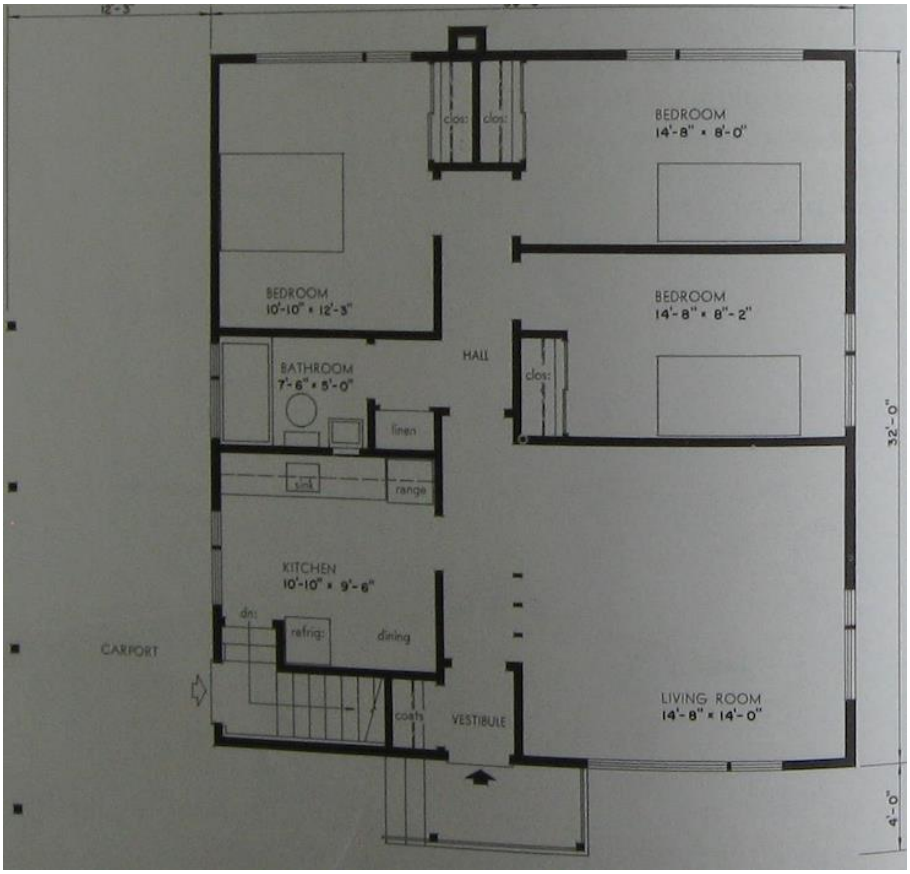
[17] CMHC. (1950). *Prize Winning Designs of Canadian Small House Competition*. Blackader-Lauterman. (Archive copy accessed from McGill Library).

submissions, proposed a design problem that prioritized designing an affordable house with novel designs. A panel of expert judges selected 37 winning designs for each region across Canada (see Figures 3.3 and 3.4). The judges were mostly architects from the Royal Architecture Institute of Canada (RAIC) and broadly represented the competition's regions of the Maritimes, Quebec, Ontario, Prairies, and West Coast. The overall intention of the competitions was to stimulate entries that were "novel" and "interesting" and supported the creation of modern post-war homes.

There is evidence in the CMHC archive documents of a gender bias, consistent with the period. Out of the eight-person jury, only one woman was included, who was not an architect but from a government social program. Moreover, the design problem featured a male client and his nuclear-style family of a wife and two children: the problem section introduces the client as "Mr. Canada, an average Canadian in his middle 30s has needed a house since the end of the war" (p. 74). Specific considerations of Mrs. Canada were also addressed within the statement requirements and corresponded to the gender stereotypes of the day: "Mrs. Canada expects to do her own housework and supervise the children. She naturally wants the rooms planned and arranged to make her household tasks easier and more pleasant, and to allow her as much free time as possible" (p. 75). This language reflects the ideologies of the era as well as a modern design ethos, implying that design could reduce Mrs. Canada's workload and thereby provide pleasure and free time. While the competition's main objectives were to identify housing designs that were both affordable and of satisfactory quality for Mr. Canada, Mrs. Canada was considered briefly for the interior design. This reflects how the inclusion of women's work and knowledge in housing design was limited and not valued. The competition reduces the Canadian woman's needs to her interest in pleasure and décor, and her self-serving need for free time.

According to a report of the competition, the winning designs indicate a preference for new design layouts that adhered to middle class nuclear family lifestyles. The designs of the proposed CMHC houses were intended to be innovative: the jury report stated that their results overall confirmed a change to homes, such that "it is apparent we are moving away from what is generally considered to be a house of orthodox appearance" (p. 76). The changes were focused on the layout of the plan and rooms, such as the kitchen, therefore the novel and new was applied to the space itself to a greater extent than building materials or any radically new features. As an example: "The ease of access from the kitchen, as the working center of the house, to all other parts, was a very important factor in the decision" (CMHC, 1950, p.77). Based on the winning designs, the modern space arrangement translated to preferencing an open floor plan between the kitchen, living room, and dining room to facilitate access (see Figure 3.3).

Figure 3.3 CMHC in Pattern Book Small House Designs



Note. Design 296 (p. 108). A 980-square-foot bungalow with an entrance dining area and kitchen overlooking the opening to the living room.

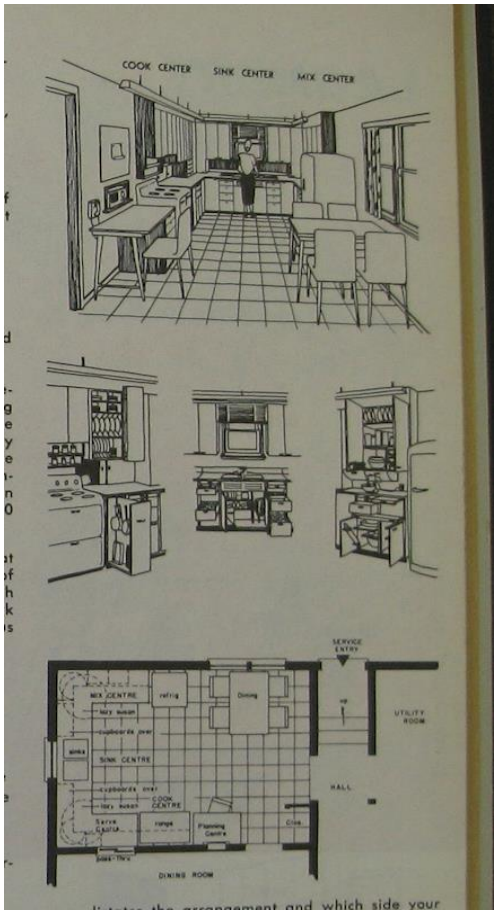
Indeed, the kitchen was a focus for modern design principles, with many new ideas imposed on it. The principles of standardization and efficiency of the kitchen space, evident in the CMHC homes, reflected the impetus to encapsulate modernity and were consistent with the iconic Frankfurt Kitchen. However, the Canadian designs departed from the paradigm whose closed space isolated the housewife from the rest of the house. Also, spaces for expensive large and small appliances were added to new designs. Opening the space allowed for multi-tasking, such as watching the children or visiting with dinner guests while cooking. Instead of a small, removed space like the Frankfurt kitchen, the CMHC preference was a spacious kitchen with optimal space-saving principles. For example, the kitchen was arranged to minimize steps, as

promoted by earlier writers like Frederick. This meant that the kitchen designs included specific locations for a refrigerator, stove, and sink, with standardized counter heights and depths. The kitchen "work triangle" was an important modern concept proposed to create an optimally efficient work environment in the kitchen for a single cook (housewife), as well as to standardize and industrialize kitchen design (see Figure 3.4). The triangle minimized steps through arranging work areas into a triangle formation with the stove, sink, and refrigerator (Lupton & Abbott, 1992). Winning entries from across all regions show that the work triangle was the new normal for the CMHC single family home, aligned with the organization's intention to create a modern ideal for Canadian homes.

From 1967 to 1970, the CMHC commissioned Sigrun Bülow-Hübe,[18] one of a few female industrial designers in Canada at the time, to research kitchen planning and design. Her research into optimal kitchen designs is important to include here. She aligned her design objective with her peers by striving to minimize labor in the kitchen. However, she also stands out from other designers of the time by placing women's needs at the forefront of domestic space design. Secondly, her archives, which scrutinized women's real kitchens in Montreal during the 1960s, meticulously document the precise contents with excellent detail.

[18] Zantovská Murray, Irena (ed). (1997). Sigrun Bülow-Hübe Fond: A guide to the archive. Canadian Architecture Collection, McGill University, Montreal. print.

Figure 3.4: CMHC (1964) Choosing a House Design



Note. The figure shows a section of the right part of the page, with sketches of a CMHC kitchen space to demonstrate the work triangle, with the labels *cook center*, *sink center*, and *mix center* that form the work triangles, Blackader-Lauterman (p. 25).

In Bülow-Hübe's CMHC study, she aimed to update planning to reflect the radical changes from this post-war period, including from meal preparation to grocery-buying practices. She is not trying to impose a designed space, promote new kitchen things, or change the type of work that women do in the kitchen. Her concept of efficiency is driven by her objective of making the everyday labour of women easier on the body, saving time and energy rather than materials. Nowhere in her work does she recommend changing what women are doing or buying. It should be made clear, then, that her recommendations could be interpreted as opportunities to optimize waste mitigation, should that be the intention of the research participants. What is

evident in her work, however, is that by the time she intervenes into the male-dominated design industry, women already have a long list of packaged foods and small appliances. She doesn't mention waste prevention or even note it in her designs. This complements the other trends of the 1960s, such as home economics classes, where using leftovers or even cooking with whole foods is radically limited. She is committed to supporting women where they are and this in itself is telling since waste was no longer a topic from a design lens.

One example of her advocating to support women through better design is from her speech to manufacturers in 1969. The speech was made towards the end of her kitchen research project, where she positions herself as an objective scientist who wants to improve kitchen planning while making the case that woman's bodies and work processes are disregarded by the then-current standards.[19]. After she summarizes her survey research to the audience, detailing the vast number of things women keep in their kitchens—she found 430 items on average— she describes the unfit designs of storage areas which housewives had had to "adapt to" in organizing different kitchen things like pots and pans. Provocatively, to her likely all-male audience, she asks, "what would happen if there was a revolution and all women walked off the job?" In response, she suggests, "…it would probably not take long before some remarkable changes in kitchen planning emerged." Her overall critique was that designers assumed women could adapt to their designs rather than designing with research and recommendations that are suitable for women workers. Subsequently, she emphasized in her speech that the disconnect

[19] Sigrun Bülow-Hübe Fonds, (1970). "Canada's Five Million Kitchens, Are They Really Planned?" *Breakfast Talk to the Kitchen Manufacturers Association*, Toronto, Ontario, May 1969. McGill University Archives. (CAC65/BP/5/CMHC/1.02).

between research and manufacturers was her primary concern and a situation she sought to improve through her design research. A more specific critique was that the standards of this time were for mass-produced kitchens, which resulted in women adapting to kitchen countertops that were too high, trying to fit food packages into awkward storage spaces, and dealing with inadequate ventilation (Adams & Toromanoff, 2015).

Bülow-Hübe's final report for CMHC[20] contains the sum total of her research, which documents her methods and results, and also reveals the radical changes in households by the late 1960s. The extensive quantitative research was intended to "widen the scope of reference in setting the criteria for the norms" that comprised "work sequence," "space needs," and "storage requirements." Through her survey of 37 actual kitchens in the Montreal area, which covered a range of incomes, household populations, and age ranges, and meticulously described with accompanying surveys and drawings, her objective was to assess examples of average Canadian homes. Initially, she compiled a lengthy bibliography of previous research drawing from Swedish and Americans studies and then made her own assessments of them based on her own findings. For example, she criticized Cornell University's study. She discussed Cornell's study that was precedent-setting for the time, time -- it measured workflow and energy expenditures by using test kitchens as experimental spaces -- and argued that their results were likely inaccurate. For example, she critiqued the use of researchers in test kitchens mimicking the movements necessary for the preparation and cooking of different daily meals, as compared with the

[20] Sigrun Bülow-Hübe Fonds, (1970). Kitchen Research Program 1967-1970. *Research sponsored by Central Mortgage and Housing Corporation*. (duplicate reference) John Bland Canadian Architecture Collection. McGill University Archives. (CAC65/BP/5/CMHC/1.01).

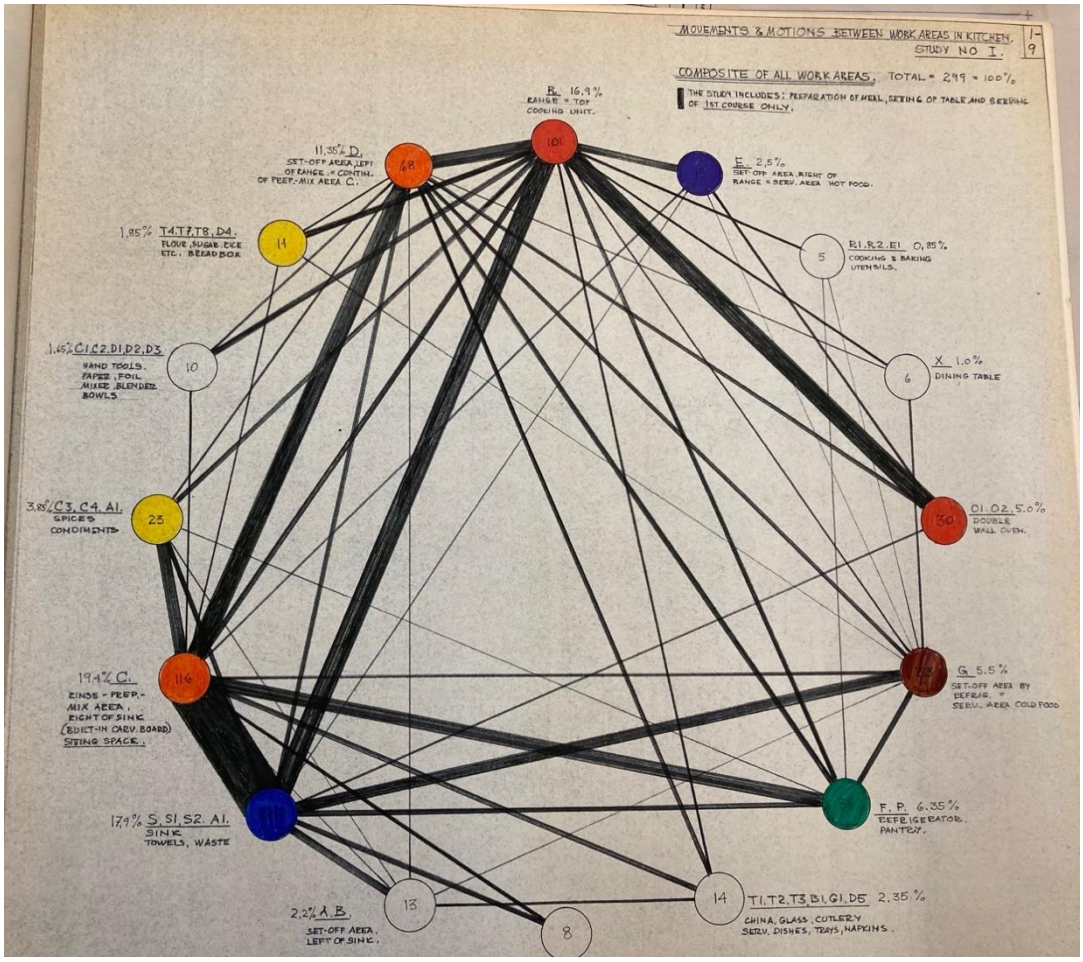
activities in actual households, where, she estimated, the number of trips would be considerably higher than Cornell's counts.

Instead, Bülow-Hübe adopts a different methodology, still using time and motion studies, and still prioritizing efficiency, but in real households, to account for what she considers a more realistic accounting of workers and their bodies. Consistent with other researchers of her day, her conceptualization of waste focuses on embodies labour, not materials--vast numbers of which were now emerging and had to be accommodated in new kitchen design. This is demonstrated in the archives through her methods focused on documenting women's trips in the kitchens of the 37 households during the making of a meal. Figure 3.5 depicts the workflow sketched onto drawings of the kitchen work areas, based on actual meal preparation by a housewife and not in a test kitchen. In the drawings, the actual kitchen spaces with work areas or stopping places like counters, waste bins, sink areas, stoves, and so on are drawn out with circles. Each trip is indicated by a line, so the drawings depict some lines that are thicker than others, showing the frequent trips between spaces. Thicker lines in the diagram show higher traffic or more trips during the meal preparation, creating what Adams and Toromanoff (2015) refer to as a hierarchy of lines that illustrated the movements of bodies and resulted in the female body creating the "structural logic of the diagram," which presented the "housewife's body as a force in itself" (p. 24). From her lists, she draws each storage unit configuration and arrangement, including measurements of cabinets and utensils (see Figure 3.6). While her methods are considered rigorous and unique, her objective is to relieve the home cook of unnecessary labour burdens, and, in her results for the CMHC, she proposes plans for optimal workflow arrangements—her critique and recommendations both support women's work but align closer to liberation through optimization, not shared labour nor decreasing the things she argues women are burdened by.

The archives, as mentioned above, reveal the contents and design of a typical kitchen of Montreal at the time, revealing the vastness of materials, kitchen arrangements, and the practices of women's homes. Her surveys include lists of all the food items, tools, utensils large and small, cleaning materials, and small appliances—everything she could possibly document is catalogued. From the households, she tabulates all the items and comes up with averages, like 150 to 160 groceries per household, which interestingly were mostly packaged foods with a few cleaning materials. The detailed lists reveal that households by the late 1960s had considerable amounts of brands of packaged and processed foods. For example, in the archive of tabulated sheets, one is labelled Bakery Products, listing all the kinds of baked goods found such as white loaves, packaged cookies, and crackers. [21] From her lists, she draws each storage unit configuration and arrangement, including measurements of cabinets and utensils (see Figure 3.6). Adams and Toromanoff (2015) cite a description from one of the households that includes the brands of food items like Tender Flake Lard, Jell-O Instant Pudding, and Five Roses Flour. The large numbers of brand-name processed foods that comprised an average of 150 items of food packages and items suggests that, by the late 1960s, women in Canada had numerous packaged foods in their houses. Perhaps women were still cooking and not fully adopting the frozen dinners, as Shapiro argues, yet they were closer to a house of consumerism than to one of production.

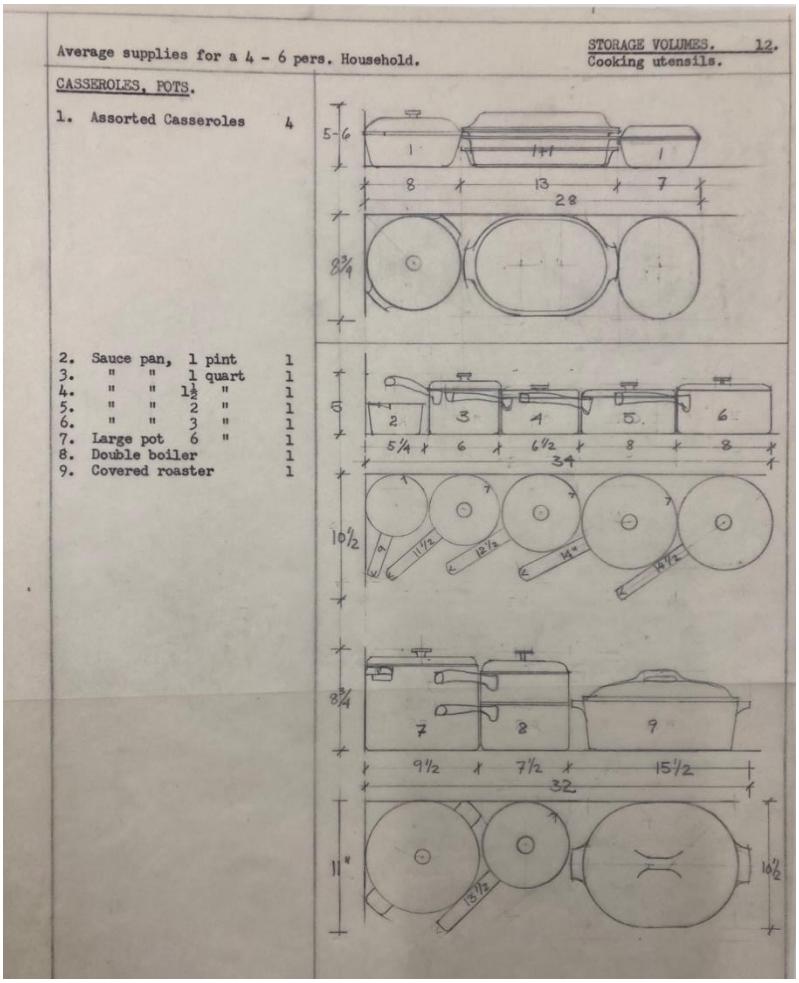
[21] Sigrun Bülow-Hübe Fonds, (1970). Appendices to the Report. Volume 2—Appendix 1B. Sigrun Bülow-Hübe Fond. (CAC65/BP/5/CMHC/1)

Figure 3.5 Sigrun Bülow-Hübe's Diagram of Work Areas in the Kitchen



Note. Circa 1967-1970. Charting of an unknown woman's trips for preparing a meal, setting a table, and serving a first course. Sigrun Bülow-Hübe Fond, John Bland Canadian Architecture Collection, McGill University Library.

Figure 3.6 Sigrun Bülow-Hübe's Diagram of a Household's Storage Area Detailing Cooking Utensils



Note. Circa 1967-1970. Sigrun Bülow-Hübe Fond, John Bland Canadian Architecture Collection, McGill University Library.

Bülow-Hübe's approach to design research was unique within the industry because she focused on the actual work of women in their homes. What made her work women-centred is a specific difference in methods compared to previous kitchen research, which reflected her awareness of kitchens as a gendered space and her professional objective to establish optimal standards to support domestic work (Adams & Toromanoff, 2015). Her methods led to specific recommendations that she considered necessary for optimal space planning for women, including basing the heights of counters on the average heights of real women, basing cabinet storage measurements on the items in women's kitchens, and a U-shaped space plan that she calculated

as optimal based on her movement studies (Zantovská, 1997). Her results for kitchen plans, like her recommendations for the L-shaped or U-shaped kitchen layouts, are echoed in earlier studies and in CMHC designs for standards. However, the more detailed methods and drawings that positioned women's bodies and work as the design materials challenged the unspoken norms that women were adaptable to any space created by the industry. Her methods were guided by the simple idea that better designs would come from studying the workers themselves—the women in the kitchen responsible at this time for most of all domestic work. As a female designer, Bülow-Hübe valued what women did and how they did it. Maintaining the language of her peers on efficiency while arguing for a focus on needs complicates the argument that efficiency was achieved through male-centred solutions and undermined women's autonomy. Increased garbage as the consequence of consumerism is not directly acknowledged within the work by Bülow-Hübe, but her approach to kitchen design did not support solutions oriented towards it either. Her approach was meant to support women's design needs where they were; waste prevention could be considered inherent in her approach in as much as using leftovers, for example, could be undertaken more or less efficiently, but it seemed within her approach, her research participants already had adopted the ideals promoted in the earlier decade of 1950s, with standardized kitchens containing numerous packaged foods. Nevertheless, from a women-centred design perspective, her design approach supported the values of women's work, which flips the dynamic of designers imposing industry values like consumerism into the home space, argued as values that undermined the practices that prevented waste.

The CMHC was only one of the means—albeit a very influential one—of promoting new post-war designs in Canada. Assessing the CMHC houses in the print media such as Chatelaine Magazine's iconic *Home Planning Book* from 1967, for example, one finds further evidence of

what was promoted as an idealistic home design. The articles contained therein décor and designs for both indoor and outdoor home spaces that were considered to represent modern principles. In one article, "Four Fabulous Gardens" by Lois Wilson, the ideal garden is depicted as "… drifts of bright flowers, smooth green lawns, lots of play equipment for outdoor fun or perhaps a quiet sanctuary of elegantly grown plants and a cool reflecting pool …" (p. 71). The description is less interesting for what she includes than for what has been left out. In all four examples of garden designs, complete with detailed descriptions on preparing soils, choosing the right lawn type or proper fence, there is no inclusion of food, no spaces for vegetables, fruit trees, or even herbs. Not having a food garden was an important difference from the pre-war period—including in cities where growing some amount of your own food was a patriotic duty during the war and a matter of household food security before then. While Figure 3.7 shows women in a home economics class learning to garden vegetables in the late 1940s, vegetable gardens seemed to have faded from suburbia by the 1960s. Gardens became a site of consumption, a space with a focus on playing, relaxing, and entertaining, rather than for production, such as growing food. Housewives learned from print media that they could buy into modernity through making spaces idle, signifying the abundance of this era.

Figure 3.7 Home Economics Class Gardening

Note. Circa 1944 to 1949 (Collections Canada).

That such print media was indeed influential at the time is observed by George Thomas Kapelos, who argues that the popularity argues that the popularity of the Canadian suburb and its modern homes became accepted precisely because of the articles and advertisements written for Canadian woman. In his (2009) article, "The Small House in Print: Promoting the Modern Home to Post-war Canadians through Pattern Books, Journals, and Magazines," he suggests that "rather than being simply about change, modernism was about making change amenable" (p. 39). Unlike the CMHC pattern books, which considered the husband the client, magazines like *Canadian Home and Garden* (*CH&G*) were aimed at the housewife. In the first years after WWII, *CH&G* focused on families with modest incomes and lower cost modern homes, which could be carefully planned and budgeted, inside, and out, for all families. The magazine took the designs and sketches of the CMHC homes and

constructed narratives, portraying fictional housewives and their families reveling in their new homes. As an example, Kapelos describes a fictional housewife's experience: "Mrs. Morrison would realize the dreams of a modern housewife in her own home, she demonstrated her domesticity skill in a fully equipped up-to-date kitchen …" (p. 54). Mrs. Morrison was featured in a series of photographs happily doing housework in her well-organized, modern home. Other articles set out to clarify that modernism was merely a practical approach to designing the new home with the most optimal materials and arrangements; it was not an extravagant or exclusive enterprise. Yet by 1962, a *CH&G* cover titled "The Poolside Life" was published with what appears to be a very large home, including a large pool, set in the expensive suburb of West Vancouver—a far cry from the 1,000 square foot bungalow from 1950. What was evident in the post-war home magazines, was the connection between time saved through modern house designs and fewer chores allowed for leisure. If women did not waste their time in growing food and in the work to prevent waste like their mothers before them, they could sit by the pool or in the garden reading magazines. What modernism means was flexible to the needs of the Canadian economy, industry trends, and the social acceptability of its female reader.

The CMHC competitions, pattern books, and design magazines reveal that space changes occurred gradually from the first decade after the war, starting with modest, low-budget modern homes. The homes fit the needs of the housing shortage and were marketed to families as the efficient, realistic choice. Later, small homes doubled in size; likewise, magazines promoted larger, more extravagant homes. The concern for the design of homes post-war was less about the space itself and more about how modernity became embedded in the design, representing the values that devalued women's labour. The exception from designers imposing spaces was the

research-design work of Bülow-Hübe for the CMHC from 1967to 1970. As one of the few female designers working at the time, she vocalized concerns about the industry excluding women and their labour, as made clear in her speech to manufacturers. Her methods demonstrate a systematic approach to placing women back into their spaces. By designing based on what women do, she expressed value for their work, unique for the time. While her approach to efficiency aligns with previous studies that deem labour as a type of waste, she did not attempt to impose a space; instead, she examines devoted her attention to how to optimize the space. Generally, the standard industry approach to kitchen standardization and the work triangle were ways that ideas transferred to the physical space through design—reducing women's autonomy through outside expert concepts of the best conditions for domestic labour. The conditions prescribed best practices and materials with the modern spaces, with focal locations for wasting materials. Whereas it is difficult to directly conclude that the work triangle and other modern features specifically produced more kitchen waste it is clear that the focus at this time was on creating a new lifestyle that included modern ideologies, exemplified through physical features like the work triangle or standard counters, which signified change. Over the next decade, changes to home design more broadly reflected how Canadians were adopting ideas of consumerism and the concept of waste as a practice, not a material.

3.3 Making it Modern with Food and Things

In *The Bathroom, the Kitchen, and the Aesthetics of Waste: A Process of Elimination,* Ellen Lupton, and J. M. Abbott (1992) highlight the connections between waste, design, and manufacturing, encompassed in the concept of *streamlining*:

> Streamlining presents a surreal conflation of the man-made and the natural; it yields industrial objects whose complex curvature conforms to notions of the organic rather than

> the mechanical. By engaging the system of deliberate obsolescence with forms that are biologically curved yet industrially hard and incorruptible—and the products that are aggressively 'clean' yet designed to be thrown away—streamlining embodied an aesthetics of waste, a material style for expressing the logic of consumption. (p. 67)

To streamline refers to designing a product that is efficient, modern, and organized. Streamlining a household product, for example, requires a "body" to contain the working parts, a glossy plastic finish over a refrigerator, toaster, or other kitchen gadget, creating a space that evokes one smooth, hygienic, and attractive body, and, to some extent, replicating the same streamlined finishes into all modern products and houses—creating a kind of homogeneity. Streamlining contains the waste of the house within it, with garbage hidden in a plastic bin or removed entirely by the incinerator or garburator. The design era of streamlining ended closer to 1950, but produced a legacy in ideas and concepts, as Lupton and Abbott articulate above—the embedded concepts of disposability and planned obsolescence have remained into the 21st century.

