A Foucauldian Genealogical Analysis of Healthy Eating Education Materials in Ontario 1942-2015

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Abstract

This study examines the introduction of the *Official Food Rules* in 1942 and the formation of subsequent dietary self-analysis practices in Ontario curriculum and textbooks. Examination of the influences of nutrition science, Ontario education policy and politics, and Canadian health policies are combined with Foucauldian critical discourse analysis of selected classroom materials. The Grade 4 dietary self-analysis, based on the various forms of the food guide, from 1946, 1974 and 2011 are analysed and compared. Themes of truth, power and identity within this regime of truth are examined. The ordering of food in the *Food Rules* was a discursive event. This new structure created the pass/fail binaries of nutrition that remain active in the Healthy Eating approach. Defining the quantitative approach, and the dietary self-assessment based on it, as irrelevant to healthy eating will allow room for new pedagogies, and a new definition of healthy eating practices to develop.

Keywords
dietary self-analysis, Foucault, genealogy, nutrition, education, nutrition policy, critical theory, Canada’s Food Guide, public health, Healthy Eating
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List of Acronyms

BMI – Body Mass Index

CDA – Critical discourse analysis

CFIA - Canadian Food Inspection Agency

CFG – Canada’s Food Guide, also includes Eating well with Canada’s Food Guide

CVD – Cardiovascular disease

NCD – Non-communicable disease, population level title for chronic disease

RDA – Recommended Daily Allowance, a measurement of the daily need of a given nutrient, the RDA is considered sufficient for 97.5% of the population.
Preface

It may be wise not to take as a whole the rationalization of society or culture, but to analyze this process in several fields, each of them grounded in a fundamental experience: madness, illness, death, crime, sexuality and so on. Michel Foucault - *Truth and Power*

I undertook a BSci in Food and Nutrition with the clear intention of becoming a dietician. By the end of four years of study I found myself trying to understand a persistent phenomenon that I encountered. Most everyone I encountered, when finding out my area of study was nutrition would immediately confess to needing to improve their diets and recite a very sensible list of improvements; the need to eat more vegetables usually being the premier topic. This experience was also familiar to most of my classmates, and left me with a deep curiosity about this socially constructed dietary guilt that could motivate impulsive confessions to complete strangers and yet *not change dietary behaviours*.

It was apparent to me that the basic messages of what comprises a healthy diet were well understood within the population at large, yet there was more energy invested in guilt and confession than actual dietary change. My background as a Waldorf elementary teacher kept me in contact with a large circle of former Waldorf students who seemed immune to this phenomenon. I came to question if the pedagogies of childhood nutrition education and the practice of teaching dietary self-assessment in Grade 4 might explain this phenomenon.
Chapter 1

1 Introduction

A Foucauldian critical discourse analysis of elementary nutrition education in Ontario has two basic aims. My first goal is to explore the ruptures and changes within the specialized nutrition education discourse as the governmentality of nutrition has changed. My second goal is to explore this history of the present and unmask the elements of the past that remain embedded in current healthy eating education. Since the introduction of the Food Rules in 1942 deficiency disease has become almost non-existent, yet since the 1970s childhood and adult overweight and obesity has been steadily rising. This study explores the history or genealogy of childhood nutrition education and practice of the dietary self-assessment, as well as the role of these practices in the government of childhood nutrition.

The largely quantitative, post-positivist approach to research in nutrition, and nutrition education over the past 150 years has resulted in sustained improvements to childhood health, and subsequent adult health through the elimination of deficiency diseases. However, over the last fifty years Canadian youth have become an increasingly malnourished population, overfed and undernourished, and exhibiting a growing prevalence of overweight and chronic illness (Ball & McCargar, 2003; Government of Canada & Public Health Agency of Canada, 2011; Shields & Tremblay, 2010; Standing Senate Committee on Social Affairs Science and Technology, 2016; D. Wilkinson & McCargar, 2008).

Canadian public policy holds the education of children to be an effective strategy in promoting healthy eating patterns (Government of Canada & Public Health Agency of Canada, 2011; Kennedy, 2004; Standing Senate Committee on Social Affairs Science and Technology, 2016). Ontario’s childhood health education is used to promote population health through knowledgeable self-discipline, both in early developmental stages and as the child matures, thereby increasing the productivity and longevity of the individual (Ontario Ministry of Education, 2015). However, from the first full Canadian Health
survey of 1970-72 to the present, the incidence rate of childhood overweight and obesity has been steadily increasing (Ball & McCargar, 2003). These markers of Canadian childhood weight status and eating patterns are now considered determinants of adult obesity, higher lifetime risk of cardiovascular disease (CVD) and diabetes type II (Ball & McCargar, 2003; Standing Senate Committee on Social Affairs Science and Technology, 2016).

Michael Foucault described the use of both population health and individual self-discipline as a means to create a stronger, more productive citizenry as an exercise of governmentality and a strategy of pastoral care (Foucault, 1979a, 1979b). Coveney has applied Foucauldian analysis to nutrition education, focusing on the role of the family as a self-discipline technology or site of anatomo-power. I explore the self-discipline technology of education, undertaking a genealogic analysis of the Ontario healthy eating curricula, focused on the discursive events of the 1950/51, 1975 and 2015 curriculum changes and the classroom materials of each period.