By the 1950s, kitchens embodied different kinds of streamlining with processes that made waste production more convenient to remove and manage, while other items like food and packaging created more waste (Smith, 2020). Refrigerators could prevent food from rotting and were considered one reason for the decline of leftover recipes in cookbooks. Yet Smith (2020) argues they also created more food waste because overstocked fridges caused mass spoilage. In her history on the evolution of refrigerators, Friedberg (2009) similarly notes that frequent breakages or overstocking food caused mass spoilage. The garburator, or the in-sink garbage disposal, increased the ease of discarding food down the drain (Smith, 2020). Furthermore, the plastic trash bag, invented in 1950 by Canadians Frank Plomp, Harry Wasylyk, and Larry Hansen, quickly became common in homes as a more hygienic and convenient disposal option.

Before the plastic trash bag, newspapers and paper scraps lined metal bins, causing chronic odours but degrading quickly in the early landfills, as seen in Figure 3.8, on the streets of Montreal in 1948.

Figure 3.8 Montreal Kids Playing with Household Garbage

Note. Depicting garbage for pick up in Montreal, 1948 (Collections Canada).

Food packaging also became more prevalent to protect food travelling longer distances, to package pre-made foods, and of course as a way to advertise and brand food. Home incinerators became common and built into new homes across North America (Vandaveer, 1956). Municipalities advocated for built-in incinerators to decrease the costs and volume of waste collection that were steadily increasing. Plastics invented earlier in the century were becoming incorporated into the home through appliances, food packaging, dishes, cutlery, and

the famed Tupperware containers. The plastics were meant to conserve food like Tupperware or were intended for convenience, such as disposable cutlery. Combined with overall increased consumerism as a post-war opportunity, plastics and food waste started rapidly increasing; indeed, many of the plastic items from this era could still exist today (Armiero, 2021).

How can we evaluate the management of waste in households during the postwar period, considering its acknowledgment, treatment, and disposal? Some evidence, such as the prevalence of packaged processed foods like Bülow-Hübe observed in Montreal women's pantries, suggests a shift toward products that facilitated waste removal rather than reduction. However, questions have been raised by other researchers regarding whether women routinely embraced these incentives—ubiquitous and persuasive as they were—to reduce their commitment to repurposing and reusing in the kitchen. A valuable perspective on post-war domestic consumption and the plastic revolution is provided by the history of Tupperware. The significance of Tupperware in the 1950s is, in part, attributed to the connection between women and their designed possessions in suburban America. Alison J. Clarke's *Tupperware: The Promise of Plastic in 1950s America* is a portrait of shifting material relations enacted by North American housewives. Tupperware is an example of how women were brought into modernity through smaller kitchen items; the plastic containers represent modernity through a focus on functional forms derived from the new material, polyethylene plastic. The new product did not sell well until the company adopted the home party approach and hired a woman to lead operations. The eventual success of Tupperware and Tupperware parties is of note because it signified new ideals of sociability and consumerism, as opposed to attention to material care and thrift as the basis for domestic culture. For a new product, building trust and familiarity through personal connections proved important.

Clarke's perspective through design and women's history focuses more on the parties and how they empowered women, arguing that the relevance of Tupperware is more to do with the cultural significance of its sales strategy than the function of the product itself. As a domestic product, Tupperware was marketed as a practical and convenient way to save leftover food in the refrigerator. Clarke writes that "it was the tension between thrift and excess that, as some cultural historians have suggested, formed the impetus behind modern consumerism and even the foundation of national American Identity; the material culture of Tupperware perfectly embodied this contradiction" (p. 105). Tupperware manifested itself at least in rhetoric as a waste-reducing entity; whether this was merely a marketing tool or the ostensible reason for its popularity cannot be known for certain. Either way, in aligning with consumerism and modernity, Tupperware represents the shift of this time in promoting solutions to domestic work through purchasing products. A combination of the new social space of suburbia, the desire to create social connections between women in these isolated places, and an interest in participating in modernity fueled the success of Tupperware. Clarke suggests that the rise of Tupperware and success of their parties validated women as more than buyers: they were skilled provisioners. In this sense, women's knowledge, and skills for making things from early decades transferred into skills for consumerism, thus maintaining domestic agency while buying into modernity. In Canada, the brand, the parties, and its association with the post-war era remains in popular memory, yet it is unclear from a lack of similar Canadian research if it attained the same level of success. As discussed later in this section, historians identify how Canadian consumers were more cautious in their purchases in part because of the legacy of scarcity that continued into the 1950s. Yet, the idea of Canadian women transferring provisioning skills to shopping may be

even stronger than what is described in Clarke's example given that research suggests Canadians were more conscious in consumption.

In a similar argument, Angela Partington's (1988) article, "The Designer Housewife in the 1950s" examines British women's consumption during the 1950s from a feminist design perspective and argues that women were designing their houses with a unique set of skills and understanding of space. In the context of scientifically organized house management discussed throughout this chapter, she takes on a dual analysis of the kinds of modern domestic materials being bought and the role of women in redesigning the home. She states that "women were not only expected to consume but to consume in a particular way" (p. 207) and asks whether women conformed to the idea from government, media, or designers to buy "designed things" or not (p. 208). Her response posits that women created their homes through a complex approach of representing their lives, emotions, or values, and not simply function. Commodities were less likely to be purchased for pure efficiency or basic function than to "make meanings" through choosing colours, shapes, and textures. As in Strasser's examination of women's relations to materials, Partington notes the problem of designers and magazine editors pushing ideas of scientific home management on women aimed to undermine existing relations and practices with materials. Women valuing their personal aesthetics in creating their homes required certain kinds of knowledge that also tie in with skills of producing materials, which inadvertently saved things and prevented waste—home design was not limited to consumerism. What is important here is that the idea that women drastically changed their domestic practices and values to meet the expectations of the various authorities, advertisers, and food corporations to buy more appears to be a simplistic view of the post-war period.

While the post-war era was a period known for drastic economic growth in Canada, some domestic-focused historians, as I will review below, complicate the ways in which this translated to rampant consumerism. Canadian research points to how incentivization to buy the latest designs was perceived and acted upon by housewives in contrasting ways. Historian Valerie J. Korinek's (1999) assessment of *Chatelaine* magazine and Parr's post-war research on domestic goods reveal that families tended not to become suddenly wealthy after the war and the ideal of frugality remained well into the 1950s. While the promotion of newly designed items is evident in print media, actual purchasing power was complicated by women maintaining their tight management of household budgets, learned over decades of scarcity. Having newly designed things was apparently not a priority in the early 1950s, as compared to finding basic housing. However, the framing of how to budget did change, with the new approach diverging from saving materials, like leftovers, to reducing costs through buying things strategically (Korinek, 1999; Parr, 1999). Similarly, Korinek's analysis of *Chatelaine* demonstrates a shift from leftover recipes to tips for low-cost meals and buying cheaper cuts of meat. Discussions about growing food or other forms of labour-intensive, money-saving alternatives seemed to fall out of favour. Korinek notes that most of *Chatelaine*'s advertisers were processed food companies and included recipe books alongside their advertisements. She estimates that about half the recipes published in the 1950s contained processed food products, even though these processed foods were still very new and expensive at the time. Clearly the food industry only expanded from this point, and with its expansion came the increasing adoption of processed foods in recipes and, consequently, food packaging ending up in the garbage bin. Parr's (1999) study of Canadian housewives, designers, and manufacturers makes the case that Canadians were much more reserved in purchasing big household items, like large appliances and furniture, opting to buy things based

on quality, longevity, and utility, rather than novelty or style. However, the trend in household management and budgeting fit with the growing consumer narrative, which meant that if a housewife spent less on one thing, such as food, she could spend more money on something else, as opposed to saving and repairing.

Partington (1988), however, identifies an important dissociation between modernism and designed things, which seems to fit with the evolving meanings of modernism (with parallels to meaning of waste) I identify throughout this chapter. She argues that in many ways ideologies of modernism, such as efficiency and function, are contrary to the actual ways in which modern design was promoted. New designed things were marketed as the "latest fashion" or contemporary styles (p. 211). For example, home economics classes started training their teachers and students with the new appliances, promoted as the modern kitchen and the new normal. In Figure 3.9, modern large appliances are featured by Ontario Hydro in a home economics class in Toronto, as both training and promotion opportunities, perhaps not efficient in hydro electrical consumption but more so in labour. Inconsistent with the argument for efficiency was promoting style rather than function; modernism was supposed to emphasize function and practical design, not style. Ultimately, a refocus on style is what led to planned obsolescence for all kinds of kitchen gadgets and appliances. Therefore, to extend Partington's critique, while modern things may have reduced labour in some way, efficiency was offset by the trash caused by short-lived products that were discarded when the fashion changed. What was promoted as efficient was driven by consumer capitalism, where the newest and latest designed thing to purchase was marketed as a product that saved time and labour in some way, like plastic kitchen gadgets, processed foods, the plastic trash bag, and large energy-consuming appliances.

Figure 3.9 Home Economics

Note. Collections Canada. Photo originally from Ontario Hydro. Archive is from The Department of Citizenship and Immigration Fond. No date. The photo shows new appliances given to the school from Ontario Hydro as a sponsorship.

The 1950s home, as depicted in the archives and by historians, focuses on what was advertised in the media or promoted by so-called experts; what is less understood is the actual circumstances of the individual home during this period. The image of the modern post-war home, with its shiny new technologies and variety of consumer goods, actually does not quite relate to my memories of my own grandparents' house. The previous owner built my grandparents' home in the 1940s just outside Vancouver on a large double lot. It was a little

larger than the typical CMHC bungalow with two floors and many closed-style rooms, unlike the open concept popular in the CMHC designs. This was their post-war home, settled into shortly after starting a family. From my mother's memory, the things and practices of this home changed little by the time it became known to me. Their kitchen had bright white tiles, various herbs, hanging spider plants, and the infamously large refrigerator from the 1960s, which formed the classic work triangle with the old stove and the large white ceramic sink. I was very familiar with the kitchen's built-in table, benches, and the window-like space that looked out to the formal dining room. Of course, no dishwasher ever entered this house, and my grandmother's old wringer washing machine remained for many years in the basement, although she had given in and purchased an electric model by the 1980s. Despite her appropriation of bits of modernity, my grandmother created most of their home with the things in it through her care for materials, attention to thriftiness, and steadfast resistance to consumerism. Her version of modernity did not emulate the modernity of the magazines; she and my grandfather made their home their own through essentially producing what she could instead of buying things. Likewise, my grandparents' kitchen, pantry, cold cellar, and vegetable gardens were places of production, like those Strasser (1999) describes from earlier in the century in the United States. And, consistent with Parr's (1999) conclusions, my grandmother, holding out on acquiring new labour-saving appliances like electric washers, was exhibiting behaviour not so uncommon for women who maintained considerable pride and knowledge in maintaining a waste-less home.

Between my grandparent's generation and my parents' generation, however, waste production radically increased in Canadian households. In my grandparents' house, food grew in the yard and in the kitchen; food, materials, and the spaces were carefully cultivated to sustain the household in such a way that little was ever wasted. Perhaps, it can be argued, there was a

clash of ideologies between the waste-lessness of my grandmother and the rhetoric of efficiency: my grandmother might well have been considered inefficient in the amount of labour she expended in her kitchen, even as she was skillfully efficient in terms of saving the family's money and preserving the things around her. From my sources, reviewed in this chapter, it would have depended on whom you asked—the home economist before 1950 likely would have praised her skills, but the *Chatelaine* writers and home designers of the post-war era might perhaps have intervened by suggesting gadgets to quickly send food scraps down the drain, supplying larger wastebaskets to dispose of pre-made dinner packaging, and turning the vegetable garden into a more convenient lawn with ornamental shrubs to free up the housewife— my grandmother— for more leisure. Clearly, my grandmother resisted these narratives, yet my parents' generation, comfortably a little further from the experiences of scarcity, readily adopted the conveniences of modern homes, food, and a much larger garbage can.

As the case of my grandmother suggests, modernism and consumerism in the home were not uniformly adopted by 1950. Practices of care and thrift were not wholly abandoned when the war ended, and women applied ideas of modernity in different ways. Women designers, like Sigrun Bülow-Hübe, were redirecting attention to women's work and their spaces, meeting them where they were; yet it can be argued that this refocus was one point of departure in terms of homemakers' agency and was consistent with the mainstream rhetoric of efficiency. The pedagogies found in both print media and more formal domestic science programs were influential. The central message relayed from everywhere, from the CMHC to the FWIC to *Chatelaine* magazine, was that women's liberation was to be achieved not through paid work or husbands participating at home—but rather through redesigning the house, applying scientific principles to their labour, and buying the latest gadget. As a result, waste was redefined through

the objectives of industries (e.g., manufacturers of processed food and appliances) with a government focused on growing the post-war economy. The result was a fracturing of relations between humans and nonhumans—women, their things, and their spaces, —producing mountains of Canadian trash.

The archives I explore in this chapter reveal that targeting ideologies of consumerism are critical in adding context to a present-day response to design in order to develop better, perhaps ethically reciprocal relations, as described in Chapter 2. For generations, women were primarily responsible for preventing household waste from entering the environment, yet this role and its history are not adequately recognized or valued. Strasser's work is one of the only histories to connect waste to gender practices, and here, in a small way, I add a Canadian layer to this narrative. Ultimately, additional foundational historical research is needed on relations—gendered and otherwise—between food practices, space, and materials in Canada to better understand these ideologies.

What was designed and built post-war was motivated by building the economy through consumerism in the home. Care for and knowledge of materials were themes that declined in significance, and, as a result, everything from kitchen spaces to diets was more readily vulnerable to consumerist ideologies, all the more because they were marketed with a language imbued in science. Such conditions are consistent with Bennett's assertion that anti-materiality formed a normal way of relating to things (see Chapter 1). Returning then to a question posed in my introduction, I ask how this brief history might inform a critical design public pedagogy that includes *redirective practice* from historical moments that directed society towards defuturing, a direction detrimental to human (and most other species) continued existence (Fry, 2008). Redirective practice does not necessarily mean going back to the specific skills that repurposed

food or repaired kitchen towels, although it can. Nor should a redirective practice necessarily fall to women to rebuild a culture of care for things—although it includes valuing this gendered work, now and retrospectively. Ultimately, a contemporary pedagogy requires identifying and challenging these underlying values and beliefs that have resulted in waste production being viewed as a privilege and a kind of ideal. Redirective practice is about finding alternative practices that can be new or old and focus, in a more granular way, on the materials of daily life, including those that are typically short-lived, in order to care for things. Engaging with materials through practices of design, which means the making and remaking of materials through embodied practices to create artifacts, aligned with a challenge to consumerism, is a proposition for redirective practice that I will engage with in this dissertation moving forward.

In this chapter, I included only a limited description of practices women used to prevent waste and a minimal description of how relations across food practices and waste. Here, I wanted to trace the overall trajectory in Canada that led to the unravelling of material relations and caused the lifespan of things to become shorter and shorter, leading us inevitably towards a waste crisis. Ultimately, valuing domestic labour and knowledge that prevents waste through relations, while also extending these practices from the domain of women to all members of the household is a way to intervene now. The archives and the literature revealed a history from published documents and are removed from the actual experience of women during this time; the gap in these histories are women's everyday experiences of material care in relation. In the next chapter, I will examine life history narratives of three women coming of age during the 1950s, that critical generation whose waste-related behaviour was so drastically different, as I myself was able to discern, vis-à-vis that of my parents' generation. The timing of their life histories coincides with the exponential growth of waste production, consumerism, resource extraction,

and the subsequent cumulative effects on Canada's environment. These women were born during the very beginning of the post-war period, with life histories taking place during major cultural transformations in Canada; they were children playing in the modern spaces of CMHC bungalows, and new immigrants displaced from war, searching for hopeful futures. Through this next historical layer, I will usher in food and food behaviour as the central focus and delve into the accounts of women who witnessed and lived the changes through their life experiences, thus identifying the missing pieces of this chapter through the narratives of how women actually grew up and enacted the ideologies that promoted consumption with waste.

Chapter 4: "If I love you, I give you food": Reflections on Food, Home, and Waste from Three Canadian Women

In the late summer of 2018, I was close to eight months pregnant and at the stage where simply walking had become challenging. I arrived at the home of one of the three women I feature in this chapter to sit down and talk about food. All three women interviewed are a part of my extended family, are grandmothers to my daughter, and mentors to me. In my blended family, the Grandmas interviewed here are not all related to me by blood but rather through relationships deepened through meetings that involved listening and learning from them over many years. This Grandma greeted me with a table of food and inspired the eventual title of this chapter, "If I love you, I give you food." She had made many dishes to accompany our conversation, and I appreciated both the meals and the moments I had with her to listen and capture her experiences. I am grateful for every moment during that summer that I could sit and reflect with these women on their life histories. Like the Grandmas here, women have been the primary gender responsible for caring for people and materials in a way that sustained everyday life throughout history. Through retelling this fundamental part of their domestic life, I aim to increase the recognition of women's life histories overall and highlight the types of knowledge and skills that create homes. By sharing the lived experience of the Grandmas in this chapter, my hope is that their stories can also become a kind of mentorship to others while contributing to understanding the relations between food, waste, and gender in this dissertation.

In this chapter, I will explore the life histories of the three Grandmas and how their childhood experiences subsequently transferred to their ways of creating a home, cooking for their families, and caring for the people and the things around them. Understanding these food practices more broadly is a method of exploring food-based waste and the evolving conceptions

of waste more specifically. To this end, the interviews focus on food memories, practices, and domestic built environments related to food; waste practices naturally emerge through the food conversations. This interview method aims to gain insight into their individual experiences and notes the changes to food and waste practices during the different stages of their lives, including early childhood, late childhood (adolescence), young adulthood, family life, and late adulthood.

Talking about food, materials, and food spaces created an opportunity for sharing memories of how families prevented waste or managed waste within their daily life. The interviews reveal important micro-histories that extend the ideas from Chapter 3, which explored the mainstream design forces with the ideological changes of the post-war period and contribute to an actual experience of everyday life through the Grandmas' memories of growing up and watching families cultivate food, cook, repair, and re-use things. I am adding a layer to the history of women who specifically were coming of age during the post-war period and learning through family exchanges about food and domestic work in different ways. My objective is to explore and better understand how women reacted in their everyday lives to the dominant messaging from authorities explored in Chapter 3 (e.g., government, industry, print media, and women's organizations). To answer this question, I recount the food stories and associated waste practices shared with me from the Grandmas' childhoods during the post-WWII era to later moments from their own family lives. Their experience significantly contributes to the broader depiction of the post-war historical period detailed in Chapter 3. At the same time, these narratives position lived experiences within this research's theoretical focus on determining relations between humans and between humans and materials to understand waste.

4.1 The Grandmas and Life History Method

The three women I interviewed are connected to my family in different ways, and all of them are grandmothers in one of their life roles. I have named them Grandmas to identify one significant role they play in their lives. This role acknowledges how they have become authority figures who influence other family members and acquaintances, including how they practice food and kitchen work. Their life experiences are quite different, but they share the circumstance of being born in the late 1940s, after WWII, and growing up in the 1950s and 1960s. Each Grandma spent her adult life as a Canadian, raising her children and passing on her food practices to the next generation. These women have significantly shaped and influenced my interest and practices around food and waste.

Despite identifying the interview participants as connected to my family, I maintain their anonymity, keeping with an ethical protocol and shifting the lens to their narrative. For this reason, I simply identify my interview participants as Grandmas 1, 2, and 3. All three Grandmas raised their families in Vancouver, Canada, where I was born and raised. However, only Grandma 1 was born in Vancouver; Grandma 2 was born in Poland and Grandma 3 in Egypt. Grandma 2 was raised in Poland and immigrated to Canada as a young adult. Likewise, Grandma 3, born in Egypt, grew up in Israel during the post-WWII period. Their earlier memories of childhood and food at home connect to these places with cultural practices around the food and foodways they were born into. Their life narratives that cross Canada, Poland, and Israel contribute to a history of domestic work and food and reflect how Canada's food practices are intercultural. This reality is essential to contributing to an informed Canadian history today.

The interviews follow the life-history methods, which I adapted from Robert Atkinson's chapter, entitled "The Life Story Interview," in the 2002 anthology *Handbook of Interview*

Research: Context and Method. In Atkinson's chapter, he outlines several ideas on how to approach the life story, but he presents the method with an interest in an entire life story,where the life is the subject rather than limit his focus to a particular subject. In this way, he recommends hours of interviews and has created a databank of approximately 200 valuable questions. His characterization of life stories aligns with this openness, such that he describes the life story as a "method for gathering information on the subjective essence of one person's entire life that is transferable across disciplines" (p. 123).

My more limited questions begin with the earliest memories of each of the Grandmas and explore various life stages up to the present. My interview method aims to capture a lifetime account specifically on the essence of their food experiences. As a historical device, Atkinson considers how a life history contributes to a local history through the individual; in my method, it is not so much local, but rather specialized history through an oral account emerging out of memory and embodied experiences. His suggestion is to zoom in on life themes that emerge out of the unrestricted interview. My objective for using this method is to assess and connect early food memories to adult food practices that these women undertook as primary household decision makers. The themes here also emerge out of the interview results but are contingent on the questions I asked as well. The interview approach from Atkinson (2002) encourages participants to discuss their experiences through an unstructured format that allows for the interviewee to choose what is important to them to share and is flexible enough for them to introduce topics not anticipated by the interviewer that may be vital to the study. It allows for an exploratory process, guided by the participant's responses that are not solely predetermined by the researcher, which gives more agency to the participant's voice. Despite its benefits, this method has limitations, such as the reliance on memory, particularly early childhood memories,

which can be difficult to recall and articulate. Moreover, this subjective method reduces replicability. For instance, relying on memory of life events can lead respondents to remember different periods of their lives in different ways, even within the same interview. In addition, questions that rely on memories from years ago can be stressful for participants, partly because of a concern to articulate their memories correctly and partly for more complex reasons, such as questions triggering difficult life moments of the past. I intended to open the door to each participant's unique experiences in choosing open-ended questions. The open-ended question method incorporates conversation space for choosing what and how to share life moments and acknowledges that there will be potential for response bias through this process. In choosing these methods, I consider that how and what the participants chose to tell is vital research material for analysis. Internalized perceptions that stem from using memory as the basis for historical data gathering allow participants to share how they see their lives both in the past as well as the present, and are crucial to understanding other subjectivities, such as how their values and ideals influence their food-related practices.

Given the small sample size of three women and the exploratory nature of my research, I recognize that the interviews do not and cannot represent all Canadian women from this period, but rather are distinctive, singular experiences. Nevertheless, in documenting these women's stories, my intent is that those experiences will resonate with readers of this dissertation, alongside other Canadian food stories that have been written about and otherwise communicated, and perhaps thereby uncover relatable domestic narratives around food and waste at home. Through assessing early memories of adult practices, I unearth how cultural conceptions of everyday food practices emanated from the spaces in which these women asserted food-related agency. Worth noting again, as I have discussed elsewhere, is that my unpacking of the

Grandmas' food experiences also assumes the premise of vibrant materiality both of the food and of that particular built environment and is thereby to be understood as a study of the exchanges between the women themselves, the other members of their households, as well as all the material elements that co-generate those interactions.

The Grandma interviews adhered to required ethical protocols. I received a certificate of ethics acceptability prior to conducting the interviews and, through the ethics process, developed recruitment scripts and consent forms (see Appendix A). The interviews ranged from an hour to an hour and a half in length. I used four primary open-ended questions with different prompts to facilitate conversation and stimulate the sharing of longer narratives for parts of their lives they wanted to emphasize (see Appendix B for Interview Questions). For each of the three interviews, I met with the subjects at a time and place that was convenient for them and recorded the conversations using both a handheld recorder and a smartphone digital recorder. Following each interview, I transcribed the conversations verbatim.

I used the method of narrative inquiry—a standard analytical life-story method—including audio recordings with my reflective notes of the interviews to think through and draw out their experience in the interview transcripts. Clandinin and Connelly (2004) define narrative inquiry as the study of experience as a story. Additionally, Chase (2005) describes narrative inquiry as an amalgam of interdisciplinary analytical lenses, whose focus is on biographical information and interpretations. The process examines the results for meaning and chronologically recasts the stories to effectively answer the research question and maintain the voice of the participants (Creswell, 2007; Lieblich et al., 1998). This approach is appropriate for this study because it takes the story itself as the aim of the analysis (Riessman, 1993). The

primary goal is to construct a coherent narrative from the interviews while maintaining the participants' accounts within its narrative structure.

Attention to how the participants tell a story provides further layers of meaning to the account. Riessman (1993) points out that the "primary way individuals make sense of experience is by casting it in a narrative form" (p. 4). Interview scripts describe what happened, yet "narratives also express emotions, thoughts, and interpretations" (Chase, 2005, p. 656). Both Riessman and Bamberg offer strategies for including these storytelling elements in the analysis. Riessman suggests the dialogical and performative approach includes the "acts of telling." The acts include an analysis of the verbal account alongside details such as pauses, tones, and verbal gestures. Bamberg (2003) similarly uses interactive-performative analysis, which includes Riessman's acts and extends the analysis to the researcher's positionality. In addition, narrative analysis captures different periods of a participant's life, examining different events that allow the researcher to understand the development of life patterns of those they interview, without requiring a strictly linear narrative. The drawback of interactive-performative analysis is that it limits the generalizability of the stories; more detail is attributed to each interview, and the stories of each participant become more specific and unique. However, with a 'sample' size of three participants, my goal is to capture the uniqueness of each life history rather than present data that offers a collective portrait of Canadian women in the kitchen.

I want to provide practical analysis and a narrative of women's lived experiences that bring integrity to the stories shared with me. To this end, I analyzed the transcripts and notes in three phases, employing Bamberg's interactive-performative approach to narrative analysis. The first phase consists of examining the narrative structure of each interview, including a thematic breakdown, and highlighting the unique moments aligned to my themes of gender, materials, and

practice. I have four sections that correspond to the themes I identified across the interviews: home as pedagogy; memories of food, spaces, and things; feeding the family; and perspectives on women and labour. The second stage of analysis includes the *situation of the accounts*, including my participation as the interviewer, the context of the interview, Riessman's acts, and the nonverbal layers taken from the audio and my interview notes. During the interview, other factors such as the location, other people with us, and even the weather influenced the results. The final analysis phase compares, analyzes, and interprets the participant narratives. The themed sections include an investigation of the overlaps or distinctions between accounts and my interpretations. Overall, my experience of talking to these women about their everyday food experiences was a highlight of the dissertation research. Having an opportunity to listen to each of them talk about their life experiences and witness them enjoying retelling memories from childhood emphasized the significance of the interviews, both to the people participating in the conversations, and as a form of new knowledge gathering.

For the interviews, I travelled back to Vancouver, my home city, in the summer months, as I have done every year to visit family since I moved east. Compared to Montreal, Vancouver has a maritime climate with cool evenings and mostly mild days in the summer. In Vancouver, if it is sunny, we get outside. It was sunny for the length of my visit, so all three participants chose an outside venue which, while producing challenges for recording, made each conversation feel less formal. For example, for my first interview with Grandma 1, she wanted to meet at a café close to her house, so we sat on its terrace. Traffic noise intruded on the interview, and eventually, the flow of conversation was interrupted by loud trucks passing by; we continued our conversation inside the café, but momentum was lost. I found that interruptions could lose the thread of the memory or change the direction of conversation abruptly. In the case of Grandma 2,

we met in her large garden out in the suburbs of Vancouver, and while there was no traffic noise, other family members interloped and contributed to the interview. At times, the interruptions added to her ideas or memories, while at other times it frustrated her, and she would lose track of the ideas she was trying to think through and articulate. In the third interview, Grandma 3 had her daughter and grandchildren visiting, so she suggested we go to the rooftop garden of her building. In this environment, she could engage in prolonged conversations without disruptions. The unique characteristics of each setting, along with my ability to adapt to different situations, played a role in shaping the audio recordings and transcripts. Despite facing challenges, it was crucial for me to adhere to the women's preferred interview locations. To address potential sound issues, I utilized multiple recording devices, drawing on lessons learned from past experiences. Dogs barking, trucks passing, and Grandpa interrupting Grandma all became part of the conversations, which have become parts of my memories.

In addition to the complications of setting for the interviews, the conversations had some unique structural themes that are interesting to highlight and relevant to the way I reconstruct the narratives in the following sections. First, my interview questions began with childhood and ended with adulthood as a natural trajectory; however, the actual conversations proved not to be this linear. The participants went back and forth between different life stages throughout each conversation. Second, each participant focused on retelling moments from their childhood and had a more challenging time reflecting on their practices as adults. These two themes played out in similar ways in each interview, as memories of childhood and different practices around care wove in and out of the conversations. For example, my participants would interject different reflections from different times, frequently going back to memories of their mothers, even when I was asking a question about their parenting or meal preparations. Across each interview, it was

common for a new or revised memory based on an earlier question to be brought into the later part of the conversation. In one way, these interjecting memories underscored what the Grandmas considered essential to sharing. New memories were often about extra ingredients in a favourite dish, a recipe momentarily forgotten, or a specific cooking method they remembered from their mothers. These memories emphasized how being cared for through food and cooking left critical remnants in their memories that contributed to their identities throughout life. Their retelling of care practices and food resulted in an enriching experience for both the tellers and for me as the narrative recipient.

Each woman has a unique way of speaking. Grandmas 2 and 3 learned English later in life and have accents particular to their original languages. The accents and uniqueness of each voice make the audio recordings truly a treasure, and when directly quoted, I include their accents in the text. What was especially hard to capture was how telling the mundane stories of cooking, cleaning, and taking care of the house was a pervasively joyful experience. I anticipated small moments of hardship in conversations that span a life history. However, the Grandmas predominantly seemed to enjoy sharing their mothers' and their own work—particularly that of their mothers. I consider how these moments are taken for granted in contemporary society, as we tend to emphasize the more significant life moments in both personal memories and Canada's formal histories. Understandings of daily life are critical, particularly that of the primarily ignored sector of domestic work, care, and women's lives, and contribute to a broader portrayal of practices of food and waste and how the relationship between these factors affects environmental and climatic systems overall.

In Chapter 3, I discussed the influence of emerging ideas on domestic labour activities in conjunction with the new home designs in Canada's post-war era. Efficiency was a central

concept, transferred from the industrialization of labour and production earlier in the 20th century to domestic practice and encouraged through various print media. Efficiency was applied as a broad but critical element to domestic products and interior designs, as manifested through the iconic Frankfurt Kitchen from the 1920s (see Figure 3.2 from Chapter 3). These prescriptions notwithstanding, how did ideas around labour and efficiency translate to the lived experience of these three Canadians I interviewed? Did the focus shift in the 1950s from household budgeting to labour-saving practices and designs as depicted in the media? While these notions of efficiency, explored in Chapter 3, assumed a kind of monolithic audience of homemakers whose methods and practices were consistent amongst households, after WWII, Canada (and all of North America) was becoming increasingly diverse due to the rapid expansion of immigration. With these newcomers came knowledge and understanding developed in other places. Canadian identity was formed through the diversity of different countries, which potentially constituted varied domestic practices and substantially different foods and cooking styles. Cultural diversity is definitively a part of Grandma 2 and 3's stories. Both women immigrated in the 1970s when they were young adults. It is evident from their life histories how the countries of their childhoods influenced their relationships with food and waste. For that reason, the grandmothers' Polish and Israeli food experiences illustrate the integration of diverse cultural influences into the Canadian culinary landscape. This fusion mirrors the multicultural tapestry of present-day Canada.

Aligned with this fusion of cultural conceptions of home and labour is how the Grandmas and their parents' ideas of efficiency did not wholly fit into mainstream consumerism, explored in Chapter 3 as a way to improve women's lives and work. An important consideration is how pedagogies of everyday, as discussed in Chapter 2 as a kind of public pedagogy, can act as

necessary forms of resistance to dominant narratives or reinforce them. Over a lifetime, both can occur at different times and in other ways (Sandlin et al., 2011). During the interviews, I found evidence of an awareness of the broader ideas related to domestic work and food in Canada, and resistance to certain pervasive themes, which I will elaborate on in the following sections. The lived experiences from formal education and careers, as was the case regarding cultural influences, contributed to how their domestic work evolved and also to the way they thought of this work. For example, Grandma 1 received a university degree in commerce in the 1970s and went on to work full time for most of her adult life. Grandma 2 received a diploma in food science and worked for many periods when her children became school-age. While Grandma 3 had started school and worked in Canada, she left school once pregnant with her first child and did not return to work. Another consideration that is key to pedagogy is how for Grandma 2, food knowledge includes a food science and processing diploma. This further education led her into institutional spaces, where she was a food inspector and a food safety expert. In her home kitchen, she brought this formal knowledge of food science to her experiments and liked sharing her tips for safely re-using and recycling foods. Also, Grandma 1 worked considerably from young adulthood and throughout raising her children, which influenced her domestic time and learning experiences past her childhood—she had less time to dedicate to household work, including food. Finally, Grandma 3 never returned to work; her dedication was to her five children. For most of her adult life, she was a single mother; money was minimal to raise her children, but time at home was not. These realities also influence her attention to food and waste prevention. The unique circumstances of each Grandma notwithstanding, the conversations, childhood experiences, and the different ways they learned at home dominated the interviews. Everyday pedagogy, the learning from family and other resources, as we will see, is where I start

their stories because it is a significant focus of this research; pedagogy is the tool for redirecting and redesigning our homes to stop wasting valuable food and resources.

4.2 Home as Pedagogy

> …it wasn't that I had to cook, it was that I wanted to cook, I wanted to take care of people. (Grandma 2)

One of the most exciting aspects of food and domestic work gleaned from the Grandmas through my interviews was how they learned skills with interwoven values from such different sources through their lives, such as parents, friends, and cookbooks. Coupled with their experiences is what inspired them to continue the practices learned in childhood, like cooking or growing food, as Grandma 2 notes in the quote above; learning skills was motivated through human relationships and valuing care for people. The kind of learning that takes place in the informal environment of the home is a type of public pedagogy, the pedagogy of everyday, as discussed in Chapter 2. Part of my exploration here is trying to understand the significance and placement of this learning system in broader pedagogy models (Sandlin et al., 2011; Luke, 1996). I had assumed that the Grandmas had spent time learning how to cook, clean, and perhaps grow food with their parents, but their education varied considerably in how they learned from their mothers and other family members. Through our conversations, I identified several ways of learning about food and waste practices throughout their lifetimes, including mothers, family members, friends, neighbours, cookbooks, and formal education or events. For example, the famous cookbook *The Joy of Cooking* was essential for each Grandma in the 1970s as young adults; this resource emerged in each interview as crucial to their food skills for different reasons. Key to this section is finding the essence of their learning, what motivated or even inspired them to cook in a particular way, to save food, to re-use materials or not. It became clear through our conversations that cooking was pleasurable and the Grandmas considered the

activity to be a key element of care, which motivated them to acquire cooking skills and knowledge in multiple ways throughout their lives. These little discoveries are important because they provide insight into how deep learning can take place and determine practices. I learned that family relations could be critical. However, the interviewees also shared how they learned directly from the materials themselves—like remembering the taste of a particular dish or the aesthetics of wooden tools over modern tools—to replicate and adopt these materials later in life.

Each grandmother had different relationships and resources that guided them in the kitchen as they grew into adults. For Grandma 1, *The Joy of Cooking* mentioned above was instrumental in teaching her the basics as a young adult because, growing up, she learned very little from her mother . She describes her mother as cautious about allowing her to help in meal preparation throughout her childhood and teenage years. She remembers her mother's concern that she would break something or misuse an appliance. It was frustrating for her to have a limited role, even when she was older: "I was not allowed to use the deep well cooker, or really cook anything from scratch. I mean fifteen, and I am cutting stuff up, even at 18." She left home at 22 and moved to a small town north of Vancouver for work. Living on her own for the first time, she recalls that she did not know how to cook: "I just had to learn all by myself." She learned to cook mostly through recipes in books and did not prepare the foods her mother had cooked. Living on her own, *The Joy of Cooking* was her central reference tool because "it shows you how to do everything; I mean it gives you a recipe, but then really shows you how and gives a lot of information." Unlike her mother, she never had a garden or learned to garden as an adult. While her mother was well known for baking bread and pies, Grandma 1 never really baked and instead bought everything from the store. She learned the skill of canning from neighbours and took on more cooking at times when she was not working with young kids. While she was raising her

children, her parents continued their practices of gardening and cooking from scratch, but by this time, she picked and chose what she would bring into her own house. Much as in her childhood, her children did not spend much time cooking with her as they got older. With the various packaged foods on offer, her children could access food themselves after school and even prepare dinner by themselves. Her children were learning different food practices, but not uncommon ones in Canada into the 1980s and 90s when they were growing up.

Grandma 2 started using *The Joy of Cooking* as a young adult. When she moved to Canada, she says, "I met this woman, and I made friends with her, and she made borscht. I was impressed, and she told me she got this recipe, you know I was a new Canadian, 20 something years old…oh I got this from *The Joy of Cooking*...she made it differently, and I bought this thing, and I made some recipes and I still have it." She went on to tell me she does not refer to cookbooks very often anymore, but when she was younger, they were helpful. Starting with her first move from Poland to Denmark, cookbooks were a way to learn local food and the local language. She explains, "… cause it's easy to look at a recipe and then you learn the language, and probably, the difference in cuisine." *The Joy of Cooking* became her Canadian reference, which extended her repertoire of dishes she learned growing up and more generally supported her interest in food. Grandma 2, quoted at the beginning of this section, connects her attention to food with her desire to care for people. From a young age, she learned to care for her siblings by helping in the kitchen, and she retained a profound interest in cooking and gardening throughout her life. When I visited her in mid-summer for the interview, her garden was in full bloom, like a small farm with many fruits and vegetables. Her kitchen had jars stacked everywhere with fermenting food experiments, including the sauerkraut and vinegar she makes from the leftovers of her harvests. Learning for her was about "… being there, helping and watching." As a child,

she remembers her curiosity extended beyond her childhood home to other people and houses: "… I don't remember in steps, but I think just helping and watching, and then I also would watch other people, neighbours, anywhere I went, I would just watch, and see, and I would be amazed they were doing things different than my mother." She visited her aunts frequently: "…I was just watching, my aunts upstairs how they did differently than my mother, I still use how they clean the bowl, when they make dough, they had a piece of plastic they would scrape the bowl clean, I make plastic out of yogurt covers, and I also clean it and think about them." As she got older and had her own family, what she learned in Poland became a part of her unique style in Canada.

Her teaching techniques with her grandchildren are similar to those she learned at home. Anyone who wants to learn how to make her Polish-style cheesecake or Christmas perogies must watch and help her in the kitchen; she will never write down the recipe. At her home, I noticed the results of her food-saving methods, such as her soup stocks or fermenting vegetables in the kitchen. She explains her approach: "… when something went wrong, especially the currants, the frozen black currants, we make lots of them, I make juices or teas, I can utilize them a few times, I can put in the compost, or I can see to make vinegar. It works." As another example, she explains, "… sometimes you buy apples, and someone peels it, and you use all the peel and core, [because] organic apples in the store, they are expensive." Her food knowledge, as mentioned above, includes formal education and work experience in food science, which she brings to her home experiments while also sharing this knowledge for re-using and recycling foods safely. Formal and informal knowledge blend well within her home; I noticed dried food décor hanging from the ceilings and her old food gadgets found at second-hand stores next to her jars of homemade vinegar. If I looked carefully, I would see a small compost pile in the corner getting ready for the garden and would notice almost no purchased food in the fridge. She will tell

strangers and me how to make things she finds particularly important. She says, "… when you buy (sauerkraut) in the store, it is processed, it is pasteurized, it doesn't have the organisms, so sometimes when I go shopping, I teach people when it is the season of the cabbage, and somebody has a sauerkraut jar." Her food practices and methods are closer to the descriptions of Grandma 1's parents, with kitchen and garden connected, and the practices that nurture both also minimize any food-based waste. Her way of passing practices on, whether harvesting, cooking, or waste prevention methods, is better witnessed than discussed. However, through opinions and reminders, she will encourage people to try to make things in their kitchens, like the sauerkraut or vinegar, that conserve food and can provide healthier products than purchased versions. In her teachings and conversation, she often returns to thrift because her efficiency at home is about finding ways not to buy things. She saves money through making and re-using things; she is an excellent example of a bricoleur and proud of her ability not to buy the things she has the skills to make or remake.

The Joy of Cooking, for Grandma 3, was also an essential reference as a young adult and when she was a new parent in Canada. As with Grandma 2, it was part of her transition to Canada in the 1970s and a tool for learning to cook in a way familiar to the other Canadian families she was meeting. Unlike Grandma 2, she did not learn to cook from her mother and, in fact, describes how she was not allowed to help in the kitchen at all for the entire time she lived at home. She was the youngest in the family, but more importantly, she was left-handed. She recounts one of her strongest memories as a child, "… my mother didn't allow me because I am left-handed and, in those days, being left-handed, you are a little bit not so clever with the hand ..." Her family considered being left-handed a disability at home and in school. Thus, her learning about food came entirely from her memories of the meal experience. She was never able

to watch her mother in the kitchen; she never chopped a vegetable or even prepared the bowls. Her responsibilities were cleaning other parts of the house, making the beds, and working in her father's textile store when she was a teenager. Later in life, as a young adult living in Canada, she recreated her mother's dishes through trial and error, using her memories of the flavours and textures. As I pressed her about her well-known ability to cook fresh falafels and other staples from Israel and the region, she said, "yes, my own, not from my mom. I just remember the taste, so from the taste, I learned how to make it like my mom." She enjoyed many dishes as a child that she could not recreate in the same way, or she was uncomfortable trying, especially without easy access to the fresh ingredients in Canada. For example, she mentions, "one thing I miss from Mom's cooking so much is the couscous, you go to the store, and you buy couscous made, it is nothing, it's not delicious and hot." I asked how it was made in Israel when she was a child, and she described her mom's preparation with two pots, how she ground the raw grain of the semolina wheat into the bigger pot and cooked it in a cloth bag for a long time. She realizes in our discussion that she never made this dish herself, and the recipe is only a memory; she never had the pots or could find the whole grain here. Still, the title of this chapter, "If I love you, I give you food" is from Grandma 3 and reflects her overall sentiment toward feeding the family. She felt strongly that the primary way her mother showed care and love to the family was through labour-intensive cooking and the high-quality food produced. The importance of cooking is what she learned, and it fueled her interest to learn to cook the same dishes for her children, throughout their childhoods and into their adult lives.

Each Grandma had a very different experience as a child in how they learned cooking and other domestic skills, ranging from catching only brief glimpses into the kitchen to being able to help but not being allowed to bake and cook from a young age. These experiences represent the

different ways pedagogy happens at home: learning through watching, helping, tasting, and learning through a purely visual experience; in fact, the actual teaching in the kitchen was minimal. It needs to be clarified how these different ways of learning about food transferred to an interest in food and domestic food systems, including gardening and intentional re-use and waste prevention methods. Of the three Grandmas, Grandma 2 engaged the most, while a child, in gaining knowledge about food, learning from her mother and several other people and outside resources throughout her life. Grandma 3 developed a keen interest once she left her childhood home and in Canada, where she wanted to access the tastes of her childhood; however, she had to learn through the memory of flavour, not the memory of known techniques or skills. Grandma 1's practices were less from her parents and more from the mainstream adoption of processed foods. Whether this would have been different if her father had taught her gardening and her mother had allowed her to cook full meals is undetermined since her food practices as an adult included other life factors, like working full time. Simply put, pedagogy at home involves multiple types of learning that may not directly correspond to the practices eventually undertaken by the adult. The objective of this chapter is both to reveal these women's lived experience of food and work and assess the connections between pedagogy at home and their practices and ideas later in life. The following sections dovetail the pedagogies shared here with the interconnected themes of memories of food, spaces, materials, feeding the family, and finally, the Grandmas' reflections on changing women's roles as they reached adulthood in the 1970s.

4.3 Memories of Food, Spaces, and Things

> … it's one of those things that you don't even realize, and all of a sudden everything is coming in little packages, all the fruit and vegetables … (Grandma 1)

In this section, I capture the Grandmas' reflections on how spaces, like their kitchens, and places, such as a new country, or emerging new food things, interacted to influence particular

ways of doing kitchen work. For example, in the above quote, Grandma 1 reflects on several material changes in Canada that she experienced over her lifetime. Grandma 1 was born in Vancouver, Canada, just after WWII, and the food, spaces, and related materials detailed in her interview are what she remembers from growing up in Vancouver. Her parents, she recalls, were focused on budgeting, and the way her parents' managed food reflected their desire to save money in daily life. Her father struggled to find work after the war ended, as factories were shifting back to making domestic products. Her mother was a teacher and supported the family throughout her father's off-and-on employment. These family realities for Grandma 1 counter the more significant post-war movement promoting women's return home and men's return to work[22]. Grandma 1's family had to maintain a strict household budget, and they accomplished this through their labour and skills. To economize, she described how her parents grew all the food they could in the three houses they lived in during her childhood through the 1950s and 1960s. Her parents built large fruit and vegetable gardens and canned the harvests, supplementing their home-grown food by buying bulk grains and limiting the amounts of meat they consumed. Her uncles supplied them with deer and moose meat and stored it, along with food harvested from their garden throughout the year, in their large freezer. One representation of household thrift was her parents' preference for powdered milk. She remembers never having fresh milk in the house and that her parents, to save money, only ever purchased the powder. She recounts how her parent's saved money through food practices, some of which she continues to support, such as gardening, and others, like the powdered milk, that she remembers as tough. These efforts to reduce costs reduced the garbage. She tells me how, "… once a week, my dad

[22] In Chapter 3, in the section, Evolving Pedagogies of Domestic Science, I discuss how government authorities, domestic science programs, and the leaders of the WIs across Canada held a position that advocated for women to be full-time homemakers or housewives, as a method for rebuilding Canadian society after WWII.

would take out a small grocery bag of waste; once a week, that was it, nothing ever got thrown out." She reflects on how her parents' practices were shaped by their childhoods; both grew up in the prairies and lived through severe droughts on farms that could not produce food, and their families had minimal employment opportunities. Saving money through food practices and re-using everything possible was something families could manage if they could not control the broader economy. Managing the home through the 'make do' philosophy was ordinary routine and necessary during the two World Wars and the Great Depression. However, as described in Chapter 3, Canadian governments and media promoted changing that mentality to rebuild the economy during the post-war period. Consumerism was encouraged as the driving force for rebuilding North America. Nevertheless, saving continued to be a priority in the home of Grandma 1, perhaps supporting data that shows Canadians were slower than Americans to adopt practices of conspicuous consumption, as outlined in Chapter 3 (Parr, 1999). For Grandma 1's family after the war, limiting consumerism subsisted out of necessity and habit.

The notion and practice of 'making do' was well known to Grandma 2 from her childhood in Poland during the 1950s. Her family's home practices reflected Europe's material reality post-war as well as Poland's communist political revolution. As a child, she remembers food as being limited in its diversity but high in quality. She remembers how the waste of food and other things was considered unacceptable; describing a typical meal, she says, "… food was not wasted, if we had sandwiches, we all sat at the table and ate. There was a big plate of sandwiches for four of us and the fish with smoked sardines my mom made us; we ate everything, so there was not waste." Like Grandma 1, her parents grew a lot of their food in their urban home, in large vegetable and fruit gardens, and her father raised rabbits for meat and chickens for eggs. The Polish government supplied essentials to households, such as fresh milk

and bread. She says, “the basics were very good, basically organic, there were shortages, but as a child, I didn’t know much about it, we just ate what we could, and we were happy with everything we could get.” She remembers the general feeling surrounding food waste as “… you didn’t put it in the garbage when your parents are from the wartime and it’s post-war; there is not much food, you learn not to waste.” In her home, there was a strong sense that waste was wrong, and she described how between her parents, her siblings, her aunts who lived upstairs and all their animals, including dogs and the livestock, there were plenty of places for waste to go that made it, in Susan Strasser’s words “not waste at all*”* (1999, p. 28).

Grandma 2’s descriptions of food were primarily whole foods; when I asked about this, she said, “… we didn’t buy canned or packaged food because we had markets, our situation was perhaps different than people in apartments, you could go to markets, farmers’ markets in the city, poultry farmers, you had stores that you bought your vegetables, just basics like carrots, beets, cucumbers, and tomatoes. But just basics, they were always there; you could buy fermented cabbage, fermented cucumbers in big bowls.” She emphasizes the basics because, after the war, imports from other European countries were limited under the communist regime; relying on Polish farms, government food programs, and the agricultural seasons all impacted the kinds of food available. The limits on imports created a form of scarcity that kept waste prevention more at the forefront than in Canada in the 1950s. Food grown at home was necessary for food security overall; for example, her dad kept bees, and she said, “… if we didn’t have anything to eat, we had bread with butter and honey.” Growing food and raising animals ensured that the family had food, despite the limitations of the Polish food system and the broader economy during the early years of communism.

Grandma 2 maintained a "make do" mentality and practices throughout her life; for example, she replicated her father's compost pile and large garden. She continues to prioritize her efforts to minimize buying new things and prefers to re-use or remake everything from food to clothing. And yet, whereas in my interpretation, compared to other Canadians she is thrifty, one adaptation that she made is in having more modern kitchen appliances such as a stove, fridge, and a dishwasher, quite different from what characterized the kitchen of her childhood. She says, "… in Poland, the kitchen was so basic, the main thing was the food, not the tools, now it is reverse." Here, she is referring less to her kitchen than to what she has witnessed in the kitchens of Canada. When she moved from Europe to Canada, she says the first thing she noticed was the stoves: "I remember I couldn't believe how big the stoves and the fridges were, because in Europe they are small." When she was a child, her family was large, and they had a large house with a big kitchen, but it did not have many appliances; it had a wood and gas stove, a cast iron sink, a small fridge, and a large table for working. It was not the efficiently arranged kitchen presented to Canadians in the 1950s, and it certainly did not have the large appliances from the magazines presented in Chapter 3. She remembers the small, simple tools well: "… we had a bowl with tiny grooves all over, and we had a wooden stick, and you put the butter in the bowl, and it would make a beautiful cake." Visually dominant in her current kitchen are the simple tools placed alongside the main appliances: bowls, wooden utensils, and various ceramic jars, perhaps in remembrance of the Polish kitchen and its food. There is a lack of electric gadgets that are supposed to increase efficiency, like an electric cake mixer; she says, "I still make cake a similar way, I could go and buy this, but it doesn't save any time."

In contrast, the dishwasher is the only labour-saving device Grandma 2 considers essential. It took her many years to decide to buy one, and when she finally did, it was a huge help,

evidenced by her joking that she would like to have two. She appreciated the dishwasher because of the labour involved in cooking, gardening, and waste prevention, and the degree to which not having to wash the dishes gave her more time to devote to those other tasks. The extensive food routines continue the traditions of her childhood home to care for others and cook through food shortages. Both parents were involved in food activities, with her father in the garden and her mother in the kitchen. As a parent, she struggled to do the same work without support from her husband.

Grandma 3 remembers moving to Israel from Egypt and settling in an apartment outside Tel Aviv during the 1950s. Her mother purchased most of their food at a prominent central farmer's market. The cuisine in their home was Middle Eastern, made with ingredients local to the region. Familiar dishes included fresh hummus and warm couscous grated out of whole grains. Her memories focus on the amount of time her mother spent cooking large meals with multiple dishes for the family. She fondly remembers the Saturday Sabbath meal, and especially the efforts of her mother to make it extra special every week:

> … you know Saturday was the best, because … Mom would go to the market Friday and she would buy so much food, everything, and she would bring it home and cook a storm, she comes home and she would be perspiring, it was so hot outside. (Grandma 3)

She frequently returns to the memories of her mother's food, and she describes the presentations of dinners: "… if she cooks something, it is in a big bowl, a bowl of salad, a main course and we sit on the floor, no spoon, no knife, no fork, and we all dig in with bread, and it is so delicious." In the family's first apartment in Israel, she describes how "the minute you went upstairs, the kitchen was just there, yes it was a tiny kitchen, how did she cook all this food and she cooked so

much ….” They had few appliances in the small space, and any food leftovers were stored outside on the terrace. Downstairs from the apartment, her father kept a donkey; she recollects seeing many rats around the animal stall yet notes that they never seemed to make it into the house or to the terrace where they stored the food. Thinking about the leftovers and food at home, she says, “we ate it all, we never throw food, everything was eaten, and I loved leftovers, it was so good.” Her mother would cook large batches of food to have many meals, so leftovers were integral to their daily food experiences.

Central to Grandma 3’s life story is how she describes the appearance of packaged foods in Israel as a child. She describes watching neighbouring families adopting imported foods from Europe: “I remember they ate out of containers, and I was so surprised, I was like, what is this…and when I used to play outside, and I would see the paper, with very nice pictures, I would think, oh my god, I want to eat that food, I didn’t know better …”. But later, she said, she changed her mind: “… I would see them eating hardboiled eggs and yogurt, and I would feel sorry for them because I ate better food than them.” She describes the mixed feeling of wanting to try packaged foods and being disappointed when she did. Processed foods, and their packages, were one way that Jewish families moving from Europe to Israel could bring their food traditions with them, not unlike what is common in Canada today, with packages of food representing cuisines from all around the world. Food packaging and processing is, after all, a convenient way to access cultural foods imported from home countries. However, food packages for Grandma 3 in Israel were novel and moreover, they represented the wealth and prestige from a growing European community in Israel. Her family was rooted in the foods and dishes originating in the region, which meant family meals produced from seasonally available whole foods; the packaged foods she remembers only made it into her family’s house much later. As a child, she

felt the differences through the food between the Jewish community relocating from Europe and her family which was from the Middle East. She vividly describes memories of first seeing these little packages of food (imported from Europe) that were absent from her house and made her house different. She really wanted those little packages and wanted to taste the food in it. Reflecting on this now, she explains the benefits of her own mother's food. Responding to my research questions, she reflects on how it produced little waste and used fewer resources overall, being all locally grown food with many of the ingredients originating from this region.

Given the rhetoric described in Chapter 3, one can imagine that changes to waste in Grandma 3's kitchen were significant from the 1970s onward and from post-war Israel to Canada. She had noted that from early childhood, raw food from the market became many dishes, even in a small apartment kitchen. Waste prevention was achieved through consuming leftovers and feeding the animals. But now, she says, her family may not always finish what she cooks, and the leftovers have nowhere to go. When Grandma 3's five children were young, she explains, "… you know what, I didn't have packaging. But I was lucky sort of because I didn't work, but when you work you must buy packaged food, so I don't blame anyone, that have to throw packaging because that is life today." Here she voices a common sentiment that food and packaging change so much depending on the cooks' (usually women) skills and ability to spend time cooking. She also notes the changes in packaging from her childhood: "when you buy ground beef, it comes in a packaging whether you like it or not, and you buy chicken, and it comes in a package. Before, my mother would buy chicken, and she would have to pluck the thing." The chicken her mother cooked was closer to the source and had no packaging, but it required more work.

The Grandmas discussed how in their childhoods, new foods in packages were novel and interesting, and not popular with their mothers at first. Regardless of the quality or taste of the packaged food, they were sought after in the broader society because they represented privilege. As already mentioned in Chapter 3, packaged foods were deemed desirable and attractive in Canada, according to food and lifestyle media representation; buying processed foods meant access to the post-war contemporary lifestyle and women having more freedom. Grandma 1's life story demonstrates one family's adoption of this trend. Throughout her childhood in Vancouver, her mother limited processed food and kept up with food practices that focused on growing food in the backyard and buying bulk foods where they could. Packaged foods were an unnecessary expense for her parents. However, as we will see below, as an adult Grandma 1 made wide use of packaged foods but opted to try and find healthier versions, especially when she returned to work. Grandma 2 describes the slow introduction of packaged foods to Poland in the 1960s and 70s, when people with more money could purchase the foreign labelled packages. Indeed, when she became a teenager, her mother started to buy different packages as they became commonplace. She recalls how these new goods, which came in small quantities, were difficult to share amongst her large family, and she also remembers not liking the taste. In Poland, the packages were particularly novel because, after WWII, there was a scarcity of imports from outside the communist regimes of Eastern Europe. On the other hand, Grandmas 2 and 3, as adults, limited packages in their kitchens for most of their lives, partly to save money and partly because they were concerned about food quality and taste. Thus, in my interpretation of the three Grandmas' experiences, food practices that ultimately limit waste were motivated in more complex ways by larger cultural values and ideals. Moreover, as we have seen with the Grandmas, saving money through repurposing materials or using manual tools and overall

limiting consumerism often requires increasing domestic labour—processing food harvested from a garden so it can be preserved long-term, cooking in challenging conditions—which serves as a barrier for many households today. An understanding of these issues, borne out through my interviews with the Grandmas, sheds crucial light on the challenge of mitigating waste in the present day.

4.4 Feeding the Family

> **…**as children we were taken care of, and it was routine, breakfast together, dinner together, and lunch together. (Grandma 2)

The work of feeding the family is considered inherently connected to the care of family members, and this work is largely gendered, even today. While providing food is necessary, waste as its by-product is often not deemed an important consideration; in fact, as seen in Chapter 2, it was implied that spending labor on reducing garbage was itself wasteful. That said, cooking with whole foods—a practice recognized as being more nutritious and healthful inasmuch as it avoids ultra-processing—often reduces different kinds of garbage while providing more value in the cost and quality of food. This relationship between labor-intensive cooking practices and demonstrating care of the family was particularly revealing in the Grandma conversations. In this section, I am exploring the connections between their experiences in feeding families, the practices they learned from their families, and how they adopted them—with the results of how their relations with food influenced how they wasted differently. In my conversation with the three Grandmas, it was common for them to describe how their mothers prepared food for the family, including the different dishes and the labor that went into them.

The grandma's reflections on childhood were exceptionally revealing about what they considered essential practices. However, I had to press further to encourage them to reflect on

how they remember cooking as adults for their own families and whether the methods of their mothers were continued in their own homes. In Grandma 1's depictions, she remembers how her mother was "always making things" like stews, casseroles, pork, and beans, and making dishes based on produce from the garden. Her father also had an active role in the kitchen along with being responsible for the garden. Every weekend during her childhood, he made breakfast for the family, following a strict routine of pancakes on Saturday and bacon and eggs on Sunday. Both parents adhered to a household system of cooking and cleaning that involved the re-use of containers and scraping food scraps into the compost pile. Both were active participants; even if her mother was the decision maker, the labor was distributed. This distribution was essential for the required labor she describes to feed their small family.

As an adult, Grandma 1 fed her family differently. She did have some help from her husband, but he often traveled for work, and she worked full time most of the time that her children were growing up. Therefore, her systems in the house were simpler: no garden, no compost, and most importantly, she was assisted by processed foods and pre-made meals. She did not think about preventing waste as her parents had. She used a greater quantity of packaged foods; the food price was considered, but canned soups and frozen foods were no longer expensive. Into the 1980s, with two children at home and like many families relying more and more on processed foods, she became increasingly worried about food health. Thus, while she purchased sliced bread, processed cereals, canned soups, and frozen vegetables, she avoided "sugar cereals" and tried to select healthier, though still processed, foods. What she considered healthy was influenced by her parents, with whom she still shared some food habits and rituals. For example, her family, including her parents, would have brunch on the weekends, and her

father would make pancakes with her children. They both served yogurt with pancakes rather than the more common sugar syrups at the time.

Her food-based waste in packaging was high, but nothing that most people in the 1980s and 1990s would have considered egregious. She used processed foods to save time and to have lots of easy-to-prepare foods that her children could heat and serve for themselves as they became teenagers. She thinks of her parents' practices as ideal but not attainable for her own home. Grandma 1 had less time for cooking, did not maintain the rigid routines of her parents, and her husband could not share the work in the same way that her father did. Her experience reflects how consumerism as a labour solution for women became more of a reality by the 1970s and 1980s. Consumerism was partly enabled because women worked more and had more money but less time; accordingly, purchasing labour-saving kitchen gadgets, like dishwashers or food processors, became necessary.

Grandma 2 does not remember what her parents went through to feed their family or how food rationing took place in Poland. However, a central understanding for her was that the food she did eat during this time was simple, local, and healthy. For example, a typical breakfast was milk soup and sandwiches. The milkman delivered four litres of unpasteurized milk daily, fresh from the cow, which they would drink or make cottage cheese when it went sour. The milk soup was like porridge, but with more milk than oats, sometimes served with juice or jam; it was essential and served almost every day. It was a breakfast she never served to her children; she associates it with scarcity, as milk was one of the few plentiful resources. Food in childhood was a significant experience because she took part in cooking and cleaning from a young age. She was the oldest girl out of her siblings and started cooking full meals when she was about ten years old, making large soups, one of the most common dishes in her home. She remembers

enjoying being in the kitchen; it was big with lots of workspaces and exciting possibilities, like the potential to create cakes or other food dishes, which became a significant interest for her. As a young teenager, she explains, "I started experimenting with baking, I thought I was good, but I was not that good; I couldn't match my mother's." Her approach to baking and cooking, even at this age, was about what was available, which takes a certain level of both creativity and skill: "I would just open the cupboards see what was there, open the fridge see what was there, ok we can make this ... it really wasn't like planning, it was seeing what was there, see the situation, and my mother was out of the house, a good time to start experimenting." Raising her children in Vancouver, where the food culture and availability of products were quite different, she nevertheless maintained the fundamental practices and principles she learned in Poland. She faced many negotiations and compromises with her two children. For example, she explains, "… my kids always wanted to eat Spaghetti-o's or something like this, I would refuse, I was young and frugal. Finally, I did buy it for her to try it, because everyone has it and it cured her for life." Her children often preferred her cooking and baking to store-bought products, partly because she was skilled at cooking and grew the ingredients for her signature dishes, such as berry cakes. She maintained extensive gardens where the children could help her harvest and preserve fruit picked in the backyard: "I planted raspberries, so we had as many raspberries as everyone wanted and an apple tree, two apple trees, kiwi grapes later and some veggies." However, she was responsible for both the garden and kitchen, and it was hard for her to keep up when she eventually went to school and then worked. Unlike her father, her husband focused on his career and did not work in the kitchen or garden. When she started work, she supplemented home-cooked meals occasionally with eating at restaurants; she remembers this being a big difference, mainly since she focused on saving money by developing a domestic system that involved

buying very few things. The new routine was a challenge because the family still expected her to maintain her previous practices; she remembers, "… when I went to work, I was working in shifts, during canning season, I would work 12-hour shifts, and when I would come home, (my husband) would sit and say finally life is starting, Mommy is home ..."

Grandma 3 stayed home and was essentially a single mother with five children. As a child in Israel, this was also how she remembers her mother: "… when we would come from school or from work, there is food on the table, there is soup on the table, that I learned from my mom, I used to do that, the minute the kids come home from school … and my daughter once wrote about me, that when she thinks of me, she thinks of lemon chicken, she loves it, she comes home and there is the lemon chicken on the table." As mentioned earlier, her mother's attention to food represented care for her and her siblings. Now feeding the family is what she is known for, especially for recreating the dishes from her mother's kitchen. My understanding from my conversation is that for her, care and food are associated more with parents when they cook food connected to their cultural identities. This was true for Grandmas 2 and 3. Cooking Polish or Jewish-Israeli foods in their Canadian homes reinforced their uniqueness to their children and their care in skill and labour in making the traditional foods.

During Grandma 3's childhood her mother was the primary cook, and despite not spending time in the kitchen helping, she remembers well all the work her mother put into this task. When I asked what changed for her as she became an adult, she said, "… cooking became easier, my mom worked very hard, I don't work as hard as she did. My father was Lebanese and Iraqi descent, and he like to eat at home, and my mom knew that, so she had to cook a lot." She adds after some reflection, "I don't cook like my mom, cause my mom cooked really good, you sit at the tables and all kinds of dishes, me I cook one dish and I cooked enough." She

remembers her mother coming home on the bus, carrying all the food from the market, and the weather outside in Israel was often very hot. She appreciated the results of her mother's cooking, but she explains that as a child, she found it difficult to see her mother put so much work into food, including the shopping and cooking; feeding the family was enormous work. Still, she remembers how special it was: "… breakfast on Saturday morning, we would sit on the balcony, by the beach, we had an apartment there, all of us, six girls and my father and my mom and we would sit, it is lovely."

During Grandma 3's transition into young adulthood, a noticeable shift occurred in her household's food habits. This transformation was catalyzed by the departure of her older sisters, prompting her mother to join her father in operating their family-owned textile store. In due course, Grandma 3 herself became part of this venture. While she didn't delve into the specifics of the family business, she vividly recalls the pivotal shift from home-focused life to a working environment. This transformation also brought about a change in her family's food habits. Grandma 3 recollects, "I remember only up to the age of eighteen, when she was cooking really delicious food. But when we moved to the other place, it wasn't the same—she forgot about cooking." With this transition to a new home and life stages, the essence of her mother's commitment to the intensive meals of local cuisine seemed to wane.

Her family's palate began to favour more European-style cuisine, reminiscent of the dishes enjoyed in neighbouring households during Grandma 3's younger years. Canned sardines, similar to those relished by Grandma 2 in Poland during the same period, became a prominent feature. These canned fish offerings, with their economical appeal, became staples for European-style lunches and informal meals. Amidst the decline in home-cooked meals, certain culinary traditions remained steadfast. Grandma 3 recalls, "Despite the prevalence of store-bought baked

goods, my mom continued baking." This unwavering dedication to baking remained constant, even as commercial options became more abundant. While the names of the cakes elude her memory, the memory of dates, walnuts, and a layered pastry akin to baklava remain vivid.

As the early 1960s unfolded, Israel experienced an influx of families arriving from Europe and the US. Grandma 3 observed this shift, noting the emergence of grocery stores as viable alternatives to the traditional farmers' markets. The influence of Europe and the United States was palpable as the popularity of processed foods from these regions permeated Israeli households, underscoring a broader transformation in culinary preferences. Later in her life, in Canada, Grandma 3 incorporated the dishes and food styles from her childhood memories and found ways to replicate many dishes for her children and grandchildren. She explains how everything with food was different in Canada, especially without the custom of eating in a circle on the floor with your hands, serving food in the big bowls, and without the local fresh ingredients she was used to from Israel. Her tools are different and thus, so are the dishes: instead of slow-cooking stews, she uses a blender, and she does not have the same Middle Eastern-style clay pots or baking pans as her mother. Still, her children think of her as being in the kitchen for long periods, cooking the traditional dishes and having food ready whenever they arrive home, similar to her mother.

4.5 Perspectives on Women and Labour

> I didn't know better, we thought that was our place, I learned this from my parents…I was told to stay home and cook. (Grandma 3)

At the end of my interviews, I asked each Grandma how the ideas and conversations challenging women's roles at home influenced them, starting in the 1960s and 70s. My last questions were a shift from domestic practices and food, but I wanted to understand how ideas that seemed so popular in the 1960s and 70s influenced these women. My questions were met

with many pauses and quiet reflections but resulted in limited responses in contrast to my food-related questions. They all said that the ideas challenging women's traditional roles at home impacted them very little as they grew up, regardless of their cultural background or of how women's roles were actually realized at home. For example, during the post-war period, all of their mothers worked outside of the house at some point, and as the Grandmas reached adulthood, each had mixed experiences with paid work, as mentioned earlier in this chapter. In the opening quote for this section, Grandma 3 candidly mentions her learning process as a child; she now considers this problematic due to her own experiences in focusing on staying home to raise her children but ending up with limited opportunities for work later on. She discussed how she wanted to be a daycare teacher and had finished her diploma program but did not think it was appropriate to return to work after becoming a mother. Her childhood understandings of women's roles and behaviours impacted her in different ways. Before coming to Canada, she had difficulty speaking to people; she says, "… I was so scared to say a word, I thought I might say something stupid, I better not talk." When I asked if the societal conversations in the 1960s on women's roles and ideas related to feminism influenced her, she reflected on her parents' generation, during which time there were no conversations on such topics. After thinking through my questions, she responded, "they cared less if I did my homework or not, so all they cared about was giving us food. I am doing the same thing, but I tell you have to do education too, so that has changed." These values and beliefs, taught to her as a child, influenced her choices in adulthood. In contrast, Grandma 2 recalls that she could choose what she wanted in Poland when it was time to go to college. She watched her parents share work at home to produce meals and maintain their home. Nevertheless, her life took a different path when, shortly

after starting college, she left Poland for Denmark and then Canada with her husband, and after having two children, it took years before she was able to return to school and work.

Grandma 1 was less interested in questions about women's rights and labour in the 1970s, partly because her parents had shared domestic work, and both had paid work outside the home. I noted that she had her children almost ten years later than the other Grandmas, she had finished her university degree, and then had worked for many years before she took time off to have children. After having two children, she returned to work; her return took a few years after her last children were born but occurred more seamlessly than the other two Grandmas. Her answer to my questions was surprising: "It didn't affect me at all, the whole feminist thing, it really wasn't big until the 1990s, it was no big deal in the 1970s." I interpret this to mean that it took a while for the feminist conversation to become mainstream enough to reach more women in Canada. In addition, Grandma 1 felt she had choices and was acting on them, such as cooking fewer whole-food meals and working full time. The practices at home align more closely with what was marketed in the 1950s, but with the added reality of performing paid work, which was contrary to the model of the professional housewife. Consequently, I came to realization that for some women, like Grandma 1, modern conveniences were not about leisure but were about trying to balance work outside of the home with the family work.

In conclusion, the Grandmas provided evidence of how their families negotiated and, in the case of Grandmas 2 and 3, generally resisted the consumerism and modernist conceptions of efficiency explored in Chapter 3. Challenging the ethos of consumerism included maintaining vegetable gardens, cooking with whole foods, minimizing modern food gadgets or tools, and primarily organizing the home and domestic food systems in ways that worked for their families, not as dictated by experts. The ability to avoid these signifiers of modernity suggests they were

taking on consumerism in an organized and intentional way, making choices rooted in values and needs. In addition, more labour-intensive food systems ultimately prevented waste through cooking without packages and finding spaces to manage it, such as composting or feeding small livestock. Yet working outside of the home resulted at least in Grandma 1 finding ways to reduce the work at home, closer to the ideas explored in Chapter 3 compensating not with help from people but from things—that could lead to more waste.

All three Grandmas highlighted that they believed waste was minimized as much as possible because of their parents' motivation to manage the household economy. It is well established in the history of waste that waste production increased as families and society became more materially affluent (Cooper 2009; Strasser, 1999). Preventing waste was necessary for low-income families or families that had experienced societal upheaval from wars or droughts because food and food-related materials were more scarce and more costly. In one way, any attention to preventing waste in the post-war era could be considered a leftover practice from difficult times. However, my interviews revealed that other factors prevented waste, such as the Grandmas' recognition of their own mothers' food-related labour as acts of care, providing a further incentive for the family to consume leftovers or re-use garden resources. In addition, associating the labour and traditional-style dishes as a kind of family heritage practice encouraged the Grandmas to maintain these food activities with their families, despite becoming more affluent or having more access to processed foods. Overall, in each interview, it was recognized that meals during their childhoods involved much more labour yet provided powerful and positive childhood memories.

The emphasis on the amount of work they watched their mothers do to feed the family was a common theme for all three Grandmas. Each Grandma also repeatedly reflected on their

childhood experiences to describe the recipes, dishes, or even the importance of eating meals together. A recurring theme was that wasting food disrespected their mother's labour and diminished recognition of her efforts to care for them and the family overall. They therefore ate leftovers out of respect, having watched their mothers work over the stove, or their fathers work in the garden. One may conclude, then, that preparing food more or less from scratch in the home exposed these eaters much more directly to the efforts made on the part of the cook, the resources and energy required to create the nourishment in question and, indeed, to the attendant production of waste that eating entails. In other words, such food practices prevent food-based waste as a consequence of the homage given to family food providers (growers and cooks) and to the food made available by these providers, but also because such labour-intensive practices limit using processed-packaged foods. By contrast, the broader conversations happening at the time, discussed in Chapter 3, made domestic spaces and practices modern by increasing efficiency and reducing labour. One conclusion between Chapters 3 and 4 is that the kind of labour identified as inefficient in the kitchen in Chapter 3 is the same kind of labour the Grandmas describe here as vital to their food memories—and incidentally, prevents waste.

Grandma 3 felt that the primary way her mother showed care and love to her family was through her cooking. Enjoying the food was an expression of care in itself, but care was also felt through the extensive labour involved in preparing the food. Yet food-related labour, if only women carry this load of feeding the family, limits women's choices in how they practice food, influencing abilities in terms of waste prevention. For Grandmas 1 and 2, the division of food labour occurring in their families between fathers and mothers, and in some cases, extended to other family members, resulted in a more robust domestic system which ultimately kept waste out of landfills and into the mouths of children or animals, or added to garden compost. The

mother's labour was dominant, leading to food practices that limited processed foods and allowed for more intensive cooking. Hence, the logic behind the argument for efficiency, as defined commonly in the print media in the 1950s, led to the conclusion that less wasteful food practices be considered inefficient, old-fashioned, and products from times of scarcity—all negative associations.

In the end, I have three main conclusions. First, a more substantial and nuanced recognition for women's skills and labour, which provided good food and prevented waste, is needed in present-day discourse. Second, division of labour between family members is necessary to sustain better practices for cooking and growing food at home—two aspects that can contribute to a more sustainable food system and prevent waste. Ironically, greater efficiency might be an asset to more sustainable cooking and preventing food waste, if it leaves more time for growing food, for example. Third is how the values associated with doing domestic work are developed in diverse ways. Family practices and narratives are only one of the many arenas of engagement toward a better understanding of these values, albeit one that is incredibly important as a means of acknowledging the deep relations each person has to other humans as well as to materials—leading, to finding further and more powerful ways to care deeply. The main lesson from this chapter is that whether it was in learning to care and cook or in balancing work, children, and home, women's skills and labour throughout history were the cornerstone of waste prevention at home. A lesson is that household labour should be valued and more equally distributed to make a more sustainable domestic food system possible.

In the upcoming chapter, I delve into the Eat, Waste, Make Project, aiming to challenge prevalent modernist and consumer-centric home models. I explore ways to make food labor more valued in our contemporary world, emphasizing waste prevention as a crucial aspect of a holistic

home system. How do we acknowledge a more complex food system that integrates kitchens, gardens, compost, and spaces for re-use, prevents waste and reduces buying industrial foods? Waste prevention is a vital part of a more extensive system at home that requires skills, time, and motivation. Ultimately finding ways for waste prevention to exist without the motivation of material scarcity or thrift is essential for today. The insights from Chapters 3 and 4 inform how these transformations can reshape the daily lives of Canadians, recognizing women's indispensable roles in sustaining human life throughout history.

Chapter 5: The *Eat, Waste, Make Project*

Carrot Ginger Soup: First, take one onion, chop, and set aside. Next, cut a few inches of ginger, peel, and place with onions. Take three garlic cloves, squish, chop and set aside. Add olive oil to the pot—five carrots chopped on the wood with a dull knife. Grab a bowl for the compost and make some veggies stock with the bouillon in a jar and set aside. Discard bouillon paper. Watch the pan and start the onions and garlic. Take the baguette out and set it aside to warm later. Find calm music, no, turn on CBC. Drink water. Add everything to the pot, including stock. Let it simmer for twenty minutes. Tidy up.[23]

Figure 5.1 Into the Kitchen

Note. A photograph excerpt from the research poster I presented at Canadian Association for Food Studies that focused on documenting cooking a meal, 2015

The weekday meal is generally understood to be the most frequently made, and therefore most ordinary and mundane food preparation in the household (see Figure 5.1). Michael Pollan (2013), a popular food writer, noted that for most of his life, cooking was "… more like furniture

[23] This encounter is retold from the critical design experiment, entitled, "Into the Kitchen," which was presented through a poster exhibited at the Canadian Association Food Studies Annual Meeting, University of Ottawa, May 30-June 2, 2015.

than an object of scrutiny, much less passion" (p. 20). It can feel like furniture, in the comfort and stability of the home, with a consistency that produces an inattention to those well-established practices and familiar materials and space. Cleaning after cooking is another task I do without much thought, managing the different scraps into different waste bins and hoping for a clean kitchen as a reward. Before this project, I barely acknowledged the leftovers of my cooking, despite understanding that they contributed to a broader environmental crisis. Hence, for the *Eat, Waste, Make Project*, the subject of this chapter, my challenge was to make not merely cooking but the even-less-interesting matter of waste the subject of attention and, moreover, for that attention to be both intense and nuanced. Toward that end, one of my objectives is to abstract the materials of trash from the cooking process, to be re-imagined, thereby, in a way that realizes the agency of the materials typically wasted. In light of the historical trajectory elucidated in Chapter 3, which exposed a correlation between the surge in waste and a systematic shift in women's roles, resulting in Canadians discarding a significantly greater quantity of items since the 1950s, it is imperative to underscore the importance of addressing gender in interventions aimed at waste reduction.

Similarly, this project builds on bringing attention to the agency of food-related practice itself given the findings in Chapter 4, namely the assertions of each Grandma regarding their need to work through the dominant cultural messaging of the time to form their own practices based on their ability to make choices and adapt to the particular circumstances in their homes. In my own household, walking into my kitchen to prepare a meal has been a daily occurrence throughout my adult life. I am the family cook, the mother, and in every sense, a caregiver to the other household members, whether animals or humans. In this sense, I have maintained the historical role of women as primary care providers; I am recreating gendered kitchen spaces and

food practices (explored in Chapters 3 and 4). I, too, find moments of resistance through my choices of what I cook and how I cook, such as preparing a meal with food from a small local farm, a small but significant act where my family meal counters the normative industrial food system. Broadly put, the kitchen throughout history has been a contested space, negotiated through labour and choices between (mostly) women and its different kitchen things, the placement of these things, and the food brought into the space. Creating another way to resist capitalist food and waste practices that are consumer driven was the initial intent of the project. Therefore, one of the aims was to strategically engage with materials through hands-on practice to gain insights into them, aiming to address the inattention to food-based waste.

The *Eat, Waste, Make Project* occurred in two phases. In phase one, I set up my critical design experiments such that I positioned myself as the designer-researcher making things and going through a learning process with waste in my own home. In phase two, I expanded to develop a participatory approach to these experiments, and created a workshop series to investigate, alongside other participants, the strangeness and familiarity of everyday food-based waste. My theoretical objective was to explore how I can create a learning process that responds to Bennett's (2010) vital materialism and Haraway's (2016) call to make "odd kin" with nonhumans, both concepts reiterated below. Through these concepts, I argue broadly that Canadian culture requires a new/renewed understanding of and perceptiveness toward nonhuman agency to limit (and put enormous pressure against) the destructive forces of the dominant capitalist driven consumer ethos that some humans have on earth. Toward that end, I am adopting Haraway and Bennett's assertions to examine one kind of lively and agentic force, the domestic waste emanating from daily food habits: food-based waste. By employing a lens that focuses primarily on food, waste becomes identified as the unwanted, uneaten food products and

by-products, as well as the packaging that food comes in. Essentially, I am advocating a better comprehension of and sensitivity to waste in daily life and, thereby, also encouraging extrapolation to broader examples of waste.

In my examination and exploration of the project I describe in this chapter, I want to understand how to learn to care for all of the materials around food, such as the bread packages, old fruit, and foam trays such as those I find in my kitchen or recycling bins. I want to care for others in ways that reduce the harm caused by materials lingering in Canada's landfills. The challenge Haraway (2016) and Bennett (2010) pose for this research is to create relations by disrupting what has become routine and intervening in destructive waste cycles. Therefore, with my theoretical companions (namely Haraway and Bennett in this chapter), my objective is to engage with the following question: *How can a critical design and public pedagogy framework inform a learning process that generates care for the materials through realizing vital materiality and developing a more overt and sensitized relation with the materials?* My strategy was, first, to frame my research and explore my methodological position within my own practice and second, to collaborate with others through the series of workshops.

I did not apply for ethics for data collection for the workshops because after I was invited to do the initial workshop, I decided to focus my research component on the design and set-up rather than the participants' experience, aligning it with my autoethnographic approach. All of the photographs included in this chapter stem solely from documentation of my own research-creation work or on the set-up, on the making process, or on the artifacts themselves. My research centers on the project's design, the choices I made, the practices I implemented, the design of the space in which my activities took place, and the materials, through the development of phases one and two. My descriptions and interpretations of the results derive from my

experience as a facilitator. They address the organizing process, my work with the host organization, and my account of the resulting artifacts. I present the results through participant observation accounts and autoethnography, which harnesses my personal experience as a data source (see Chapter 2). Autoethnographic accounts, which focus on my interpretation of experiences, comprise the foundation of my approach through each research phase of this dissertation. To document and evaluate these processes and results from a materiality perspective, I will use photographs of the activities and research-creation pieces produced in the workshops. These photographs are presented to access narratives of the events, representing examples of *vital materiality,* and adding layers of meaning to my narrative accounts.

Following the introduction to this chapter, I will recount my learning process as a result of my own design experimentation with waste materials, which I consider as phase one of the project. Phase one describes my initial learning process where I started to experiment with making and designing artifacts with waste materials in my home and, through this process, determining design practices as method to effectively reveal the agency of the various kitchen things. The process of self-experimentation allowed for a kind of reframing of the materials that I interacted with, from waste to a type of agentic "kin" that worked with me to create artifacts to share through exhibitions. With regard to the second phase of my *Eat, Waste, Make* endeavours, I outline and assess the workshop series, which consists of four workshops over two years from 2016 to 2018 that varied in length, location, and host organizations. A fifth workshop was a more recent virtual workshop from 2021, which expanded on the previous in-person activities. I was invited to the events or festivals for all of the workshops, venues, and circumstances which influenced who and how people participated in the series. The workshops were as follows:

1. *Encounters Between Matters of Food and Waste*, Centre for Interdisciplinary Studies in Society and Culture, Concordia University, 2016
2. *Wasting: Subverting Domestic Food Practices*, 35th International Visual Sociology Conference, Concordia University, 2017
3. *Encounter 2030: Food Waste and Speculative Visioning*, Festival Sight and Sound, Eastern Bloc, 2017
4. *Eat, Waste, Make for 2030*, Concordia Transitions Conference, 2018
5. *Everyone Makes Waste*, Food Matters and Materialities: Critical Understandings of Food Cultures, virtual, 2021

In the last section of this chapter, I evaluate the project towards future development, including assessments of the project based on best practices from the literature on participatory design, public pedagogy, and critical design. My final reflections centre on the results of the iterative development, the interweaving of the research from other chapters, experiments at home, and the workshop design.

5.1 Exploring Material Agency with Theoretical Companions

> ...we require each other in unexpected collaborations and combinations,
> we become—with each other or not at all. (Haraway, 2006, p. 4)

Creating and making artifacts with food-based waste is a way to apply concepts and ideas from FNM. Bennett (2010) defines her concept of *thing-power* as, "… the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle" (p. 6). As she notes, it is a curiously complex challenge to understand the agency of the waste because waste has come to mean any material determined by humans as no longer fulfilling its designated purpose—it becomes waste through human action. Notwithstanding this obstacle or, indeed, precisely because of it, Bennett's challenge is critical. Her rhetoric questions the binary that matter is

passive, and humans are vibrant. She instead highlights the sustained and autonomous vitality of "things" in their own right, even once humans no longer have use for them and have ceased to acknowledge their agency. In other words, then, materials become waste because society allows for the discarding of things in the first place without due attention to their abiding "thing-power."

To learn what this means for a material (a thing) requires investigation. Hence, I use a process of making for the various materials to become known more profoundly, whether through mass or composition or colour, and also to highlight the continuous agency of the wasted materials through connecting with them in creating some artifact that itself becomes a contemplation of the materials. Investigating things as agentic forces is to understand how non-living things—or dead-processed post-living materials like paper food packaging—can be understood to act in the world. For example, Bennett (2010), in her description of her morning walk, observes how for her the objects she finds on the street transform to things through her attention to details: "… objects appeared as things, that is as vivid entities not entirely reducible to the contexts in which (human) subjects set them, never entirely exhausted by their semiotics" (p. 5). For her, this matter is not projected onto humans but acts in the world on its own. Yet, she argues that individuals/culture/society are inextricably entangled with non-living things and that matter reacts to human intervention, like a tree becoming paper becoming waste. As we will see below, this vital materiality of matter and the entanglements it forms between nonhumans and humans aligns with Haraway's call to pay attention to and care about the relation between humans and things as well as between things and things.

Bennett and Haraway's theories on nonhumans, taken together, are critical to care. In the opening quote for this chapter, from Haraway's (2016) *Staying with the Trouble*, she asks readers

to find ways to treat all things and other species in a way that generates life rather than destroys the planet. In this quote, she explains her objectives as follows:

> The task is to make kin in lines of inventive connection as a practice of learning to live and die well with each other in a thick present. Our task is to make trouble, to stir up potent response to devastating events, as well as to settle troubled waters and rebuild quiet places. (p. 2)

Haraway (2016) wants humans to find ways to extend the kind of care practiced with biological kin to that of the nonhuman world and to find provocative interventions that do something actually in the world. She evokes the concept of kin to encourage deep connections and form relations, recognizing that humans are made from nonhumans. Feminism, often intrinsic and sometimes explicit in Haraway's writings, underpins much of her thinking. From a feminist stance, she asserts a need to learn how to live with other species much more relationally than now. Being in relation requires a process of deep learning with other species and things. How Haraway considers kin untangles the other (such as any kitchen thing) from its present situation as a commodity—the primary form of relationship humans has to other than human entities.

My interest in Bennett and Haraway's research is its utility in facilitating the considerable work needed to shift destructive human trajectories around food and food materials, in a way that brings attention to new configurations of human/nonhuman relations. Their concepts challenge underlying values and belief systems prevalent in Canadian society, discussed in Chapters 2 and 3. My initial objective in conducting these experiments was primarily to investigate waste materials as potential critical design, rather than attempt to find precise solutions to the waste crisis. I started working at home, on my own, with materials harvested from my household and adjacent areas in my neighbourhood. I based my experiments on critical design methodology; for

the subsequent workshop series, public pedagogy was superimposed as a methodological practice. The first stage of the process aimed to uncover more complex understandings of the materials of food-based waste. In contrast, the second extended the query to others in two ways: first, by serving as a platform to exhibit the resulting artifacts, and second, by facilitating workshops at which others might make their own kin discoveries. My methodology throughout the project was to undertake research through making vibrant "things" out of that which had been designated waste, and then evaluating the resulting artifacts from a critical design perspective—not by virtue of their utility or potential as consumer goods, but, rather, by the degree to which they elicited discussion and contemplation through their aesthetic, visual, and material qualities, cultural or social resonances, and so on. Those resulting "things," in other words, constituted a kind of research apparatus, in and of themselves (DiSalvo, 2014; Dunne & Raby, 2013; Malpass, 2017).

5.2 Phase 1: Critical Design Experiments

> It is the egg cartons I take out first. Perhaps because they remind me of Grandma's basement. The greyish brown colour is oddly pleasing. They are clean. Each piece comes apart easily. The subtle smell of paper released with each rip. It feels strange to break them with no purpose. Yet, I continue until I have small piles of paper and no egg cartons. Next, I go for the Styrofoam trays; they are smooth, white, and clean. Sitting and watching my hands, I like the shades against the skin; the contrast is subtle. Piles of white and grey bits and pieces; their origins have disappeared. Bringing in the kitchen corkboard, a surface that contrasts the materials, I pile them on top, mixing, breaking, and arranging together. The tan cork resembles my skin. My hands and the cork frame the materials as the camera captures the movements. Finally, I recreate my process on an old canvas, with glue, and feather-light pieces combining to create a simple collage of cartons and foam trays. The intersecting small pieces of unrecognizable materials: the smells of paper, Grandma's basement, and the smoothness of foam, is not waste at all.[24]

[24] These sentences are taken from my notes taken during the first phase of Eat, Make, Waste, where I documented my process.

In *The Ethics of Waste: How We Relate to Rubbish*, Guy Hawkins (2006) considers that, "when waste is noticed something shifts in the mundane landscape of domestic habits. The stench and confusion of the garbage bin can no longer be ignored—that rubbish needs some attention!" (p. 1). Garbage is not something to be observed, but is hidden away, discarded, optimally to prevent filth, pests, or rancid smells. If I am efficient in my practices, visitors to my kitchen would not have an opportunity to see my waste. Thus, I started by observing waste, as an intentional re-orientation of my attention to what I had often tried to ignore or simply manage in my daily life. As described above, I pulled out my recycling bin, I reluctantly gazed into the trash. I recovered piles of materials and placed them in the centre of my kitchen table—shifting their position from just dirty objects to things, a kind of kin to work with me in experimenting and learning. For these experiments in my kitchen, I focused on playing like a child; I ripped things, cut, mixed pieces up, tossed it into the air to discover what they were. Eventually, I made artifacts, and for most of this process, I documented it, a kind of play in itself. I explored the waste in my kitchen with no expectations or sought-out solutions. These methods were intuitive with an open objective to be quietly disruptive—disruptive to my normative, efficient, and productive food practices.

Jane Bennett (2010) considers how "the quarantines of matter and life encourage us to ignore the vitality of matter and the lively powers of material formation" (p. 5). Extending my role from cook to researcher, I documented the meal process,[25] asking, as in the opening account of this chapter, what I could learn from the attention required for me to photograph each step of meal preparation. My goal was to find ways to undo the quarantines developed in my food practices and passed down historically through Canada's legacy, to probe the effect of food

[25] The photo documentation with narrative accounts was presented as "Into the Kitchen," as referenced in footnote 26.

scraps on a cutting board, or to notice the peculiar aesthetic of dirty pots soaking in water—mindfully documenting these mundane moments to eventually determine interventions. In the beginning, I was reframing my kitchen work, consciously cooking, cleaning, serving, and documenting, not unlike the Grandmas, who built their food practices from their interpretations of their life experience.

Learning from documenting the cooking of a meal, I went on to explore simple and creative acts of making things from my kitchen to remove myself from the established cooking process and find ways to care differently—approaches for making kin. María Puig de la Bellacasa (2017), in her book, *Matters of Care: Speculative Ethics in More than Human Worlds*, argues that generating personal experiences with materials is a valuable method to reflect on and get closer to understanding the ways caring can be learned, made, and practiced. In caring differently, I mean to shift the items of waste from the habitually ignored to something that I and others can get to know in such a way that facilitates a deep familiarity, the kind that was necessary in the past during times of material and food scarcity. Building a deeper understanding of the relationship between humans and the intimate materials of food can generate more care about non-living things and the physical environment. This assumption forms the basis for developing the concept of agentic kin through material care, explored throughout the project.

Inspired by Elliot Eisner's (2008) view of art-based practices, "... through art, we come to feel very often what we cannot see directly" (p. 8), I freed myself to work with materials to create and feel my way to understanding something different. I broke eggshells in mortar and pestles and photographed the process, observing the contrasting colours, and transforming the shells into pebble pieces that felt like bits of glass. I ripped egg cartons and paper wrappers with my hands; digging into the materials physically, I could feel the ease of the light carton material

that held the eggs versus paper products, layered in plastics, not recyclable, and hard to tear. As the materials broke into smaller and smaller pieces, I could no longer see the food they once held. I was undoing any signs of their utility bit by bit. Forming piles of paper pieces into different shapes and formations, on a variety of surfaces like corkboard, sheets of paper, or tables, revealed the composition of the various papers or plastics. Trying to remake them into something else was analogous to re-use cultures of the past, where women in the kitchen re-used or remade the materials with their knowledge of material agency. Reflections throughout my making reminded me of how paper cartons can grow seedlings and glass jars are easily cleaned to contain almost any organics. Making with my kitchen things was sharing time with them, a focused energy between me and them, whereas habitually I would manage them with little regard. From cleaning up to creating something, my embodied process resulted in finding a way to consider each piece of waste as a material-individual with unique properties such as colour, texture, or scent. Documenting my process with video and photographs extended the research to evaluate the aesthetics, one arising out of the visualization of my hands breaking or mixing up materials as a compelling depiction, itself, of entanglements. Making things with waste, like sculptures or collages, fractured the daily practices I developed through my day-to-day waste management. Working with the food scraps as design materials for making artifacts made my attention focus on different features, such as how they felt to rip apart or the colour of eggshells against the background of the kitchen counter. Creating to explore vibrancy and agency led to artifacts that countered their original functions and then critiqued in conversations with others.

My experiment transitioned from playing to making artifacts and including other people. Initiated on a Friday night in the late autumn of 2013, I invited several friends over for an unusual dinner party. People brought drinks and we cooked several dishes together to serve, just

like any other dinner with friends. The twist came when we collected all the waste from the meal to serve as the culmination of the meal, in place of dessert, and documented the entire process. The dinner party became *Dinner with Leftovers*,[26] a two-minute video that explores unexpected combinations and collaborations with everyone in attendance that night. My uncomplicated goal for the evening was to bring the waste into the dinner experience, to experiment with different ways of making waste visible. So, I exchanged the actual dessert for waste; dessert is often the celebratory end of a meal, reserved for decadence and aesthetics, yet here it became the moment for scrutinizing and playing with our material leftovers. The video of the event begins with our group preparing and eating dinner together. The climax comes with the meal's leftovers, such as vegetable peels and bread packages, being placed both at the centre of the dinner table and in the centre of the camera's lens (see Figure 5.2). Next, much like the processes of consumption and digestion, we broke the materials down with our hands, ripping them into smaller and smaller pieces until nothing was recognizable.

[26] The video for *Dinner with Leftovers* is at: https://vimeo.com/75577549

Figure 5.2 Dinner with Leftovers

Note. A photographic still taken from the video *Dinner with Leftovers*. Access video at: http://www.pamelatudge.com/leftovers

The resulting dinner party video not only facilitated the accomplishment of the key tasks outlined in the project's title but also provided a deeper exploration of the underlying intentions driving Eat, Waste, Make. By creating the video, I proposed a novel approach wherein the acts of eating and wasting seamlessly transition into the act of making. This integration was manifested in various ways, including a formal documentation of my personal experiments, capturing distinct qualities that emerged from this exploration, such as the dynamic interplay between hands and materials.

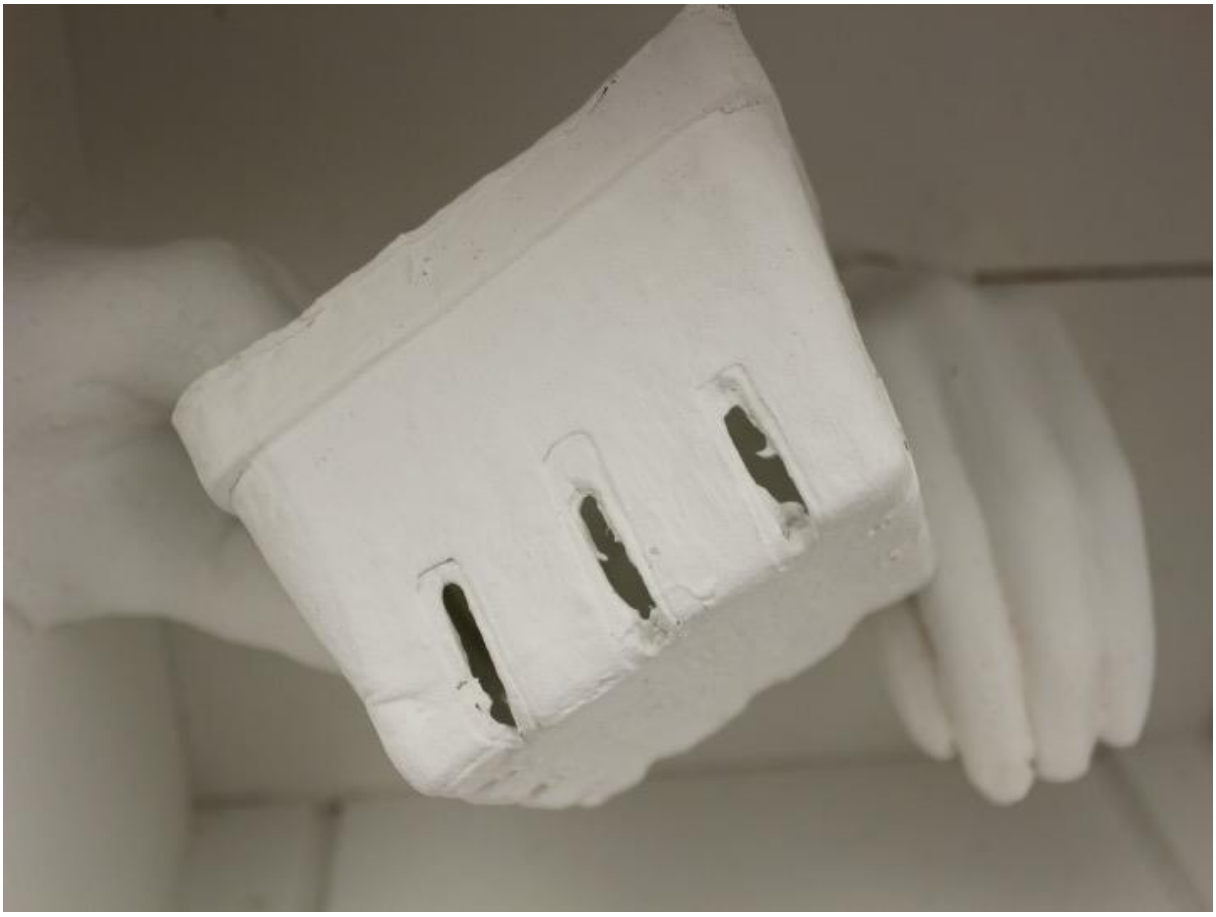
The conclusion of the dinner involved a deliberate engagement with waste to implement a cyclical process inspired by the increasingly prevalent concept of circular design. Circular design, a fundamental element in climate and environmental action plans in various countries and regions, including the Montreal Climate Action Plan 2020-2030, aims to prevent waste by producing items that transform into new products at the end of their lifecycle (Dockter et al.,

2021). In the project, leftovers from the dinner were repurposed, with waste materials like bread bags and cheese packages serving as resources for new crafting artifacts. This process aimed to prompt participants and viewers to reflect on the conventional removal of waste from celebrations, challenging the typical linear progression of eating, wasting, and excluding making.

The intentional choice of the title, Eat, Waste, Make, aligns with this circular design approach, embedding it within the project's design framework and generating critical design artifacts using waste materials. Exhibiting my experiments, such as the video *Dinner with Leftovers* and a small series of other sculptures and installations, initiated the development of the subsequent workshops in two ways. First, the research I conducted through making artifacts at home led to the construction of a critical design practice that informed the workshop series' organizational principles and layout. Activities I tested and experimented with were further developed into actions for the workshops. For example, I had engaged in a kind of structured play with ripping materials into smaller parts, documenting this process, and noting the transformation of the materials into something no longer recognizable; by making it not an egg carton or a yogurt container, they became materials for re-use and ready to make something new. I then experimented with different artifacts I could make with food-based waste. I found collaging to be a process that allowed for an embodied form of brainstorming. This method can be technically straightforward, focusing on exploring materials, composition, or other features. Collaging refers to combining various materials to produce an art piece; as a method reconfigured for critical design, the approach allows for imagination to take place through the forming of an artifact that exhibits possibilities of food-based waste interventions. Second, sharing the artifacts at different events instigated the workshop series.

In the exploration gallery of the Canadian Association of Food Studies (CAFS) conference in 2014, I presented *Forms of Residual Food Matter* (see Figure 5.3*).* The work included a collage of broken egg cartons, a small sculpture made from plaster and food packages set into an old wooden wine box, and the video *Dinner with Leftovers* projected onto a screen. Discussions at this conference with experts in food studies led to further experiments using different waste materials, including organic waste, to make edible artifacts for people to eat at future events. The interdisciplinary researchers in food studies who constituted the audience were intrigued by the making practices I employed, such as collaging and idea generation using actual materials from food-based waste. They noted a dual benefit in the reuse of materials that would otherwise be discarded. However, the limitation of exhibiting artifacts became apparent, as it primarily focused on visibility rather than fostering relationships. This format lacked interactive and tactile elements, aspects that I later incorporated into workshops to enhance engagement. The exhibition format, oriented towards visibility, fell short in facilitating direct, embodied engagement capable of transforming relationships. Consequently, my aim was to find a way to involve others and create an opportunity to expand visibility beyond surface observation. I sought to encourage a deeper understanding of the materials and increase familiarity, fostering a more comprehensive exploration of thing-power as outlined by Bennett (2010).

Figure 5.3 Forms of Residual Food Matter



Note. A photograph from my exhibit in the 2014 Exploration Gallery at the CAFS Conference at Brock University.

5.3 Phase 2: Workshop Series

The room is ready. The food is laid out on napkins given to me by my daughter's grandmother. I love those cloth napkins; they feel like an old kitchen, the kind where each tool or dish has meaning. But the food is not what I wanted; it isn't the best banana bread, baked the day before in a busy kitchen with kids running around me. I am pregnant and sick all day, and my energy is low, but I want to be here and to do this. A break from bed. I pile packages on top of brown construction paper on the large central tables I set up. The colours are oddly natural, like shades of greys, whites, and blacks, but there is plastic throughout the piles. I am thinking how the foam trays will linger in a landfill, no hope they will be made into something else. My participants, mostly young adults, flood into the room, quickly organizing around my tables. More people arrive than expected and the classroom fills up quickly. I go into my teaching role, welcoming students and placing myself at the front of the blackboard. I introduce the workshop. Feeling the room,

> I redirect myself to move into the space, encouraging people to gather and start working with the materials. Do anything, I say, take these things, rip them, cut them, break them apart—take the tools, the packages, and food and make something that speaks to your experiences with food and waste. The action was immediate, the group eager to dig into all the scraps and make something. Everyone talking as I moved through the room. I see things start forming; drawings, small collages, and sculptures of scraps line the table. I pause for everyone to collect their thoughts—what are they thinking. I gather their words, ideas, or anything they are thinking. The blackboard fills up with words. I feel that my time is complete, people are thinking about the waste: how it looks, feels, smells, and sharing anecdotes or memories. They and I are relating to the things, maybe not in a wholly new way.[27]

The *Eat, Waste, Make* workshops, as the next step after my experiments, aimed to create a learning moment that explored critical design strategies to think through and materially critique food-based waste with others. Barone (2008) writes about the audience or participants of arts-inspired research, arguing that to engage the public in their ideas and practices, creative work needs to balance messages without alienating their public by entering into their "comfort zones." Essentially, the goal is to find ways for the public to identify with the work through "coaxing him or her to participate in a reconstruction of its meaning" (p. 489). In my interpretation, comfort zones apply to the means through which ideas are presented and in choosing the creative activities to explore. Activities that draw on comfort zones, are open, exploratory, and can employ as I did in phase one, forms of play, that are not meant to have specific outcome but can be enjoyable to engage in—play became a critical strategy to engage people with various levels of skills and knowledge into activities about waste. The workshop format drew on approaches to reach the "comfort zones" in various ways, from inclusive making activities to accessible and alternative learning sites. The learning process developed into a series of design activities framed within critical design concepts. I considered each workshop to be a prototype and designed each

[27] An account from my notes taken during the Eat, Waste, Make for 2030 Concordia Transitions Conference, 2018.

event to test a concept and a process. Workshop participants depended on the type of event and host organization, which I explain in each description. The spaces of the first four events were curated to enable participants to explore waste outside the typical everyday spaces where food and waste live. For example, the opportunity to work outside kitchens or similar domestic locations was crucial. Taking waste materials outside domestic spaces and shifting them to the galleries or studios of the host organizations allowed for an immediate redefining of the materials. In another way, the food-based waste was organized on tables or other designated work areas, as opposed to the usual garbage or recycling bins, signalling that these materials were not waste but agentic things, having potential for making kin through a relational practice (Haraway, 2016). These potential kin became the materials for making critical design artifacts and an apparatus for stimulating questions, ideas, and experiences for thinking through possibilities for waste(less) futures.

For the workshops, the focus was on determining locations the public could easily enter, limiting participation costs, and planning for activities that did not require prerequisite skills and could include different age groups. Accessibility was considered in creating the space, planning the activities, choosing the materials, and preparing the materials for the workshops. Accessibility parameters included planning activities or design practices that were straightforward to explain and demonstrate and for those who did not self-identify as designers to feel comfortable trying. In addition, any materials required to facilitate the creation activities (such as brown kraft paper and white wood glue) needed to be low cost, recognizable in some way, and relevant to my objectives. Within the locations for each event, the workshops had a standard set-up that organized the room into stations. The key feature across all the sessions was the challenge to create a hands-on artifact with various kinds of food-based waste. I set up the

workshop activities in stations and suggested a process of making for each, including collage making, printmaking, making models of speculative artifacts as described by Dunne and Raby, and tastings.[28] The main activities corresponding to the themes of *Eat, Waste, or Make* included:

- **Eat:** Sample food and drink made from common foods which are wasted.
- **Waste:** Break down the collection of different food-based waste materials.
- **Make:** Create artifacts from materials that respond to an exploratory question.

The simple idea behind these activities was to focus on the materials rather than simply discussing the problem of waste, challenging participants to taste waste, play with waste, and use waste to communicate ideas (See Appendix E for the Workshop Model).

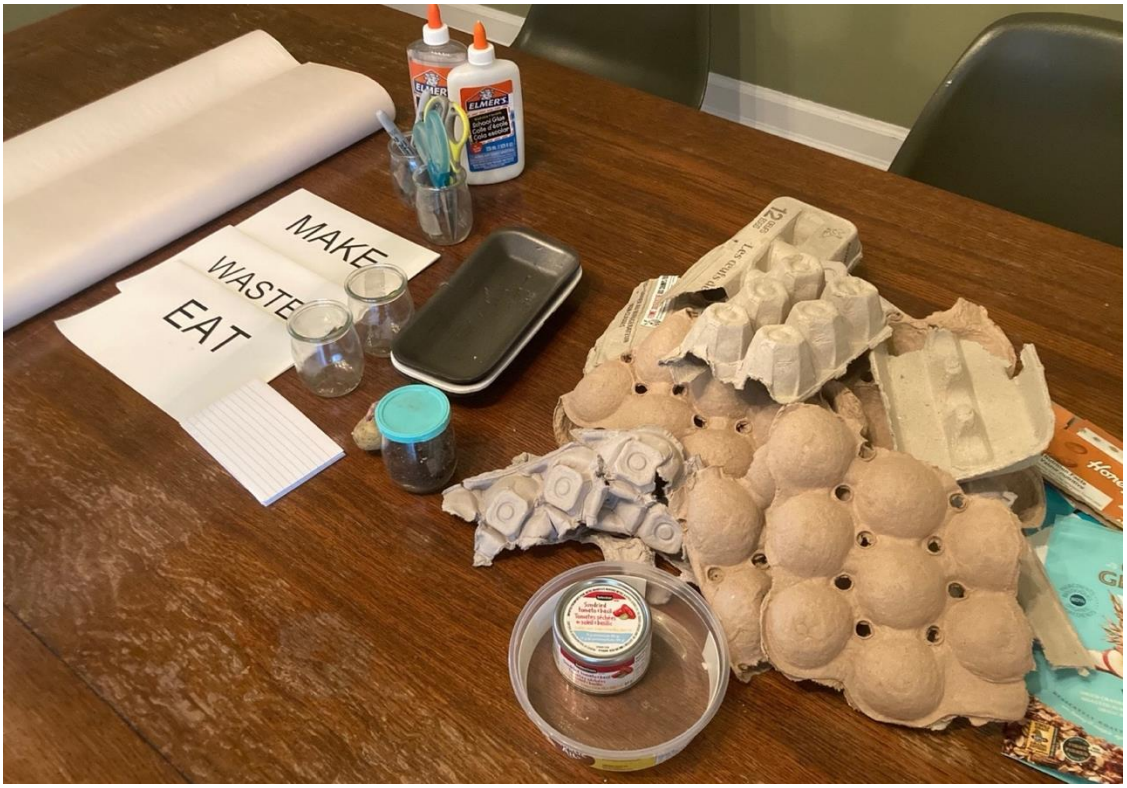
The workshop process and practices were intentionally open across each event. The Workshop Model in Appendix E illustrates the set-up and outline for the workshops; however, I adapted the model for each event to accommodate the parameters of the host and participants as I describe for each workshop in this section. Important for my objective was that through this model I did not ask for a determined solution to the waste crisis; my questions were exploratory and aimed at understanding the materials better. To address the crisis, I would introduce the problem, as illustrated in Chapter 1, concerning daily life in Canada and Montreal as a local example, providing current statistics and emphasizing the changes since the 1950s, positioning it as a problem that is complex but has potential solutions. This approach worked to expand inclusiveness through creating conversations without predetermined and defined parameters; I could facilitate conversations gauged to the interests of those in attendance. While my learning

[28] Speculative artifacts are the result of the speculative design process. Dunne and Raby (2013) describe speculative design as a process that, "aims to open up new perspectives on what are sometimes, called *wicked problems,* create spaces for discussion and debate about alternative ways of being, and to inspire and encourage people's imaginations to flow freely. Design speculations can act as a catalyst for collectively redefining our relationship to reality" (p. 2).

objectives were open and exploratory, the creative activities were familiar and simple. I chose creative methods such as making collages, prints, or tasting foods. These activities were inexpensive, and the materials were all non-toxic, which was important for children's participation. Additionally, I chose familiar types of food-based waste, such as common food brands, or packages like yogurt containers, egg cartons, or food waste, like fruit peels or eggshells. Choosing recognizable materials easily related the waste to the daily lives of participants.

As part of the workshop design, I started a workshop kit that included food-based waste, tools for crafting and things for the room set-up. In Figure 5.4, I feature the contents of the workshop kit from the last event, prepared in my dining room space. The kit functioned in several ways: it was a convenient collection of valuable things for the making activities, and, importantly, allowed for minimal waste in each workshop, as well as an easy set-up and takedown at the events, including deconstructing the different configurations of materials. The tools included basic making materials like glues (sometimes homemade), large kraft paper, scissors, and gloves. Gloves were provided for participants concerned about touching garbage, specifically rotting vegetables like the potatoes I used a few times, or wrappers that still had remnants of the food that was contained in them, which were concerning for some people. Keeping with my desire for accessibility and inclusiveness, I wanted participants to be comfortable with the materials. For the set-up, I had signage for each station, and different kinds of repurposed glass jars containing other things like glue or compost and for foodstuffs like apple core tea or candied fruit peels.

Figure 5.4 Design Kit



Note. A photograph of the materials from the kit for the workshop series, taken towards the end of the series.

I designed the workshops around the materials of the kit in order to be able to re-use materials across the events, alongside the additional waste things I would add to each event. I also re-used common waste collected from other workshops or from my home, that participants could likely recognize from their daily habits—egg cartons, the infamous foam tray popular with some grocers, and containers from local brands, like the iconic maple syrup can. Everyday items, I felt, could also work towards building the "comfort zones" I discussed earlier (Barone, 2008). Inspired by the making activities that characterized each workshop to recognize and draw on their possible experiences with types of food-based waste, participants, I hoped, were able initiate a stronger connection to that which they might well have previously dismissed as useless and irrelevant to them.

The first workshop was conducted for the Graduate Student Conference, Consumption and Detritus: Stories of Destruction and Reconstruction, in 2016. The challenge was to define waste by making artifacts with materials instead of text and words in order to address the question: *What is food waste*? In this initial event, I did not include the *Eat* station, which offered food samples. Participants were asked to bring food waste and present it to the group as an introductory icebreaker, and requested to share three things: first, to identify the source of the waste; second, to reflect on any considerations or anecdotes from the material's lifecycle; and third, to articulate how they determined it to be food waste. Many people brought fruit peels, apple cores, and other organic food materials. A few people brought packages or similar waste from their lunches. Some of these materials duplicated things I brought, which included early-stage compost from the university's greenhouse, cleaned packages from around my campus office, and some gleaned waste from the conference coffee break. I aimed to use materials close to the location, from the larger event of which the workshop was a subset, or from the campus, to help bring attention to the particular spatial environment from which this conversation on waste emerged. Other materials I brought for the set-up included a roll of kraft-style paper and two kinds of homemade glue (made from food ingredients). All materials were set out for creating the artifacts through collages or small sculptures, anything participants wanted to make together, within the restrictions of the space, materials, and objective to define food waste.

I had eighteen graduate students and one huge table in a conference room, and a one-hour time limit. I guided participants to work within the constraints of that single table by forming small groups to create three artifacts. The activities in this workshop were easy to facilitate, taking only a few minutes to demonstrate and to explain, which was necessary for the workshop's short timeframe. In the abstract for the event, I had emphasized that it would be an

informal practice, explaining that "… we are going to play with, make with, and think with materials of food waste" with the objective of the practices to "… offer a particular kind of rupture to our sensibilities ...." In my introduction to the workshop itself, I explained that we were taking a conceptual approach to exploring waste and explicitly drew on Bennett's work, situating the vital materialist approach as central to the activities. I introduced critical design as a conceptual method to create artifacts that could represent a critique of participants' experiences with waste, to challenge common understandings of food waste in some way.

The positioning of the table and the materials on it at the centre of the space facilitated a practice-led approach, a participatory process that drew and organized people around the table to share conversations and ideas and make artifacts. The workshop space was a conference room, a very formal space not meant for making things. I constricted the messiness of making with vegetable peels or discarded packaging to the table, and I had to limit other materials, such as glues and paints. The conference room, designed for knowledge exchange, both constrained and expanded my objectives. While my activities were limited by the rules and formality of the room, it also created a setting that encouraged a conceptualization of the materials and existed far from common food spaces, where food-based waste usually dwells. The space focused on the materials such that participants might understand them differently, working towards realizing their thing power.

The activities from the initial workshop focused on ideation through a collage activity, followed by group presentations and feedback. I found collaging to be a successful method as a practice to materially present ideas, and it was integrated into all subsequent workshops. It was easy to explain to diverse participants and was open to interpretation as to how people built their

collage-style artifacts. To leave the process as open-ended as possible, I offered few instructions in terms of orienting the materials or creating spaces.

The activity lasted about 20 minutes, ample time for people to discuss their ideas about waste and participate in making in some way. The subgroups presented their artifacts to the larger group to conclude the workshop. The results included different kinds of collages that were like mini sculptures, with materials piled on top of each other glued in different formations, to represent different ideas. Figure 5.5 shows bits of food like apples, food packaging, and compost containing mostly sprouts, all used to create a collage. This event was the first time I had tried collaging with a group of people, and it was beneficial for thinking through the design practices and using the making process to think with the materials. The results were abstract because the artifacts required interpretation and explanation; they did not stand alone in presenting an idea. Yet the activity was successful in terms of exploring the vitality of the materials. Participants took materials like compost, leftover food, or packages, broke them down, tore them up, and used my glues to create specific patterns and meaning.

All participants shared their ideas on vitality, how the materials enacted ideas or enabled certain making practices, and how participants could stay engaged going forward. Defining was realized through exploring and articulating what participants considered the essential qualities of food waste. Defining food waste without text was an interesting conceptual method for comprehending thing power. That the participants were all graduate students interested in waste, and many from the Fine Arts Faculty, meant that the concept of critical design and Bennett's work were already well understood by many. An engaged and knowledgeable audience in both subject and theory allowed substantial ideas to be transferred through materials. In their presentations at the end of the session, participants engaged with the thing-power of the materials

by presenting some of them on top of others to demonstrate hierarchies or arranged them to reflect the pervasiveness of certain materials in their lives, like egg cartons or fruit peels (see Figure 5.5). Other artifacts displayed materials by layering different pieces on each other in the order they understood to break down in landfill, with plastics on the top and compost on the bottom. Working on one large table and one large paper created a continuous visual image that became like one artifact across the three groups. The collection of materials reflected Bennett's conceptions of entanglement, between human practice (actions), materials, and the space they occupy, mentioned earlier in the introduction to this chapter. In the workshops, the artifacts visually exhibited the interaction between the materials and the participants, the ways in which such action and reaction determined different formations. The workshop took the theories from Bennett to a hands-on experience of viscerally working through what food waste was in its different forms.

Figure 5.5 Encounters between Matters of Food and Waste

Note. A photograph from workshop Consumption and Detritus: Stories of Destruction and Reconstruction conference, hosted by Centre for Interdisciplinary Studies in Society and Culture at Concordia University. Photo credit: Julia Weber

For me, the workshop fostered a lot of feedback and self-reflection on practice, from the methods in my kitchen to facilitating a participatory design process with other students and academics. As a facilitator, I answered questions, supplied more materials, and cleaned up the messes around the work area. I maintained some distance, however, letting the participants create, make, and think about the concepts, process, and materials. In this role, I could watch and listen to participants as they interacted with the different kinds of waste.

Akin to what I found in my solo experiments, the ease of collaging allowed for thinking through ideas and reflecting on waste during the making process. The activities worked like Cathy's potato prints: the act of participatory making became a moment to talk about waste, to look at it, touch it, and pay attention to its nuances, like the smells of decomposing vegetables or fermenting fruits. It enabled the objective to think through design as participants tried different formations of the materials to mean something, to try and create with waste, and to consider how to create a visual depiction of their definition of food waste.

A central outcome of this workshop was to change my use of the term food waste. I was initially interested in playing with the term itself as a kind of intervention, in extending the definition of what was considered waste from food, beyond only organic waste. However, through the defining process in the workshop, I learned I needed to find terminology that could encompass all of the waste materials, including non-organic, organic, and anything else wasted through eating and cooking in daily life, without resorting to the established term food waste. Consequently, I adopted the term food-based waste to sufficiently complicate the concept of waste. Another lesson from this workshop was a more practical concern in my material care and

cleaning up the artifacts. I could display the artifacts for the remainder of the conference for a short period, but I needed to process the collages afterwards. The mixed materials of the collage and, in particular, the incorporation of organic materials made the collages hard to disassemble for recycling. The homemade glues were compostable and natural, but glue on paper was a problem. I could re-use materials, recycle other materials, and compost others, but not in their entirety. For future workshops, I factored management of the clean-up of the artifacts and materials into the design. For example, in subsequent workshops I kept organic waste separate from packages by creating different activities for each and managed the collage activity to disassemble the artifacts for re-use and recycling after each workshop. The collages became temporary artifacts, sometimes on display at the events afterwards, or other times, taken apart carefully after the event and documentation. Consequently, after this first workshop, how I cared for the materiality of my subject continued to change as I redesigned each workshop.

In the next workshop, Wasting: Subverting domestic food practices, I redesigned the event to work with a different space and logistics. This workshop was held as a part of the International Visual Sociology Association Conference (IVSA) at Concordia University in 2017. I was part of the conference organizing team and had the opportunity to facilitate a workshop in parallel with a session called Experiments in Creative Re-use and Collective Inquiry. My event occurred in the Living Gallery,[29] as part of Concordia's Ethnography Lab. The space immediately differed from other conference spaces: it was a large multi-purpose room in the Fine Arts building, part studio and part office space. In the Living Gallery, I had a large area with three adjoining tables, creating space for many people to work next to each other. This space was more conducive to

[29] See a full description of the Living Gallery in Concordia's Ethnography Lab at https://ethnographylabconcordia.ca/working-groups/living-gallery/

making things and messes than the first workshop, with cement floors, design tools on the wall, and bits of leftover materials from student projects scattered around the room.

IVSA was a large international conference, with several hundred people in attendance. That year's theme was inspired by the legacy of the Canadian academic Irving Goffman and his ideas on everyday life. These themes aligned with the discipline of visual sociology, the organization's disciplinary area, which focuses on visual and material human production as a source of study (Pauwels, 2010). Food-based waste and the creation of critical design artifacts fit well with the conference's themes. As with the first conference, the activities allowed attendees to move from presentations and discourse to designing visual meanings of ideas. Before the workshop, I collected a diverse range of packages from lunch and coffee breaks; I also placed a large box at the registration table for people to contribute waste. As a conference coordinator, I had ample opportunity to collect packages and discuss waste. For example, I was able to foster an interest in waste and in making artifacts through informal discussions with conference participants, partly through my curiosity-arousing waste-collecting activities. Generating conversations by asking for people's waste drew attention to my box of waste before the workshop started, and worked toward my objective and, perhaps, the workshop's attendance.

My session had approximately 30 people in an informal one-hour session, with of which I had a 30-minute allotment during which to hold my workshop. The session was an open house for the Living Gallery that the public at large could attend, but it was announced and oriented towards conference attendees, local students, and faculty. Consequently, I was still not reaching a generalized public; my participants already had particular expertise and education. Nevertheless, the composition of participants was beneficial as a further development of the *Eat, Waste, Make Project* inasmuch as this was a discerning audience of experts in visual and

material research. A large group squeezed in and around the tables, where I delivered a short introduction on food waste and explained my interpretation of subverting domestic food practices. I used subverting to describe this act of challenging the common relations with the materials formed within the home and kitchen, by placing them into the Living Gallery. The objective was to deconstruct food waste to produce new understandings through simple material practices. Intentionally ambiguous yet consistent with the theme of the conference, the questions I aimed at the participants were specifically concerned with visual and material communication properties. The purpose was to allow participants to create with the materials, without strict parameters, consistent with my goal of proposing ideas and not definitive solutions.

During this workshop, I had two stations: *Waste* and *Make*. The *Waste* station (similar to other workshops/experiments) prepared the materials for making, much like digesting food. The process involved all of the participants working together, taking large piles of food packages, and breaking them down by hand into smaller pieces. The connection between hands and packages was particularly significant because it was a way of getting to know the materials. *Make* involved taking the various materials and pieces to design the artifacts, mostly using the collage method, with large paper and glue (see Figure 5.6). Due to the limited timeframe and the size of the group, I did not include an *Eat* component for this workshop, although I would do so in subsequent ones. From my learnings from the previous conference, I did not include any compost or organic food waste because I wanted to effectively manage the aftermath of the workshop, ensuring all materials could be re-used or recycled in some way. After the workshop ended, I replaced the large waste box at the registrar's desk with an artifact from the workshop (see Figure 5.7). I made a large sign to indicate it was the result of the workshop and left it on display for the rest of the conference. Like the theme for IVSA, the artifacts displayed a visual

reframing of the everyday waste materials into a large collage, reminding participants that waste can be something else—not waste at all.

Figure 5.6 Wasting: Subverting Domestic Food Practices

Note**.** A photograph from the IVSA Conference at Concordia University in 2017. The collage was made by several workshop participants in the Living Gallery space

Figure 5.7 Workshop artifact on display at IVSA conference.

Note. A photograph from the IVSA Concordia University, 2017. The collage was displayed after the workshop at the entrance to the conference.

In contrast to IVSA, the third workshop, Encounter 2030: Food Waste and Speculative Visioning, was off campus in the artist-run centre Eastern Bloc. This workshop was part of the Sight and Sound Festival that takes place annually in Montreal. The festival theme that year was Non-compliant Futures, which aimed to challenge the 'grand narrative of innovation.' Curators from disinovation.org argued that innovation be explored not as positive by default, as is conventionally understood, but rather as tied to the dominant capitalist structure, which requires infinite economic growth and hyper-consumption to support this growth. The art festival adopted a speculative approach in critiquing society's destructive trajectory, featuring artists who explored concepts closely aligned with critical design. The event ran over several days, across

two art spaces in the city, Eastern Bloc and Never Apart, and was aimed mostly at an audience from the digital and electronic arts community. My workshop differed slightly from other events which were oriented around exhibiting or workshopping digital art and design practices. I was able, however, to include a non-specialized audience, with no participant requiring digital art experience, to explore the festival themes. I opened the workshop to all ages and dropped the fee that was charged for other festival workshops.

Encounter 2030 took place in the studio space at Eastern Bloc, which was built for designing and making electronic art pieces, such as robots or interactive digital art (see Figure 5.8). The space was narrow and smaller than previous spaces but had many different tables and areas where I could set up activities. Capacity was limited to fifteen people, including one baby. The session was 90 minutes long, longer than my previous one-hour workshops, allowing me to plan a few more activities to fit the time. I started with an introduction to speculative art and design and a short tour of the exhibition at Never Apart Gallery. I focused my discussion on a series of works that dealt with hyper-consumption. Back at the studio, I set up activities for three themed stations and brought food and organic waste into the workshop. In the announcement for the workshop—and re-articulated during my tour—was my explanation that the central idea for developing artifacts for this workshop was based on the UN's future target of 2030, namely, to reduce global food waste by half.

Figure 5.8 Encounter 2030: Food Waste and Speculative Visioning

Note**.** A photograph capturing the studio space, with design tools on the wall and my printing station in the foreground. From the workshop at Eastern Bloc for the Sight and Sound Festival in 2017 in Montreal.

My intention, here, was to introduce a clear futuristic target for making the artifacts, consistent with the exhibition's theme of noncompliant futures. Upon entering the studio space after the exhibition tour, we started with the *Eat* station, at which participants were invited to taste samples, made by me, of apple core tea, apple chips, and banana bread, all featuring commonly wasted food like overripe bananas and apples, apple cores, and apple peels. Also, this station offered a way to incorporate organic food waste into the workshop in a way that was separate from the packages, preventing the mixing of materials for further re-use or recycling. The *Waste* station, as in the previous workshops, consisted of a large table where participants ripped apart or cut down large packages. It included piles of packaging, both from my home and re-used from other events, and food waste brought in by participants. This time, however, rather

than simply adding their waste to the pile they encountered upon entering the room, participants had the opportunity to engage in what I called a waste portrait activity. I had set up one area on a side table with a large white paper on which participants were asked to place their food waste as an artistic composition (see Figure 5.9). The objective here was to bring attention to the diversity of what is considered food waste and to focus on the unique characteristics of each piece to highlight its materiality and vitality through the medium of the portrait. This waste portrait activity was also advantageous because I wanted to include organic materials in the workshop but have them segregated from the other packaging to compost them effectively afterward. Throughout the activities of Encounter 2030, the conversation was about waste, ideas for solutions, policy ideas, and how the workshop design and process contributed to these goals. Figure 5.10 shows participants making critical design artifacts on one large paper area, with each participant creating their own idea to contribute to the collective piece. One of these, *Brown Paper Flowers*, was, according to its participant creator, a visioning of waste decorating public spaces and providing micronutrients for decorative flowers. The participant's design also aimed to challenge government regulations as a form of unregulated landscaping. Another participant reflected that they understood the making process as a "garbage bee," with everyone working together and where the whole table was involved. They felt that going through the manual process was about the conversation, to stimulate everyone to think about the waste and processes involved. The workshop space and time was a moment to focus on food-based waste, outside of its everyday management.

Figure 5.9 Food waste example from workshop participants

Note. A photograph of the food waste that people brought from home, displayed to examine with the group, from my workshop at Eastern Bloc for the Sight and Sound Festival in 2017 in Montreal.

Figure 5.10 Artifact Making

Note. A photograph of the *Make* Station. The foreground shows *Brown Paper Flowers* in process. From the workshop at Eastern Bloc for the Sight and Sound Festival in 2017 in Montreal.

Back on Concordia's campus, the fourth workshop was the largest. Concordia's Food Coalition hosted a low-cost, student-run conference called Transitions 2018, focusing on urban agriculture and alternative economics. All the activities and presentations were oriented towards shifting to sustainable food systems and from this main theme, food waste was a significant topic. Organizers invited me to lead a workshop, and building from my experience at Eastern Bloc, I presented *Eat, Waste, Make for 2030* to 45-plus participants. The proposed objective was for each participant to 'speculate' with waste materials and create designs that challenge everyday habits that create food waste. Although the audience for this event was already

predisposed to thinking about present-day food issues, I considered the participants to be the closest to a more general public because the conference attracted students and a diverse range of people from the Montreal community interested in urban food systems.

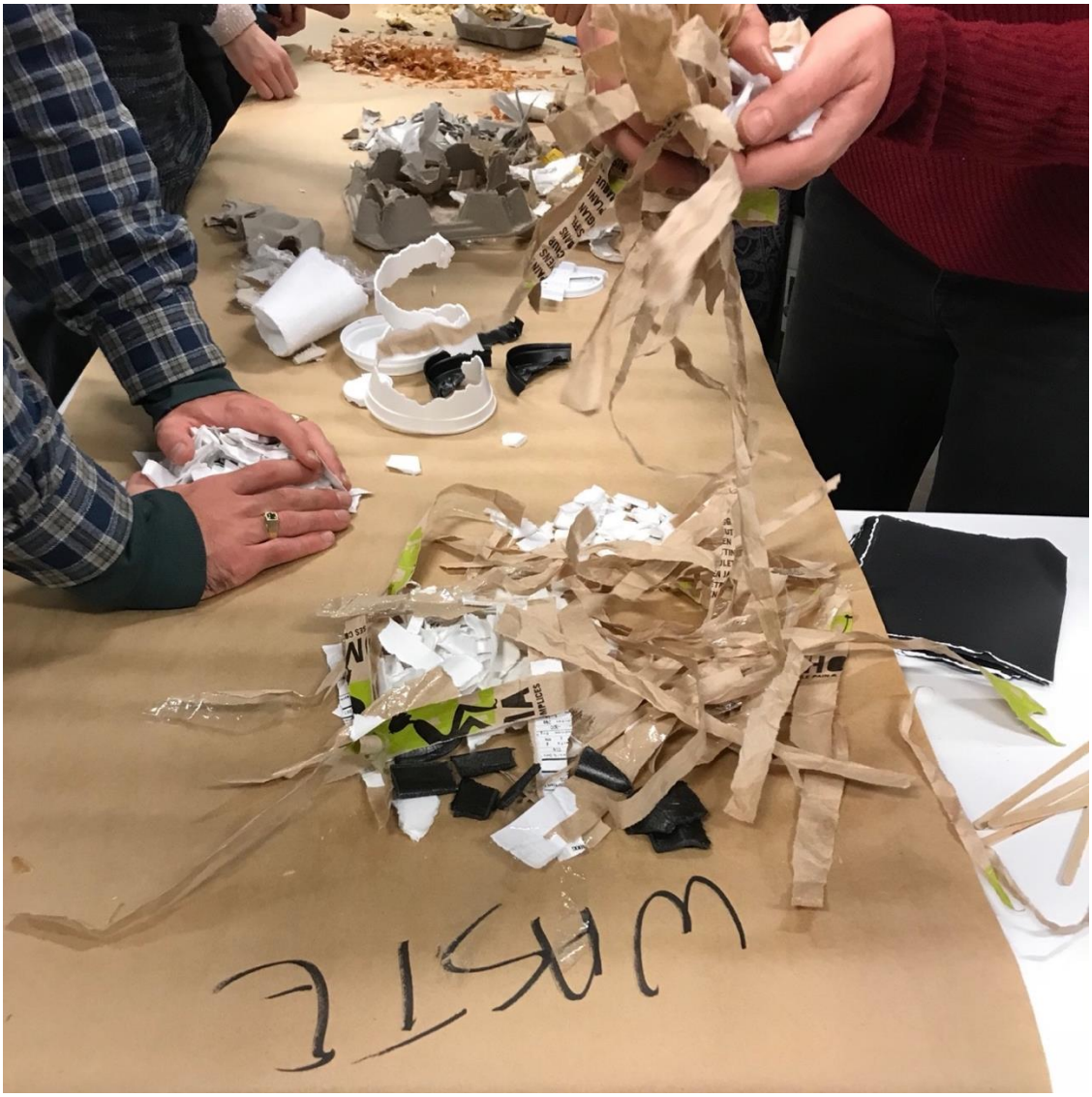
In this workshop, had just over an hour to work with everyone. The space was a classroom, but I was able to easily re-organize it into a space for making things. I set up three main stations by arranging several tables in a horseshoe shape for all the participants to fit around. I used my workshop kit to set up the stations, which by this point included food-based waste packages re-used from other events, sets of glass yogurt containers for food samples, the large kraft paper roll, non-toxic glues, homemade and kid-friendly white glue, gloves as an option for touching 'garbage,' scissors for breaking down difficult packages, and bits and pieces of crafting tools for last-minute ideas. In my introduction, I presented the workshop problem in the context of the 2030 UN goals for waste, and the challenges identified by the UN of meeting their global target. My goal was to have the participants think about what we are not doing in the exploration and process of achieving these goals, and to engage in an individual and collective brainstorm on waste inside and outside everyday practices. For *Eat*, I set up tasting samples of the apple core tea, and banana and apple chips made the night before. It was a moment to think of waste through eating (see Figure 5.11). *Waste* involved a pile of packages, including some from the event itself (see Figure 5.12) although the food coalition, it should be noted, had done a good job using re-usable food containers and had minimal packaging. I incorporated some paper from the day's breakfast, with noticeable local food logos, to facilitate participants' thinking about food and waste they encountered just before the workshop. I added a large pile of containers that were the number 6 plastic type, like Styrofoam cups and meat trays, which are not collected or recyclable in Montreal (see Chapter 1). Those containers drew substantial attention and

conversation as people broke them down for the *Make* station, inasmuch as they represented the epitome of food-based waste and represented fundamental issues with waste regimes. Everyone recognized these types of containers, and many people acknowledged frustration that the material created endless garbage on the streets, in bins, and at home. *Make* was set up along the continuous space of the long table, for collaging and printing, or whichever other means of creation the participants wished to employ (see Figure 5.13). My instructions were limited in order to open participants' imagination to the greatest extent and emphasized the simple practices I could easily facilitate, if necessary, during the event. The resulting artifacts, mostly types of collages, were a mix of designs made either together or individually. Conversations were lively during the process as people expressed many different ideas, recounted childhood experiences with specific materials, or explained practical ways they tried to limit packages at home, with many lamenting their frustration with corporate waste and packaging. About halfway through the workshop I paused the process to ask everyone their thoughts so far, and participants shouted out ideas, which I then wrote on a blackboard in a word collage (see Figure 5.14).

Figure 5.11 Eat Station

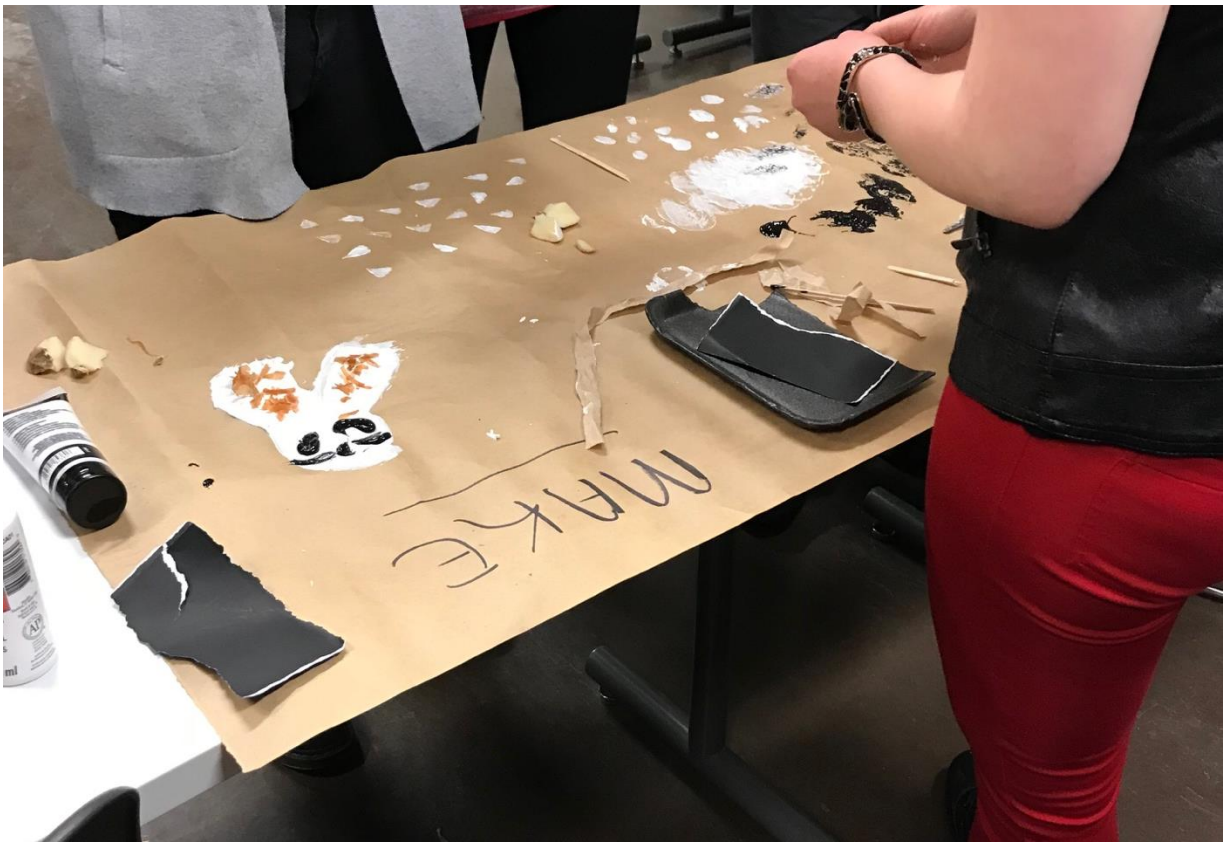
Note. A photograph from the *Eat* Station, displaying cold apple core tea, apple chips, and banana loaf, from the workshop at the Concordia Transitions Conference in 2018.

Figure 5.12 Waste Station



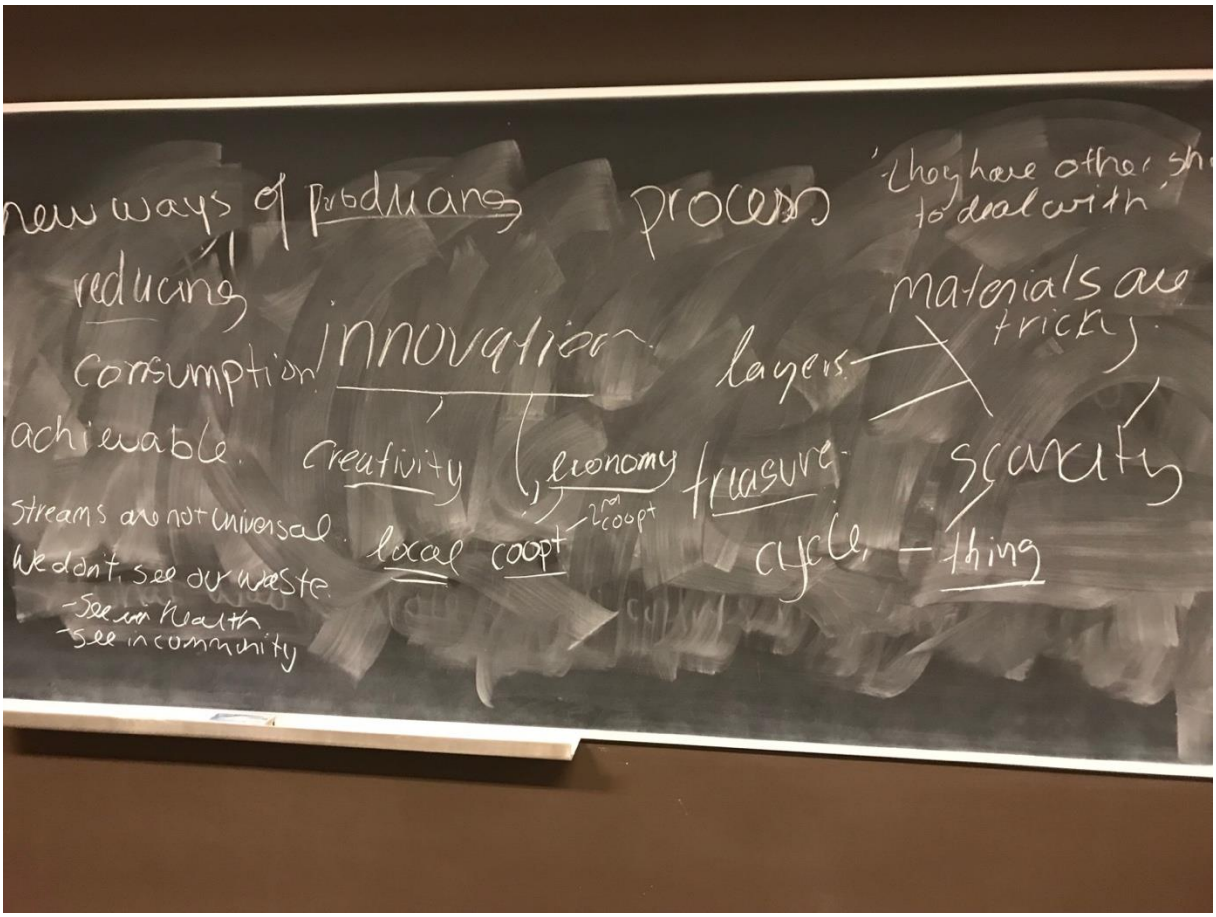
Note. A photograph from the *Waste* Station, featuring elements of making starting to take place, such as a Styrofoam cup that will be made into a spiral. From the workshop at the Concordia Transitions Conference in 2018.

Figure 5.13 Make Station



Note. A photograph from the *Make* Station, from the workshop at the Concordia Transitions Conference in 2018.

Figure 5.14 Word Collage



Note. A photograph showing the word collage made from participants shouting out their thoughts, from the workshop at the Concordia Transitions Conference in 2018.

Once the group moved through the stations, participants shared their designs. Several artifacts were spread across the tables. One participant took a foam cup and made a simple spiral shape, as seen in Figure 5.12. They explained to the group that this was something they used to make in their childhood in arenas watching sports games after finishing their hot chocolate. The process had become automatic whenever they held such a cup in their hands. In the creative process, another participant crafted a rabbit (shown in the process in Figure 5.13) using paint and affixing a few materials. They shared that their inspiration stemmed from feral rabbits in urban areas, specifically those feeding on discarded vegetable waste in the streets. Subsequently, I photographed their creation, featuring a sick rabbit, to illustrate how a contaminated food system

can harm animals. Adjacent to the rabbit, they drew a cancer symbol, underscoring the connection between our food system and health concerns.

Conversely, some participants were more immersed in the tactile experience of working with the materials. One individual reflected on the challenge of breaking apart certain packages by hand, describing the difficulty of discerning layers of paper fused with plastics—an obstacle to the necessary separation for recycling. This response stood out significantly, aligning with a key objective of fostering thoughtful engagement and embodied learning experiences. The noteworthy aspect here was the participant's discerning exploration of the resilience of materials, illustrating how they effectively resisted human intervention for post-use treatment due to their robust fusion as protective barriers for the initially packaged foods.

The last workshop in my series was virtual, entitled Everyone Makes Waste, and took place several years after the initial workshop series because the conference of which it was a component, Food Matters and Materialities: Critical Understandings of Food Cultures, was postponed and then moved online in 2021 as a result of the COVID-19 pandemic. The conference was held at Carleton University, access and registration were free, and my workshop was likewise free and available to all conference participants. My introductory announcement, as in previous sessions, situated the workshop in a critical-design context and aimed to explore the materiality of waste. In this case, however, the goals of the workshop were conceptualized and adapted to accommodate a more academic audience, not to mention a virtual one; to this end, I proposed my working concept of *material visibility* as a means to interrogate and reframe workshop activities as creative learning encounters, employing waste and other materials collected from participants' daily lives.

Workshop participants comprised a small but engaged group. The event was one hour long with six individuals connecting from different countries. Given the online Zoom format, I created a two-part workshop that included a slide presentation similar to a webinar, after which I led the group through the practice activities. Not having a physical space to set up and thus no stations as had formerly been the case, the encounters existed in each participant's space. I started the workshop by describing the location where I was, the space I was working from, and the kinds of materials I had collected. Working with my home set-up at the dinner table, it was as if the project had completed its circle from my initial experiments in the same home space, working by myself, to others coming into that space and working with me. My materials, I explained, were gathered from breakfast, with a few additional items from my recycling bin. This collection was analogous to gathering materials from conference breakfasts or other familiar and recent moments of consumption. As a facilitator, I made a point of having a large collection of materials to bring attention to their range and diversity. I slightly exaggerated my practice with them through the webcam medium to encourage a more complex consideration of their vital materiality. Following my presentation, I invited participants to describe their spaces and present their collected materials. Participants were in different cities or countries, mostly in their homes and kitchens. Unsurprisingly, kitchens proved to be the preferred activity space because they are undoubtedly designed for labour and messes and the site of food-related engagement in the home. Each participant indicated and explained what was immediately around them, how they had set up their workspaces, and revealed the materials they had made ready for creating. These descriptions provided a way for the group to connect across the spaces between us, distributing these stations across the virtual space; in this way, the design of the set-up reached past me to become more participatory. Indeed, it may be argued that giving each participant the agency to

set up their workspace however and wherever they wished enhanced their human agency and may even have created a stronger resonance with that particular built environment—the one in which domestic food waste is most prominent.

Each participant presented materials they had brought to create and added brief stories about the food it previously contained or anecdotes from making meals. Their materials included breakfast leftovers like eggshells, coffee grinds, bread bags, and fruit peels. Other materials were more complex; for example, one participant presented a box of dried orange peels, which would be made into candies sometime in the future. As mentioned above, following these introductions, I presented a brief set of slides on the theoretical ideas of critical design as a method to transition from discourse to practice. The online format proved more conducive to incorporating an introduction with slides and visual images. In previous workshops, I had relied on short verbal descriptions rather than relatively formal slide presentations to move away from the dominant focus on instructors' monologues in learning environments, towards participatory, hands-on exploration. In a space made of screens, however, my slides were a way to offer examples of critical design projects that created a bridge between ideas and practice, and thereby ease the transition to designing artifacts in a hybrid environment where I could not effectively demonstrate practices or directly interact with the making process. Following the slides, we each broke down the waste in our own spaces and reflected on personal experiences associated with these materials and their management. We noted how the materials did or did not break down, identified all the varieties of food waste, and remarked on how physically breaking them down with our hands felt analogous to how waste breaks down on the land. Participants then shared their various artifacts with the group. Working with a small online group made facilitating these conversations easier, resulting in hearing from all participants and engaging with the different

designs. In Figure 5.15, a participant shows their artifact, a flower arrangement, made to be disassembled easily for recycling or re-use, which was later published online with the conference proceedings.

I wanted to include the virtual workshop in this thesis to discuss the differences in this format and recognize that virtual learning environments will likely become more common following the COVID-19 pandemic. Several implications result from virtual learning environments in terms of design accessibility. For example, the virtual environment significantly changed the kinds of options available for me to impose on the space, to create an intentional, generative alternative to typical spaces that reinforced wasting. Whereas the workshop spaces had been purposely arranged as distinct from the familiar environment of home, the virtual workshop existed within each person's domestic space, mostly kitchens. In the various in-person locations I was assigned for the workshops, I arranged the stations for exploratory practices in contrast to waste management. I did this by attempting some kind of alternative aesthetic, such as labelling stations, arranging craft supplies with the food-based waste, and presenting food samples in different ways with re-usable containers—the closer to creating a kind of studio space, the better. In a virtual environment, I had to let go of making a space, which created a different dynamic and different conversations, yet still achieved the broad goal of engaging with the materials in conversation to produce a conceptual artifact.

Figure 5.15 Waste Bouquet

Note. A photograph used with permission showing a participant's artifact at the end of the workshop. From Food Matters and Materialities in 2021. Photo courtesy of Alison Norris.

5.4 Digesting the Results of the Workshop Design

The remaining portion of this chapter will assess the workshops from the *Eat, Waste, Make Project* in terms of overall methodological strategies, discursive armature and deliverables, and the observations that can be drawn from the interactions. *Eat, Waste, Make* was intended as a critical design project that explores methods to intervene in challenges associated with food-

based waste. I examined how to encourage myself and others to engage viscerally with items deemed no longer valuable or desirable for one reason or another. Engaging directly with the material vibrancy of plastic, paper, food scraps, and other residual products was intended to generate thought by making a critical and participatory design premise. I proposed care as a subjective, critical goal and as a way to think of kitchen things and food, outside of their utility. Bringing in the participants through the workshop series took the ideas and practices of critical design to others to further evaluate my methods and objectives on food-based waste. I explored a series of questions that centres around the outcomes of the workshops aligned with my research approach, focusing first on evaluating public pedagogy and second, assessing how care manifested in the project, influenced by my roles as a pedagogue, designer, and researcher.

Working backwards through the trajectory of this project, I am starting my digest by exploring a series of questions that centres around "who." Whereas the goals and potential of public pedagogy were integral to the workshops of *Eat, Waste, Make,* my results prompt contemplation about the nature of the cohort who participated in the various workshops. How did I reach the public for the workshops? The promotion of a workshop—whether in person or online—to a broad audience can be challenging in different ways, since, in either case, networks reaching outside already-established cohorts of people are limited. In the case of virtual workshops, public participation can be hampered by the inability to access computers, Internet, and specialized applications like Zoom. Free and well-advertised workshops can still have limited reach, and events dealing with specialized topics like waste and environmental issues often attract those already interested, rather than the previously uninitiated. The ease of crossing regions through the Internet allows for an international audience, as I had in the virtual workshop, but it can dilute regional engagement on a topic. An international audience might well

offer innovative or insightful perspectives writ large but might not successfully be able to address local concerns or work towards localized change; this is problematic in the sense that waste issues sometimes require region-specific strategies as different countries and even Canadian regions have issues that differ in management, scale, or awareness. On the other hand, virtual environments can be inclusive to people with challenges accessing in-person events, from simple scheduling or commuting issues to varied mobility needs. Ultimately, the experience from the entire workshop series signals the need for a deeper evaluation of who the public *is* in public pedagogy—whether for this project or any other—and accessing the parameters required to adequately involve this target audience.

Who gets to participate can profitably be explored by examining one participatory-design exercise organized by design researcher and educator Carl DiSalvo (2014), whose research has already been introduced in Chapter 2. In this case, DiSalvo set to re-imagine agricultural technologies designed for large-scale agriculture to accommodate small-scale farms. In his article, "Critical Making as Materializing Politics of Design," he concludes his report on the project with a contemplation of who his public was, based on his concept of a hybrid public practice. First, he defined his public as a collection of people connected through a shared issue rather than a generalized mass of individuals. For example, the public he presents in this article all had an interest in agricultural technology and were coming from specialized professions, such as farmers or health care workers. His workshop participants were not a random selection but a specific gathering of specialists who, together, constituted a public. Important to note in this endeavour is that this public consisted of something other than designers. Nevertheless, they designed and, in doing so, participated in "… a process of design research that can inform future products or services, by informing practicing designers …" (p. 104). In other words, the resulting

prototype was considered integral in the eventual creation of designs that would satisfy the required criteria; in this way, public access to his project conveyed their knowledge and ideas back to the designers through participatory artifact development. DiSalvo considers this a public practice because it took place outside a design studio and hence the site of making became relatively more public in some way, and also because the topic is of public concern.

In some ways, DiSalvo's concept of the public is pragmatic. It did not attempt to reach anyone in a greater public sphere; instead, it aimed at particular groups of people linked through shared interests. In my workshops, this was most often the case by default and was dependent on the event, location, and the reach of the host organization for promotion: in some way, all participants already shared an interest in food or waste or process. For example, in Workshop 2 at IVSA, participants were primarily interested in visual methods; thus, the group was process focused. Workshop 3 at Eastern Bloc, an artist-run centre, was a mix of people I knew and people who attended because it was free and advertised in the larger community; the focus for many in this instance was an interest in Montreal's waste crisis. Workshop 4 on campus was a larger group of young adults who seemed to share an interest in food and social change but were diverse in the sense of how connected they were to the Food Coalition (host organization) and the university; here, focus fell somewhere between food and waste and wanting to be a part of social change. The virtual workshop, a food conference, was consequently composed of food researchers in some way, not connected by location or waste, but rather by food studies research. Every single workshop involved people in some way already interested in some aspect of the topics—that is why they signed up and attended. Appealing to groups with shared interests enabled attendance. It created the workshop—the series would not have happened without participants—yet I was limited in who became public in my practice of public pedagogy.

My workshops did not fit DiSalvo's (2014) definition of hybrid public practice since the notion of hybrid would make me a professional designer who makes products, which I am not. However, his description of the public as a shared interest group and identifying their interests as integral to the design process aligns with my results. During the workshops, the public was a mix of participants who were curious about the process, concerned about waste, and liked the food. However, a further distinction between DiSalvo's cohort and my audience, of course, is that to further intervene in the waste crisis, a critical design public pedagogy should reach a public not already thinking about food and waste. But who is this public, and how might it be accessed? Such a public is most likely to contain groups with both shared and differing interests. For example, a workshop participant suggested I develop workshops for young children and parents at sites like daycares or preschools. Other participants suggested I invite city workers or youth groups. A workshop pedagogy model lends itself to attracting participants already networked in some way, a kind of micro-public not generalized at all. Therefore, efforts to reach different sites and networks can encompass a more comprehensive public.

Scholars on public pedagogy present different ways of constructing the public. The most common way of delineating the public is through the site or location where pedagogy occurs (Di Leo et al., 2002; Sandlin et al., 2011). For example, Sandlin et al., 2011 identifies two sites relevant to this research: alternative institutional learning spaces, such as an artist centre or a museum, and everyday life sites, such as domestic spaces. Learning at home, for example, was relevant to this project because it related to the knowledge each participant brought to the workshop, which influenced the process. Of course, the virtual workshop took place primarily in people's homes, but not precisely in the context of everyday life—we were attempting to live outside of daily life for that moment. The more common way of defining a site is an alternative

institutional space, like an art gallery or museum, which is not a formal learning space like a classroom; Eastern Bloc fits this definition, but my other workshops were in classrooms. However, one could consider that the classrooms became temporary informal spaces, a making space that, for the length of the workshop, did not contain a formal learning regime but an informal and alternative learning environment.

Sandlin et al.'s (2011) assessment does not consider that design and art studios are also sites of formal learning—if not places of discourse-based pedagogies. Some workshops were in a studio, like the Living Gallery, but they were also on campus and were a mix of formal and informal learning environments. Essentially these spaces, whether classroom or studio, were made more public and accessible by removing the restrictive devices to participate like tuition, formal programs, and student evaluation. I also removed the need for specialized skills for practice—creating activities that can adapt to different participants as a critical addition to removing devices that limit access. Further, I removed the cognitive restrictions of definitions of waste in the home by creating sites outside of domestic production. I may conclude, then, that within this research, both a design studio and classroom can become a public learning environment and an alternative to the home, since my objectives were to reach the public and create contrasts to conventional ways people interact with waste. In the public pedagogy literature, arts-based approaches and similar forms of embodied and interactive experiences are presented by scholars as an asset for creating public pedagogies because they can sit outside formal discourse-based learning (Sandlin et al.; Biesta, 2012; Hanson & Uhman, 2022).

One way to frame visual pedagogies is proposed by Hanson and Uhman's (2022) *transactional pedagogy* model for museum sites, which, in their example, is aimed at learning environments for sustainability. This model posits that the flow of information is not

unidirectional—from the museum to the visitors—but requires participants to interact for the exhibit to be meaningful. Therefore, their concept requires the public to interact and make their meanings of the exhibition and space for effective pedagogy. Two ideas from their model apply to my evaluation: first, creating interactive exhibitions that include the space and materials, as they explain it, gets closer to meeting the audience's learning requirements because of choices in the process. Second, it informs the effect of the space on workshop participants. Through designing the space, attention is on creating an aesthetic experience rather than presenting facts; it gets closer to the embodied experiences that Sandlin et al. (2017) discuss as an opportunity for public pedagogy, shifting a focus from logic to a visual and interactive experience. In their example, this occurred through experiencing interactive exhibits to develop encounters that could be personal and relational for the learners. In my workshops, the stations worked similarly and could indeed take place in more open public contexts, like a museum. Although the interaction between participants was fundamental to the experience in *Eat, Waste, Make*, the deeper conversation that occurred during the time of artifact making, as described earlier, was the apex of the learning encounter. Creating a workshop model that supports multiple transactions and designing the space to stimulate dialogue around the central making areas with different prompts expands on their model.

Several issues related to public pedagogy remain that were precipitated by the workshops, and they are of crucial significance in evaluating my own role as facilitator, in thinking about who actually gets to be a pedagogue, and in looking outwards towards the push of academics to address the public more completely. One is that while I have chosen to work from Western philosophical traditions, with FNM and thinkers like Haraway and Bennett, I recognize that Indigenous knowledge systems in North America—and what Rosiek et al. (2019) call ethical

reciprocity—offer a much more profound understanding of nonhuman agency (see Chapter 2 for this discussion). Indeed, I undertook my endeavours with a kind of hope that changing the cultural frameworks I am culturally derived from personally and professionally can eventually align with other ways of knowing and other ways of being in the world. Second, as noted in Chapter 2, Haraway's (1988) idea of situated knowledge challenges notions of objectivity—assumptions that the researcher is unbiased—within scholarly work and acknowledges the embedded power relations that produce knowledge. As Sandlin et al. (2017) stress, academics who enter public pedagogy often do so from a limited position, where public scholarship involves academic-style teaching, a linear direction of information flow from an individual pedagogue to the public. Instead, they argue for the adoption of a more feminist approach, to foster a collaborative and collective learning environment by breaking binaries between the intellectual and the public so that each are both teachers and learners, and by promoting enabling settings in which citizens themselves can engage as critical educators in their everyday lives. As a facilitator, I started from the idea that participants and I are co-learners in the process, actively breaking the binary between teacher and learners; through the course of the series, I recognized that assessing who all the pedagogues were was much more significant. Through a lens of relations and the agency of nonhumans, the food-based waste was also an educator: the things, the participants, and the facilitator all learned through a messy web of interactions within the curated space. These nonhuman actors became my critical pedagogue companions. For example, my workshop kit (see Figure 5.4) was a companion that evolved in forms and worked with me to facilitate the workshops, to create an aesthetic, and a partner to think through each stage of the series as I redeveloped each event; all of us were in relation to work together to depict different ideas through making the artifacts.

Finally, as I reflect on the outcomes of this project, I find myself returning to the conceptions of care that I proposed at the beginning of this chapter. My reflections on care take on two distinct aspects. First, I explore how Bennett's (2010) notion of agency and Haraway (2016) advocating for relations with nonhumans, supports care, a concept illustrated through vivid descriptions of the food-based waste resulting from the critical design learning process. Second, I examine how the transition from a solo endeavour to a collaborative process has expanded and enriched these descriptions. This expansion has significantly influenced the objective of fostering a renewed sense of the vitality inherent in nonhuman entities and relations, which inherently involve a form of caring. I end my analysis with a brief critique of my research design and my role as a researcher.

Returning to the earlier discussions in this dissertation, specifically in Chapter 2 regarding FNM notions of care, Puig de la Bellacasa (2017) suggests that genuine care for something necessitates familiarity, intimacy, and knowledge of the thing, forming the basis for a sustaining relationship. The various creative activities I engaged in allowed for a dynamic and embodied experience. In my solo work, I delved into the tactile, olfactory, and visual aspects of human-material relations, exploring touch, smell, and experimenting with different colours, shapes, and arrangements. This close familiarity between myself and the materials was forged through direct interaction—touching, tearing, smelling, and observing things in diverse forms. The process of experimentation and finalizing pieces provided a means to describe waste in terms of its vitality, moving beyond mere utility and focusing on its essence. Describing the scent of an egg carton, the musty cardboard juxtaposed with the faint chemical odor of Styrofoam—these observations transcend utility and delve into vitality.

In the workshops, participants shared detailed descriptions of individual materials, significantly expanding the range of ways to describe materials beyond my own experiences. These insights and examples represent a vital outcome of the learning process. The success of the workshop design, and perhaps even the collaboration of pedagogues, was demonstrated through the participants' ability to reflect, describe, and perceive waste in these novel ways, showcasing the value of participatory design processes. Throughout the iterative process, I frequently transitioned between individual experimentation and the subsequent development of workshops. When I am the sole creator, the process is intuitive, with internal dialogue and documentation driven by my specific desired outcome. The resulting artifact becomes a product shaped and articulated by my vision, which has its utility in allowing me to direct the outcome. However, in collaborative efforts, different skills and interpretations are woven into the final result. For example, in the video project, my colleagues added layers of critique, mirroring participatory design where we collectively created an artifact with a specific group of people who brought their skills and experiences. Nevertheless, the workshops diverged from this model, as the entire process was centred around learning and ideation, rather than producing a finished product. This prompts the question: *What is the role of critical design in the absence of a definitive end?*

This leads to a critical examination of my role as a researcher. I was unable to formally document and analyze participant descriptions, which could have acted as one kind of definitive end. I lacked research ethics approval for the workshop series. Initially, these workshops were conducted outside of my research process, stemming from my role as a designer and as a method to informally share my creative process. This complex interplay of designer and researcher within the workshops raises challenges. Documenting the participant descriptions of food-based waste would have been a valuable research component, providing an example of how to examine

an entity with agency from an individual perspective. Additionally, a method like a survey on the workshop design and experience could have contributed to the iterative development of the workshop series, as well as the workshop model provided in Appendix E. On the flip side, the absence of a formalized research process in the workshops allowed for adaptive strategies when working across different sites and participants, providing a valuable learning experience.

As I brought this project to a close, I found that there was no one-size-fits-all ideal workshop model, for what truly succeeded was the adaptive nature of tailoring each workshop to its unique context, crafting activities that seamlessly intertwined with the given space, and ensuring that the participants and my fellow pedagogues I collaborated with was at the heart of the creation process. In the upcoming chapter, I will synthesize my findings across the three distinct research contexts, aiming for a thought-provoking final reflection on creating optimal a learning environment for public engagement. My journey throughout this endeavour has been one of continual evolution, with my archival and life-history investigations unfolding in parallel to my experimental practice and workshop iterations, prompting frequent reassessment and refinement of my goals. Over time, my role transitioned from being a mere creator to a facilitator of collective experiences, encapsulating the essence of the *Eat, Waste, Make Project*, which explored a way to navigate away from the depths of a crisis shaped in part by the growing disconnect between humanity and the nonhuman world.

Chapter 6: Concluding Reflections on Waste, Design, and Care in Canada's Consumerist Society

> You can't fix everything, but you still need to be accountable for those things, in this sense means recognizing and acknowledging what is discarded and then holding an obligation or responsibility to that which has been discarded. (Liboiron & Lepawsky, 2022, p.141)

Waste remains a prevalent issue in Montreal, with daily reminders of its presence— from sprawling piles of debris left after residents move homes to scattered bits of trash in market corners and alleyways. The ceaseless rotation of garbage trucks throughout the city aims to remove the waste, seemingly absolving individuals of their responsibility to reduce it (see Figure 6.1). Acknowledging my responsibility, I have made efforts to reduce waste at home by limiting disposables, re-using packages, and being mindful of food waste. I have also incorporated the valuable histories of women into my daily life through acts of cooking and adopting better eating habits. Over the past few years, Canada's waste problem has garnered increasing attention from scholars, the media, and governments, especially in cities like Montreal. While governments primarily focus on encouraging citizens to participate more effectively in municipal waste management systems, some voices call for greater accountability from polluting industries like oil, and mining, a sentiment shared by scholars and non-government organizations (ECCC, 2018; Hird, 2020; Liboiron & Lepawsky, 2022).

Figure 6.1 Montreal Garbage Truck

Note. A photograph used with permission showing the routine pick up for municipal garbage cans in my neighbourhood (not residential in this case) across the city. Photo courtesy of Julia Weber.

Nonetheless, Canada remains a capitalist nation, driven by consumerism and the belief that economic growth and convenience go hand in hand. Within this cultural paradox, Fry (2008, 2012) refers to the notion of defuturing, where resistance to waste and embracing care in everyday life can be one response to the crisis. This resistance and care can be cultivated through contemporary pedagogies that include various kinds of teachers, encompassing humans, nonhumans, and even non-living entities like food-based waste. In this last chapter, I present the central themes and concepts that emerged throughout my research chapters to address my initial inquiries. By re-examining my original premise through a FNM lens—recognizing that everyone generates waste, but differently—I remain committed to the idea that examining waste

production through critical design ideas and food provides a method for developing caring relations. Since the post-war period, significant shifts in Canadian values and practices influenced food-related consumerism and this led to a prevalent household contribution to the overflowing landfills (Hird, 2012, 2021; Martinez, 2017).

Returning to the insights of Liboiron and Lepawsky (2022) from Chapter 2, they propose that progress in waste management lies in dealing with waste in an imperfect manner, emphasizing prevention and awareness. Their approach supports the recognition of diverse realities regarding waste production in Canada. Moreover, the impact of garbage on people and the environment can be radically different, as convincingly argued by Canadian waste scholar Hird (2020, 2013, 2012). My research contributes to this narrative by examining specific perspectives of design history, domestic work, women's labour, and design pedagogies. These lenses provided valuable insights into the systems I explored, including archival studies in Chapter 3, depictions of women's lives in Chapter 4, and personal and collective experiences with food and waste in Chapter 5. One objective was to design a learning experience that engages with Fry's concept of redirection, not only to identify historical moments where society went wrong but to connect to the different teachers and learners present in this experience—the people, the objects, the sounds of objects, the facilitator, the workshop space—in order to find a way to take care of the things around us and resist defuturing through time (Fry, 2008). My approach and questions were guided principally by my theoretical companions Bennett (2010) and Haraway (2016) for FNM; Dunne and Raby (2013) and Fry (2018) for design theory; and Strasser (1999) for connecting women to waste history. I respond to my initial questions by interpreting my results through reviewing the major themes and interpreting the research in four main areas: Relations and Material Agency; Pedagogue and Pedagogies; Redesigning Food at

Home; and Redirecting Waste. Following these themes, the concluding section unfolds with reflections on the future directions for this research and the pressing waste crisis in Canada. As the significance of waste in society becomes increasingly evident, this final section urges further exploration and innovative approaches to address the waste crisis at both the individual and systemic levels.

6.1 Relations and Material Agency

My conceptual journey, or my way into the messy system of food and waste, starts from Jane Bennett's (2010) revelation of why recognizing the agency of food through its materiality is so vital; she states:

> If I am right that an image of inert matter helps to animate our current practice of aggressively wasteful and planet-endangering consumption, then materiality experienced as a lively force with agentic capacity could animate a more ecologically sustainable public. (p. 51)

It follows to question how, in practice, Bennett's vibrant materiality can be realized. In exploring the calls to action from FNM theorists, I primarily asked: *In what ways can a FNM lens be applied to explore food-based waste, shedding light on contemporary relations and structures that facilitate its excessive production?* The primary goal of this research is to question the nuances of daily life in producing food-based waste in Canada. I proposed a historically informed process to re-engage with food-based waste and awaken and enhance relations associated with the food-based practice. I position the research problem of waste production within a feminist approach to research by including myself in the research, situating my waste experience, and reflecting on the process in different ways. Therefore, as a source of knowledge, I started with a self-exploration, a thinking-through-making practice that investigated food-based

waste in daily life. The inquiry led to examining women in the archives, interviewing the Grandmas in my family, and then extending to forming workshops to share the ideas and practices with the participants. To develop a historically informed design practice, I questioned how changes occurred across the Canadian home's spaces, materials, and practices—traced through archives and published histories up to the 1950s. From here, the experiences the Grandmas shared revealed more deeply their daily realities around food and women's practices in the eyes of women coming of age during this period. Ultimately, in *Eat, Waste, Make,* , I sought a process to rebuild relations with nonliving entities or materials from daily life that resists discarding them.

Aligned with my learning with others was how this process developed and shifted my conceptions of material agency throughout the project. An ongoing interpretation of Bennett's (2010) conceptions of vibrant materiality and Haraway's (2016) nonhuman relations presented as odd kin provided the frame; with this, I could identify agency in things through my experiments. I wanted to disrupt my own negligence. The disruption began with documenting my food practices, like photographing and journaling and cooking dinner, as described at the opening of this chapter. However, through play, making and creating with waste, I started to know the materials intimately, the colours, textures, smells—what they were apart from their utility. I had to find different forms of engagement from my everyday practices; I had to allow for a visceral process with no objective other than to interact with whatever I found in my kitchen bins. I learned the materials differently by breaking down waste and creating collages, prints, or sculptures. I related to the individual materials, made a memory with those materials, and absorbed details, like the smell and feel of the materials. I can see the agency of an egg carton if I look closely enough, much like Bennett's ability to see the garbage on the street: she

describes seeing interactions of things with other things or elements, like water. Similarly, I can understand an egg carton's resistance to cold and how it breaks down into liquid; by ripping the carton, I can feel the delicacy of the paper and inhale a familiar woody smell. To realize the agency of things that are not living requires a more profound sense of what they are; to be in relation requires intimacy.

6.2 Redirecting Waste

In Chapter 2, I explored Dunne and Raby's (2013) proposition that the emphasis of critical design on critiquing everyday life has the potential to stimulate change. This involves sparking ideas of refusal, encouraging a departure from the status quo, and fostering the generation of dreams and desires. By immersing myself in critical design processes and practices, which entail understanding materials and creating artifacts that present alternative perspectives on daily life, I adopted an approach that delves deeply into the intricacies and dynamics of materials. This approach transcends viewing objects solely for their utility and instead asks questions like, "What else can it do?" or "Where did it come from, and where will it end up once discarded?" This redirection mindset challenges us to think and work differently, allowing design to become a method through which we can embrace the significance of non-living entities that sustain us.

To achieve redirection, it is essential to understand what went awry in the past to envision a better future. Environmental and waste historians discuss how the post-war period brought about a radical surge in the economic exploitation of biological systems for monetary gains, leading to the production of new domestic products using novel materials, such as various plastics. The new relations and configurations born out of industrial manufacturing and cultural interventions resulted in increased disconnection between humans and nonhumans, particularly

those considered non-living, like fruit peels, Styrofoam, or plastic residues that seep into the human-animal body (Armerio, 2021; Cooper, 2010).

A significant aspect of my research centers on the pivotal role women played in determining waste in the household (Strasser, 1999). Consequently, women's knowledge, practices, and relationships were crucial in waste reduction, making it imperative to incorporate a feminist-material history approach to assessing waste. The historical documents highlighted two striking realities: first, domestic work that involved food production and material conservation or re-use was celebrated and promoted for sustaining household economies before the 1950s, evident in government advertisements, domestic science classes, and women's organizations like the FWIs. However, this emphasis drastically declined into the 1950s. Second, domestic work was perceived as solely women's responsibility, and at no point, including the post-war period was it advocated to distribute this work to men. The Canadian government and organizations' solution to reducing women's workload was for women to change their practices and identify ways to increase efficiency through optimal home design and modern household appliances, thereby embracing consumerism as part of their domestic role. Consequently, waste came to be understood in terms of wasteful practices, so a full trash bin or a well-used garburator symbolized women's adaptation to modernity through affluence and upward mobility. The knowledge and skills that once helped women minimize material waste were now considered relics from more challenging times in Canadian history, such as economic depressions or wars when materials were scarce. With these aspects swept aside, the trajectory of economic progress through industrial production and consumerism as a lifestyle could finally be realized (Cooper, 2009; Hawkins, 2006; Strasser, 1999).

In my research, the archival sources focused on the directives given to women by various authorities, such as governments, industries, organizations, and the media. These narratives aimed to promote building the Canadian economy. However, when I turned to the insights of the Grandmas (as discussed in Chapter 4), who lived their childhoods through the post-war period, a different perspective emerged, contrasting with the archival presentations. For instance, they recounted instances where their fathers actively engaged in food production and contributed to domestic work. Their mothers also held paid positions outside the home in various capacities. Food practices and waste prevention varied throughout their lives, depending on factors like the involvement of other household members, such as husbands, and work demands outside the home. Another influential factor was the role of industry, which dictated the availability of market products, leading to the steady increase in food packaging witnessed over time. From the shared experiences of the Grandmas and the histories examined, it became evident that at least some women continued to employ effective and labour-intensive food practices while preventing waste well beyond the 1950s, mainly when the workload was distributed among household members. The most sustainable household food systems I described, including food production at home, backyard composting, and meals prepared with whole foods, were upheld through distributed labour across household members, with men playing key contributing roles. As revealed in Chapter 4, each person's approach to food and waste differed based on their experiences, primarily shaped by their unique food cultures. The Grandmas emphasized that food knowledge was transmitted through family traditions, experiences with food, and other forms of learning, such as books and intercultural sharing within communities. The Grandmas' experiences demonstrated various individual capacities to resist broader cultural and material realities, highlighting their adaptability through daily life choices to manage the complexities of

caring for family while handling labour responsibilities inside and outside the home. It is worth noting that modern conveniences were adopted (as discussed in Chapter 3 and promoted in the post-war media and archives) to support women in balancing paid work with their family responsibilities rather than for leisure, as some archives suggested, like women's magazines of the time. The main point emphasized in Chapters 3 and 4 is the importance of sharing responsibilities among household members. This sharing enables the adoption of more labor-intensive food practices, contributing to waste prevention.

6.3 Redesigning Food at Home

The Canadian archives I examined showed how designers and architects presented new ideas for Canadian homes during the post-war period. The new designs represented very specific ideals that were promoted and aligned with broader objectives of industry and governments to grow the economy through increasing consumerism. Consumerism remains one of the root causes of increased production of waste (as discussed in Chapter 2). In the home, waste from food is prominent and is understood through looking at the changes throughout the kitchen and other food spaces that were promoted in the post-war period in Canada. One key illustration of the design changes was the CMHC's housing archive. It was the leader in housing design across Canada; their archival designs demonstrate that initially, in the late 1940s and early 1950s, the homes whose designs they promoted were small and aimed at affordability; however, in the later 1950s and 1960s, designs focused on leisure—emphasizing modernity with labour efficiency. Modern designs did away with certain food spaces and added others towards that end, thereby decreasing self-sufficiency in food production and increasing dependance on the industrialized food system. Kitchens made way for more and bigger appliances, vegetable gardens were replaced by landscaped yards for leisure, and storage spaces like root cellars disappeared. Large

garbage bins and various features like in-sink garbage disposal units advertised quick elimination of food waste, which had once been composted in back gardens. These features were found in both the CMHC designs and advertised in the home magazines of the time. Most importantly, modern features were tied to women's liberation at home. Similarly, government departments, women's magazines and even home economics courses pushed women to save their labour through modern designs, consumerism, and transferring cooking to the vastly expanding industrial food industry.

Strasser (1999) argued in her work on the American history of waste that male-dominated industries aimed to replace women's work. As a result, these industries shifted the focus of homes from places of production to centres of consumerism, leading to a significant increase in waste production. This perspective finds support when examining Canadian archives of design and architecture, which were similarly dominated by men during that period. However, the motivations behind these shifts in practices are not entirely straightforward. The prevailing belief is that the changes were primarily driven by a desire to promote leisure and modernity. Nevertheless, the contributions of women designers challenge this assumption. For instance, Canadian designer Sigrun Bülow-Hübe and earlier Austrian architect Margarete Schütte-Lihotzky, known for the Frankfurt Kitchen (Adams & Toromanoff, 2015), approached kitchen design with the aim of reducing labour while empowering women in distinctive ways.

My focus is on Bülow-Hübe's work, as she stood out as one of the few women designers of her time, working in Canada, particularly in Montreal, and specializing in kitchen design. Her work, as revealed in the archives, was unique and supported the trend of improving labour efficiency. However, unlike her male colleagues who promoted new industrial products, Bülow-Hübe's objective was to ensure women had kitchens best suited to their needs. This intention is

evident in the archived documentation of her research process, designs, and writings. In this manner, Bülow-Hübe's work represented a form of resistance within a culture that prioritized industrial food production and kitchen products over women's skills and knowledge, which had been instrumental in preventing waste for generations. Despite employing the language of her peers, her approach sought to validate the importance of women's work at home, particularly in the kitchen.

6.4 Pedagogues and Pedagogies

What if "things" could teach us that landfills are painful, and that paper cannot peacefully compost back into the earth if discarded into those landfills? What if a river could communicate that it is choking on plastic wrap? Other worldviews beyond dominant Western knowledge systems already embed these ideas and connections where biological systems teach. FNM theorists aim to reintroduce this perspective, suggesting that even scraps of paper and plastic wrap can exhibit their vitality. Things possess agency, and learning from how they interact teaches us how to treat them. Throughout my research experience, I explored relations that allowed me to gain new insights and ideas into food-based waste. The concept of relation implies that what and from whom I was learning involved an exchange, where I contributed something to the various entities and people that shared knowledge with me. My pedagogue companions grew alongside me as I made, researched, learned, and shared with others. These companions include a diverse range of physical archives, from Bülow-Hübe's collection of original designs, drawings, lists, and typed-out speeches, to the aged newsletters from the FWIC and the old design pattern books from the CMHC. These materials, experienced visually in formal archives, represent a tactile history of women and work. However, the archives only capture remnants of what society deemed worthy of preservation, and even my attempt to locate women and work in the archives,

such as the FWIC's, predominantly revealed traces of a particular Canadian demographic—white middle-class women. Additionally, archives related to domestic science, print media, or CMHC narratives showed a shift in the portrayal of the home, catering to the larger project of making Canadian consumers—specifically women—domestic consumers rather than savers, makers, or vegetable gardeners. While the archives offer a limited yet crucial understanding of the pressures on homes in the post-war period and the challenges to women's roles, there is a need to consider a broader range of voices and experiences.

Conversely, as pedagogues, the Grandmas shared memories, reflections, and stories of food and family—stories of their relationships with people, spaces, and food over time. The time spent with them, sharing their life stories around food and practice, allowed me to develop a deeper relationship with them and provided a way to share with others through recordings and my interpretations in Chapter 4. In the pedagogy of everyday life, their narratives create opportunities for their voices to teach others, extending beyond the formality of curriculum towards how we live and practice, thereby expanding choices for everyday life at home. The critical pedagogues, represented by their recorded voices with different accents, ways of speaking, and inflections as they retold family memories, were essential to the learning experience. They are as vital to learning about life, family history, daily positioning, and women's experiences as the archives.

In the *Eat, Waste, Make Project* described in Chapter 5, I reflected on the question, "Who gets to be a pedagogue?" I answered this query by examining the two design phases, shifting the focus from myself as the sole creator to a shared experience with numerous creators and educators. My interpretation revealed that the participants, food-based waste, and crafting tools influenced the learning experiences, and all entities assumed the role of pedagogues. Moreover,

the design and attributes of the spaces where the learning took place shaped what and how ideas formed. The artifacts created during the workshops were influenced by several factors, such as the materials used in the workshop kit. These things became companions as they worked with me to design each event, and with each iteration, I learned more from each piece—from the large paper rolls to the re-used yogurt cups or homemade glues. The objects created spaces that facilitated specific artifact-making with participants and, most importantly, facilitated learning about and with these objects, encouraging us to think differently about them rather than viewing them as ephemeral or mere trash.

In the opening to the book, *Design and the Question of History*, Fry et al. (2015) state, "we can all say we 'care,' but in ontological reality, care is not what we say but the consequence of what we do, not least by forms of designing, making, educating that negate the wasteland" (p. xi). Critical design is, in every sense, about practice and actions that drive us forward. In this context, pedagogy is about finding ways to share and learn from others that are expansive and inclusive. Broadly, I learned from the diversity of pedagogues listed in this research that resisting waste from food practices requires caring for things in our daily lives and that caring for my home is just the beginning of delving more deeply into the potential for collective activism, including the systems that enable industrial waste production or the exporting of waste globally.

My process for making relations is partly conceptualized through how I learned from the various critical pedagogue companions, who ultimately influenced the final workshop series design and were present within me as a facilitator but not adequately shared with others. These companions included the Grandmas who shared their experiences and the archives, revealing the transforming ideologies of domestic landscapes. As the creator of the workshops, I intuitively harnessed the voices, knowledge, and historical understandings presented in this dissertation.

However, as I look retrospectively at my overall thesis project, I realize that the takeaways of knowledge in my research on the history of women and work, and the Grandmas' stories, needed to be more apparent in the workshops I conducted for the *Eat, Waste, Make Project*. This realization raises a lingering question that haunted me as I ended the workshop series and this dissertation: How can I effectively incorporate the lived experience into workshops? How can I effectively share the histories from Chapter 3 and the lives of the Grandmas from Chapter 4, including the marginalized history of spaces and practices of the women who came before me? All of these relations, interactions, and webs between entities, knowledge, and practices can lead to a transformative sense of care and become a responsibility undertaken by each individual.

6.5 Future Directions and Contributions

In conclusion, in this dissertation I explore the intricate interplay between waste, care, and practice-based interventions into the material world, placing a specific lens on food-based waste within the Canadian context. The research adopts an interdisciplinary approach, weaving together food and waste studies, gender roles, and critical design processes to unravel the complexities of waste generation and illuminate avenues for transformative change. This integrative approach not only contributes new insights but also lays the foundation for future research, fostering a more interconnected understanding that transcends academic boundaries.

Chapter 3 presents a notable contribution to the area of Canadian food history by elucidating the role of design in shaping post-war domestic food discourse. Drawing on archival sources, the research constructs a historical narrative that underscores women's pivotal roles in waste prevention and sustainable food practices. This historical perspective serves as a valuable addition to gender studies discourse, offering a counterpoint to prevailing cultural trends that increasingly prioritize consumerism for the sake of time and labor efficiency. The exploration of

Grandma narratives as critical pedagogues reveals a nuanced and multifaceted picture. Emphasizing shared responsibilities and distributed labor in sustainable household food systems, this aspect challenges prevailing leisure-centric ideals. The findings suggest potential resolutions, particularly emphasizing the significance of redirecting and preventing waste as an essential sustainable systems component.

The research approaches further underscore the pivotal role of critical design as a method for re-imagining materials and everyday life. The workshops conducted as part of the Eat, Waste, Make Project exemplify collaborative learning experiences, where participants, food-based waste, and crafting tools act as pedagogues. I explore this through connecting design as an authority of changing post-war conversations at home, and as a contemporary method for interventions. This contribution explores how to extend pedagogies beyond traditional academic realms into a public sphere, providing a model for future projects seeking to involve participants, waste materials, and crafting tools as co-contributors to knowledge creation. Driving sustainable waste prevention practices necessitates a call for deeper connections to materials through education. The imperative lies in fostering intercultural sharing and community engagement, crucial elements for developing more resilient and caring relationships with the environment. The dissertation advocates for moving beyond conventional archives to uncover inclusive histories and spaces, essential for a comprehensive understanding of waste management. In challenging prevailing wasteful practices and re-imagining Canada's cultural relationship with materials, collective efforts can substantially contribute to creating a more sustainable and caring society. Overall, my aim is to contribute to a call for collective and inclusive action, urging scholars to continue a proactive role in fostering a diverse, responsible, and accountable existence amidst the complex challenges of global environmental crises.

References

Acuto, M. (2014). Everyday International Relations: Garbage, Grand Designs, and Mundane Matters. *International Political Sociology*, 8, 345–362.

Adams, A., & Toromanoff, D. (2015). Kitchen Kinetics: Women's Movements in Sigrun Bülow-Hübe's Research. *Resources for Feminist Research,* 34 (3 & 4), 9-40.

Armiero, M. (2021). The Case for the Wasteocene. *Environmental History,* 26, 425-430.

Atkinson, R. (2002). The Life Story Interview. In Jaber F. Gubrium & James A. Holstein (Eds.), *Handbook of Interview: Research Context and Method* (pp. 121-139). SAGE.

Attar, D. (1990). *Wasting Girls' Time: The History and Politics of Home Economics*. Virago Press.

Bamberg, M. (2003). Stories, Tellings, and Identities. In C. Daiute and C. Lightfoot (Eds.), *Narrative analysis: Studying the development of individuals in society* (pp.135-157). SAGE.

Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Duke Univ. Press.

Barone, T. (2008). Going Public with Arts-inspired Social Research: Issues of Audience. In G. Knowles and A. Cole (Eds.)*, Handbook of the Arts in Qualitative Research: Perspectives, Methodologies, Examples, and Issues* (pp. 485-492). SAGE.

Biesta, G. (2012). Becoming public: public pedagogy, citizenship, and the public sphere. *Social and Cultural Geography,* 3 (7), 683-697. https://doi.org/10.1080/14649365.2012.723736

Belisle, D. (2020). *Purchasing Power: Women and the Rise of Consumer Culture*. University of Toronto Press.

Puig de la Bellacasa, M. (2017). *Matters of Care: Speculative Ethics in More than Human Worlds*. University of Minnesota Press.

Bennett, J. (2010). *Vibrant Matter: A Political Ecology of Things*. Duke Univ. Press.

Bettez, S. C. (2015). Navigating the complexity of qualitative research in postmodern contexts: assemblage, critical reflexivity, and communion as guides. *International Journal of Qualitative Studies in Education*, 28 (8), 932-954.

Canadian Council Ministers of the Environment**. (**2018). *Strategy on Zero Plastic Waste*. Government of Canada. https://ccme.ca/en/current-activities/waste

Canadian Council Ministers of the Environment. (2019). *Canada-wide Action Plan on Zero Plastic Waste-Phase 1*. Government of Canada. https://ccme.ca/en/res/1589_ccmecanada-wideactionplanonzeroplasticwaste_en-secured.pdf

Canadian Council Ministers of the Environment. (2020). *Canada-wide Action Plan on Zero Plastic Waste-Phase 2*. Government of Canada. https://ccme.ca/en/res/ccmephase2actionplan_en-external-secured.pdf

Carroll, B.W. (1989). Post-War Trends in Canadian Housing Policy. *Urban History Review,* 18 (1), 64-74.

Carter, P. (2004). *Material Thinking: The Theory and Practice of Creative Research.* Melbourne University Publishing.

CBC News. (2021, Feb.11). Quebec to make companies responsible for reducing, recycling of packaging waste. https://www.cbc.ca/news/canada/montreal/quebec-recycling-companies-reduction-1.5459690

Central Mortgage and Housing Corporation. (1950). *Prize Winning Designs of Canadian Small House Competition*. Copy from McGill Library Collection, from Donated by Frank R. Findley Architect.

Chase, S.E. (2005). Narrative inquiry. Multiple lenses, approaches, voices. In N. Denzin & Y. Lincoln (Eds.). *The SAGE Handbook of Qualitative Research* (3rd ed., pp. 651-679). SAGE.

Clandinin, J. & Connelly, F.M. (2004). *Narrative Inquiry: Experience and Story in Qualitative Research*. Wiley.

Clarke, A. J. (1999). *Tupperware: The Promise of Plastic in 1950's America*. Smithsonian Institute.

Coleman, R., Page, T. & Palmer, H. (Eds.) (2019). Feminist New Materialist Practice: The Mattering of Methods. *MAI: Feminism & Visual Culture*, 4, 1-5.

Conference Board of Canada. (2017). *Municipal Waste Generation*. 5 Nov. 2017.www.conferenceboard.ca/hcp/Details/Environment/municipal-waste-generation.aspx?AspxAutoDetectCookieSupport=1. Accessed March 2018.

Cooper, T. (2009). Modernity and the Politics of Waste in Britain. In S. Sorlin & P. Warde (Eds.), Nature's *End (pp. 247-272).* Springer.

Cooper, T. (2010). Recycling Modernity: Waste and Environmental History. *History Compass*, 8, 1114-1125.

Costanza-Chock, S. (2018). Design Justice: Towards an Intersectional Feminist Framework for Design Theory and Practice. *Proceedings of the Design Research Society*. https://ssrn.com/abstract=3189696

Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics. *University of Chicago Legal Forum*, 8.

Creswell, J. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE.

D'Amours, M. (2017, November 1). Recycling Crisis Hits Quebec as China Rejects Waste Imports. *CBC News.* 1, https://www.cbc.ca/news/canada/montreal/quebec-recycling-crisis-1.4383151

Daly, N. (2018). For Animals, Plastic is Turning the Ocean into a Minefield. *National Geographic*. https://www.nationalgeographic.com/magazine/2018/06/plastic-planet-animals-wildlife-impact-waste-pollution/

Demos, T. J. (2019). Ecology-as-Intrasectionality. *Journal of the Association of Historians of American*, 5 (1). https://doi.org/10.24926/24716839.1699

Di Leo, J. R., & Jacobs, W, Lee, A. (2002). The Sites of Pedagogy. *Symploke,* 10 (1-2), 5-6.

DiSalvo, C. (2014). Critical Making as Materializing the Politics of Design. *The Information Society,* 30 (2), 96–105.

Dolphijn, R., & van de Tuin, I. (2013). Introduction: What may I hope for? In R. Dolphijn, & I. van de Tuin (Eds.) *New Materialism: Interviews & Cartographies*, Open Humanities Press. http://doi.org/http://dx.doi.org/10.3998/ohp.11515701.0001.001

Dunne, A. & Raby, F. (2013). *Speculative Everything: Design, Fiction, and Social Dreaming.* MIT Press.

Eisner, E. (2008). Art and Knowledge. In J. G. Knowles & A. Cole (Eds.), *Handbook of the Arts in Qualitative Research: Perspectives, Methodologies, Examples, and Issues* (pp. 3-12). SAGE.

Ellis, C., & Bochner, A.P. (2000). Autoethnography, personal narrative, reflexivity: Researcher as subject. In N. K. Denzin & Y. Lincoln (Eds). *Handbook of qualitative research* (pp. 733–768). SAGE.

Environment and Climate Change Canada. (2018). *Canadian Environmental Sustainability Indicators: Solid waste diversion and disposal.* Accessed August 2, 2021. www.canada.ca/en/environment-climate-change/services/environmentalindicators/solid-waste-diversion-disposal.

Environment and Climate Change Canada. (2019). *Taking Stock Report*: *Reducing Food Loss and Waste.* June 2019. https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/food-loss-waste/taking-stock.html

FAO. (2011). *Global food losses and food waste – Extent, causes and prevention*. http://www.fao.org/docrep/014/mb060e/mb060e.pdf

FAO. (2017). *Food and Agriculture: Driving Action Across the 2030 Agenda for Sustainable Development*. http://www.fao.org/publications/card/en/c/b31f7040-a387-466d-99e2-04896d421fca/

Farra, E. (2020, December 11). Our Plastic Problem Has Reached a Tipping Point—Here's Why We're Still Hopeful. *Vogue*. https://www.vogue.com/article/plastic-waste-pandemic-recycling-innovations-alternatives

Fox, N.J. & Alldred, P. (2022). New materialism. In P.A. Atkinson, S., Delamont, A., Cernat, J., W. Sakshaug & M. Williams (Eds.) *SAGE Research Methods Foundations.* SAGE. https://methods.sagepub.com/foundations/new-materialism

Fox, N.J. & Alldred, P. (2015). New Materialist social inquiry: Designs, methods, and the research assemblage. *International Journal of Social Research Methodology,* 18 (4), 399-414.

Friedberg, S. (2009). *Fresh: A Perishable History*. Harvard Press.

Fry, T. (2008). *Design Futuring: Sustainability, Ethics and New Practice*. Berg.

Fry, T. (2012). *Becoming Human by Design*. Berg.

Fry, T., Stewart, S. & Dilnot, C. (2015). *Design and the Question of History*. Bloomsbury Academic Press.

Fuad-Luke, A. (2009). *Design Activism: beautiful strangeness for a sustainable world*. Earthscan.

Gamble, C. N, Hanan, J.S. & Nail, T. (2019). What Is New Materialism? *Angelaki*, 24 (6), 111-134.

Geyer, R., Jambeck, J. & Law, K.L. (2017) Production, use, and fate of all plastics ever made. *Science Advances* 3, 1-5.

Gilbreth, F. B. (2008, 1911). *Motion Study: A Method for Increasing the Efficiency of the Workman.* D. Van Nostrand Company.

Gonsher, I. (2016). Beyond Design Thinking. *Articles*, 15. https://digitalcommons.risd.edu/critical_futures_symposium_articles/15

Graham-Rowe, D., Jessop, C. & Sparks, P. (2014). Identifying motivations and barriers to minimizing household food waste. *Resources, Conservation and Recycling*, 84, 15-23.

Hackney, F. (2013). Quiet Activism and the New Amateur: the power of home and hobby crafts. *Design and Culture,* 5 (2), 169-194.

Hanson, P, & Uhman, J. (2022). Museum Education and Sustainable Development. *European Educational Research Journal*, 21(3), 469-483.

Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies,* 14 (3), 575-599.

Haraway, D. (2003). *Companion Species Manifesto: Dogs, People and Significant Others*. Prickly Paradigm Press.

Haraway, D. (2016) *Staying with the Trouble: Making Kin in the Chthulecene*. Duke.

Harkness, M. L. (1911). *One View of Domestic Science*. Atlantic, Archived. https://www.theatlantic.com/magazine/archive/1911/10/one-view-of-domestic-science/376202/

Hawkins, G. (2006). *The Ethics of Waste: How we related to rubbish*. Rowman and Littlefield Publishers.

Hester, R. T. (2005). Design Activism…For Whom? *Frameworks*, 1, 8-15.

Hickey-Moody, A. C. (2020). New Materialism, Ethnography, and Socially Engaged Practice: Space-Time Folds and the Agency of Matter. *Qualitative Inquiry*, 26 (7), 724–732.

Hinton, P. & Treusch, P. (2015). *Teaching with Feminist Materialisms.* ATGENDER.

Hinton, P. (2014). Situated Knowledges and New Materialism(s): Rethinking a Politics of Location. *Women: A Cultural Review* 25 (1), 99-113.

Hird, M. J. (2012). Knowing Waste: Towards an Inhuman Epistemology. *Social Epistemology*, 26 (3), 453-469.

Hird, M.J. (2013). Waste, Landfills, and an Environmental Ethic of Vulnerability. *Ethics and the Environment*, 18 (1), 105-124.

… (2017). Waste, Environmental Politics and Dis/Engaged Publics. *Theory, Culture & Society,* 34, (2) 187–209.

… (2021). *Canada's Waste Flow*. McGill - Queens University Press.

Hoffman M. J. & Hittinger, E. (2016). Inventory and transport of plastic debris in the Laurentian Great Lakes. *Marine Pollution Bulletin*. 10.1016/j.marpolbul.2016.11.061

Kapelos, G. T. (2009). The Small House in Print: Promoting the modern home to post-war Canadians through Pattern Books, Journals and Magazines. *JSSAC* 34 (1), 33-60.

Kaza, S., Yao, L.C., Bhada-Tata, P. & Van Woerden, F. (2018). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. *World Bank.* https://openknowledge.worldbank.org/handle/10986/30317

Kechnie, C., & Ambrose, M. (1996). *Keeping things clean for home and country: the Federated Women's Institutes of Ontario 1897-1919*. National Library of Canada.

Korinek, V. J., 2000, *Roughing it in the Suburbs: Reading Chatelaine Magazine in the Fifties and Sixties*, Toronto, University of Toronto Press.

Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press.

Liboiron, M. & Lepawsky. (2022). *Discard Studies: Wasting, Systems, and Power*. MIT Press.

Lieblich, A., Tuval-Mashiach, R. & Zilber, T. (1998). Narrative Research: Reading, Analysis, and Interpretation. *Applied Social Research Methods*, 47. SAGE. http://dx.doi.org/10.4135/9781412985253

Lisle, D. (2021). A Speculative Lexicon of Entanglement. *Millennium*, 49, 435-46.

Luke, C. (1996). Feminist Pedagogy Theory: Reflections On Power And Authority. *Education Theory*, 46 (3), 283-302.

Lupton, E. & Abbott, M.J. (1992). *The Bathroom, the Kitchen, and the Aesthetics of Waste: A Process of Elimination*. Kiosk.

Malpass, M. (2017). *Critical Design Context: history, theory, and practice*. Bloomsbury Books.

Martinez, F. (2017). Waste is not the end. For an anthropology of care, maintenance, and repair. *Social Anthropology*, *25*(3), 346–350.

McKibbin, G., Kellett, C., Humphreys, C., Hamilton, B.E. & Duncan, R. (2015). The Intersectional Turn in Feminist Theory: A Response to Carbin and Edenheim (2013). *European Journal of Women's Studies*, 22 (1), 99–103.

Parker, L. (2019, June 7). The world's plastic pollution crisis explained. *National Geographic.* https://www.nationalgeographic.com/environment/article/plastic-pollution

Parr, J. (1999). *Domestic Goods: The Material, the Moral, and the Economic in Post-war Years*. University of Toronto Press.

Partington, A. (1988). The Designer Housewife in the 1950s. In J. Attfield & P. Kirkham (Eds.), *View from the Interior Feminism, Women and Design* (pp. 206-214). The Women's Press.

Pauwels, L. (2010). Visual Sociology Reframed: An Analytical Synthesis and Discussion of Visual Methods in Social and Cultural Research**.** *Sociological Methods & Research*, 38 (4), 545-581.

Pollan, M. (2013). *Cooked: A Natural History of Transformation*. Penguin.

Revelles-Benavente, B., Waltraud, E., & Rogowska-Stangret, M. (2019). Feminist New Materialisms: Activating Ethico-Politics through Genealogies in Social Sciences. *Social Sciences*, 8, 296.

Richter, A., Bruce, N., Ng, K.T.W., Chowdhury, A., & Vu, H.L. (2017). Comparison between Canadian and Nova Scotian waste management and diversion models—A Canadian case study. *Sustainable Cities and Society*, 30, 139–149.

Riessman, C. K. (1993). Narrative analysis. SAGE.

Rosiek, J. L., Snyder, J., & Pratt, S.L. (2019). The New Materialisms and Indigenous Theories of Non-Human Agency: Making the Case for Respectful Anti-Colonial Engagement. *Qualitative Inquiry*, 26 (3-4), 331-346.

Sandlin, J. A., O'Malley, M.P. & Burdick, J. (2011). Mapping the Complexity of Public Pedagogy Scholarship 1894-2010. *Review of Educational Research*, 8, 338-377.

Sandlin, J., Burdick, J. & Rich, E. (2017). Problematizing public engagement within public pedagogy research and practice. *Discourse: Studies in the Cultural Politics of Education*, 38 (6), 823-835.

Scanlan, J. (2005). *On Garbage*. Reaktion Books.

Shapiro, L. (2004). *Something from the Oven: Reinventing Dinner in 1950s America*. Penguin.

Simpson, L. B. (2014). Land as pedagogy: Nishnaabeg intelligence and rebellious transformation. *Decolonization: Indigeneity, Education & Society*, 3, 1-25.

Smith, A. F. (2020). The Perfect Storm: A history of food waste. In C. Reynolds, T. Soma, C. Spring & J. Lazell (Eds). *Routledge Handbook of Food Waste.* Routledge. 10.4324/9780429462795-4

Smith, H &. Dean, R. T. (2009) Introduction: Practice-led Research, Research-led Practice – Towards the Iterative Cyclic Web. In H. Smith & R. T. Dean (eds) *Practice in the Creative Arts*. Edinburgh University Press. pp.1-38.

Strasser, S. (1999). *Waste and Want: A Social History of Trash.* Holt.

Subcommission on Quaternary Stratigraphy. (2019). *Working Group on the 'Anthropocene.*' http://quaternary.stratigraphy.org/working-groups/anthropocene/

Thyberg, K. & Tonjes, D.J. (2016). Drivers of food waste and their implications for sustainable policy development. *Resources, Conservation and Recycling*,101, 110-123.

United Nations Development Program. *Sustainable Development Goals 2030* (SDG). https://www.undp.org/sustainable-development-goals#responsible-consumption-and-production

United Nations Environment Program. (2019). Plastic recycling: an underperforming sector ripe for a remake. 2 January. https://www.unenvironment.org/news-and-stories/story/plastic-recyclingunderperforming-sector-ripe-remake Accessed 28 March 2020

United Nations Environment Program. (2021). *UNEP Food Waste Index Report 2021*. https://www.unep.org/resources/report/unep-food-waste-index-report-2021

UNEP and World Travel & Tourism Council. (2021). Rethinking Single-Use Plastic Products in Travel & Tourism - Impacts, Management Practices and Recommendations. Nairobi.

Vandaveer, F. E. (1956). Domestic Gas-Fired Incinerators, *Journal of the Air Pollution Control Association*, 5 (4), 197-242. 10.1080/00966665.1956.10467706

Viet, H. Z. (2013). *Modern Food, Moral Food: Self-control, Science and the Rise of the Modern American*. The University of North Carolina.

Ville Montreal. (2020). *Montreal Zéro Déchet: Plan directeur de gestion des matières résiduelles de l'agglomération de Montréal 2020-2025*. https://www.makingmtl.ca/zerowaste

Walker, T. R, McGuinty, E., Charlebois. S. & Music, J. (2021). Single-use plastic packaging in the Canadian food industry: consumer behavior and perceptions. *Humanities and Social Sciences Communications.* 8 (80), 1 –11.

Wilk, R. (2015). Conclusion: The Waste That Matters. *Waste Management and Sustainable Consumption: Reflections on Consumer Waste*. Earthscan, 235.

Wilkins, C. (2017). Canada's Dirty Secret. *Canadian Geographic.* https://www.canadiangeographic.ca/article/canadas-dirty-secret

Zalasiewicz, J., Gabbott, S.E. & Waters, C.N. (2019). Chapter 23: Plastic Waste: How plastic has become part of the Earth's geological cycle. In T. M. Letcher & D.A. Vallero (Eds.), *Waste: A Handbook for Management* (2nd ed., pp.443-452). Elsevier.

Appendix A: Ethics Certification

CERTIFICATION OF ETHICAL ACCEPTABILITY
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant:	Pamela Tudge
Department:	Individualized Program
Agency:	N/A
Title of Project:	Encounters: between the matter of gender, food and waste in everyday life

Certification Number: 30009791

Valid From: July 04, 2018 To: July 03, 2019

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

Dr. James Pfaus, Chair, University Human Research Ethics Committee

Appendix B: Interview Questions

Encounters: Interview Questions

1) Describe your experience as a child at home with food and food work.

a. *prompt as necessary for "food work"*: activities such as shopping or growing food; cooking and serving meals; cleaning up and dealing with leftovers; learning from parents; preparing special family meals; or developing favorite recipes.

b. *probe as necessary for "garbage" and "leftovers":* how were food leftovers and kitchen garbage dealt with in your childhood?

2) Thinking about your kitchen when you were young, what do you remember about it? How were things organized? How did you feel in that space?

a. *prompt as necessary for the built environment:* What physical objects in the kitchen stand out in your mind? (probe for favored tools, new or old appliances, composters, furnishings)

b. *prompt for connection between space and waste:* How did the kitchen area and the things in it influence the way you learned about food work and waste?

3) As you reached adulthood, what changes do you remember in the ways you worked with food?

a. *probe for "cultural conversations":* Did what was happening in society during the 1960s and 1970s influence your food work? Did it change anything about your work in the home and kitchen?

b. *probe for carried-over food work:* As an adult, did you carry on with any of the food work that you did as a child? Did you abandon or change any of those old work habits? (probe for gardening, waste-reduction methods, adopting new food products, adopting new recipes)

c. *follow-up:* Why do you think you kept up with that kind of food work? Why do you think you gave it up? (probe for community/work/family influences)

4) When you first had your own home, what was important to you for everyday meal preparation?

a. *probe for:* useful tools, new technologies, old technologies, small appliances, ways their kitchen was organized?

Appendix C: Recruitment Script

Invitation to Participate in Research

I would like to invite you to participate in my doctoral research, entitled *Encounters: between the matters of gender, food, and waste in everyday life.* This research is focused on the life stories of Canadian women and food at home. The research objective is to explore the changes to Canadian domestic food practices and home kitchens, beginning in the post-war era approximately the 1950s. I am interested in understanding how women experienced changes to technologies, designs and cultural knowledge in the kitchen during their lifetime and particularly as they grew up between the 1950s to the 1970s. A central objective is to understand, through life food stories, how food work and practices that developed during this time, influenced how food waste and kitchen garbage is managed today.

The interview will take anywhere from one to two hours, depending on your time and interest. I would prefer to conduct the interview in your home but would be willing to do so at any place that is convenient to you.

My contact information for any questions is (514) 216-0599 and my email is pamela.tudge@concordia.ca

Appendix D: Consent Form

INFORMATION AND CONSENT FORM

Study Title: ***Encounters: between the matters of gender, food, and waste in everyday life.***

Researcher: Pamela Tudge Researcher's Contact Information:
pamela.tudge@concordia.ca / 514-216-0599

Faculty Supervisor: Dr. Rhona Richman Kenneally Faculty
Supervisor's Contact Information: rrk@concordia.ca/ 514 848 2424 # 4276

Source of funding for the study: Concordia University

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

PURPOSE

This study is part of a broader doctoral research on the history of food work at home and the changes to practices from the 1950's until today, that include cooking and preparation, and with an attention to the increase of kitchen waste as an extension of the transformations in Canadian home kitchens. Specifically, in this study, I will examine different ways women remember developing skills and knowledge around food as women came of age between the 1950's to 1970's. This study is interested on different influences in the way women develop and enact food interests and knowledge. The main research questions guiding this project are:

- How do Canadian women remember experiencing post-war era changes to technology, design, and culture at home?
- How did their experiences influence food practices in the kitchen through their lifetime to the present day?
- How was food knowledge and practices shared between generations such as from parent to child?
- How did these changes influence food practices in Canada and impact the production of food and kitchen waste?

PROCEDURES

If you decide to participate, you will be interviewed for 1 to 2 hours. The interview consists of open-ended questions addressing your life experience on food at home. These interviews will be recorded preferably with an audio recording device, but this is not mandatory. Although you have given your consent before any interview or observations are made, you can revoke your consent at any time for any reason. If you do not wish to discuss a particular topic, you are not obliged to do so. Please feel free to say when you wish to skip a topic.

You may end the interview at any time, pseudonyms will only be used throughout the written version of the report. The findings of the study will be shared with you as a draft first and you will have an opportunity to share any changes and clarifications of

your food history at that time. The researcher will also provide a final copy of this study.

If you permit, the researchers will take some photos of your home kitchen with your guidance for context purposes, but these may be published as part of a larger work in the dissertation. In total, participating in this study will take up between 1 to 2 hours. This research is not intended to benefit you personally. The risk is minimal and consists basically of sharing information and sharing your life experience.

CONFIDENTIALITY

The researcher (Pamela Tudge) will gather the following information as part of this research: recorded interviews (audio and writing - if the respondent permits it), and pictures of your home kitchen.

The researcher will not allow anyone to access the information besides herself and her faculty supervisor (a professor). The information will used for the purposes of the research described in this form and maybe used for further studies by the researcher before 2024.

The information gathered will be transcribed and coded by subject. That means that the information will be identified by a code to understand the different themes and ideas in your responses.

The information will be protected by keeping audio recordings and photographs in encrypted storage, and notes and storage media will remain in locked cabinets in the researcher's office at Concordia University, which is a card secured facility.

The information is gathered with the intent to publish the results of analyses. It is with intention to include only a pseudonym in the published results. The information will be destroyed four years after the end of the study.

CONDITIONS OF PARTICIPATION

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. You can also ask that the information you provided not be used, and your choice will be respected. If you decide that you don't want us to use your information after the interview you must tell the researcher before January 15th, 2019.

There are no negative consequences for not participating, stopping in the middle, or asking us not to use your information.

PARTICIPANT'S DECLARATION

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.

NAME (please print) _____

SIGNATURE _____

DATE _____

If you have questions about the scholarly aspects of this research, please contact the researcher. Their contact information is on page 1. You may also contact their faculty supervisor.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

Appendix E: Workshop Model

Overview

This model adapts to the unique criteria of each workshop and serves as a comprehensive guide to help each workshop fulfill the overarching objectives of the *Eat, Waste, Make Project*. The workshops, designed in a hands-on style, create a collaborative environment where participants can delve into the issue of food-based waste, gaining a deeper understanding of Canada's waste crisis and its implications for individuals and households.

The primary goal of these workshops is to explore the complex relationship with food-based waste, utilizing creative and interactive learning experiences guided by critical design concepts. These concepts focus on analyzing everyday life through the lens of artifact design, encouraging participants to question and challenge existing norms.

Participants engage in activities that involve using food-based waste materials to craft artifacts, facilitating a tactile experience that allows them to both create and critically consider the research problem of Canada's waste crisis. The workshops aspire to include a diverse range of participants from various sectors and communities where the events take place.

Throughout the workshop series, each session will specifically examine domestic waste from a food-centred perspective. This approach sheds light on our routine interactions with food and the resulting waste, including food scraps and product packaging that end up as discarded items. The topics covered in the workshops can vary based on the allocated time and the interests of the participants, ranging from Canada's waste crisis, critical and speculative design, vital materialism, and even aspects of Feminist New Materialism.

Model

1. **Introduction:**
    - Purpose and Plan Explanation.
    - *Eat Station:* If in-person, participants receive food samples to consume during the introduction.
2. **Presenting the Design Problem:**
    - Focus on Canada's waste crisis.

- Emphasize critical design and exploring the intersection of food and waste experiences.

3. **Warm-up Activity:**

    - Depending on group size, individuals introduce themselves along with a piece of food waste they brought to the workshop.

4. **Stations Activities:**

    - All participants rotate through different stations, which can be various waste-related or creative-making activities.

    - *Waste Station:* Participants work with piles of food-based waste, breaking down packages by hand or using tools, or sorting through compost until nothing remains recognizable from the original.

    - *Make Station:* Create artifacts either as a group or individually, based on available space and group size.

5. **Sharing Artifacts and Ideas:**

    - All participants share their created artifacts with the group.

    - Allow time for others to provide feedback and responses to the presented ideas and artifacts.

    - Facilitator summarizes the key concepts and ideas shared during this session.

6. **Conclusion and Appreciation:**

    - Thank participants for their involvement.

    - Allow time for further feedback and group discussion.

    - Provide information on community-led initiatives or related events for participants to follow up on.