My analysis will explore the history of the present, exploring the changes that have been experienced in the dominant discourse, and the effects the healthy eating discourse has had on mandatory elementary health education in Ontario. Discourse analysis of the nutritional education materials unmask the incongruities of a healthy eating curriculum that is simultaneously effective and ineffective.

1.1 Literature Review

Historically there is a striking lack of research into nutrition/healthy eating education. Richards, in 1975, bemoaned the fact that:

Studies of factors and strategies relevant to educational change and preventative health behaviour lie scattered about the literature of a number of disciplines….

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1 The 1950 curriculum was published to take effect in September of 1950 with the knowledge it was incomplete; a far more complete version was printed in 1951 as an amendment, making the 1950 curriculum obsolete. I will refer to this as a single curriculum change using the 1950 introduction date.
The theories and findings of separate investigations have all too seldom been linked together, or applied in other studies (1975, p. 152).

I believe that a critical analysis of healthy eating education can open alternative approaches and link the work in various disciplines.

Crawford (1977, 1980, 1984) described middle-class attitudes towards health as the personal obligation to achieve health through self-denial and moral strength. Crawford (1980) described this adoption of personal preventative self-surveillance and the attendant responsibility for one’s health as healthism. An ethical citizen was defined as someone who denied themselves all forms of self-excess, illegal drug use, or deviant sexuality, and was therefore deserving of health and a position within the bourgeoisie (Crawford, 1994). The attainment of health, as well as its retention, became a badge of moral uprightness and middle class respectability; nutrition and physical exercise were emblematic of one’s commitment to this status (Crawford, 2006). The personal responsibility for health in the middle class attracted massive marketing efforts as the fear of losing one’s place and respectability became more widespread (Crawford, 1977). Discrimination against the obese in hiring and management became more acceptable in this ideology as obesity and/or actual ill health become embodied proof of unfit or unworthy individuals. Further, in this race to show one’s fitness for promotion, for the trappings of middle class entitlement, health became the goal and the proof of a life lived well. This portrayal of the benefits of health extended to a life free of pain, illness or suffering. To be healthy, therefore, meant one must pay the price of constant vigilance, of understanding the risks to one’s health, and acting to maintain both health and status that came with the perception of being healthy (Crawford, 2000, 2006).

The lack of socialized medicine in America during the periods of Crawford’s research created divides not witnessed in other Western countries. The Canadian experience differs in that our adoption of socialized medicine has diffused some, although certainly not all, of the class barriers of access to medical care. Likewise, the erosion of social supports and welfare of the 1980s and 90s occurred later, and has been less widespread in Canada than in America, so while the gap between the lowest and highest SES in Canada
is large, it is not as severe as in America. The work of Wilkinson and Pickett in *The Spirit Level* (2009) has shown that as income disparities grow in a nation, so does the incidence of obesity, poor physical health and increased mortality, with America being one of the worst nations globally for these disparities.

I argue that Crawford’s models of the ideologies of health and the class structure of healthism in America are less applicable to other western nations, and that the Foucauldian models are more relevant to the structures of health promotion and the self-discipline technologies used in Canada. Foucault describes biopower and anatomo power as two of the four technologies\(^2\) that function in our society and manifest different types of power/domination (Foucault, 1988a). Foucault defined biopower more fully as the management of population health to provide useful, healthy, docile individuals to the technologies of production; a way of defining, governing and techniques of control over the population that used knowledge and power to assume responsibility for life (Foucault, 1979b, 2002a). Anatomo-power was the technology of self-discipline. Foucauldian self-disciplinary technologies were employed through schools, churches, military training, and workshops (Foucault, 1979b), to persuade the individual to seek to improve the performance of the body and elevate the soul (Foucault, 1988a). This was to be accomplished “in the practices of individuation, surveillance, examination, training, *dressage*,\(^3\) correction and normalization” (Garland, 2014, p. 376). The practices of biopower and anatomo-power were accomplished not just by the state but also by the uptake and efforts of individuals, social groups, educational groups, charities etc.

Healthism is useful in describing the behaviour of individuals within dominant ideologies, while biopower describes many aspects of the care of the population in health, healthcare and public health (Foucault, 1979b). The adoption of state-funded medical services in Canada indicates a practice of governing the health of an individual as a state function. The interests of the state also dictate the employment of self-disciplinary

\(^2\) The other two being technologies of production and technologies of sign systems (Foucault, 1988a)

\(^3\) A French term, perhaps best translated here as self-mastery obtained through training.
technologies to ameliorate the drain on state resources that ill health represents. This use of the economics of population health is tied into the technologies of production and the need to dominate and control the population, while maximising its potential. Further, O’Farrell’s definition of the resistance to the dominant discourse as a necessary condition of Foucauldian biopower (O’Farrell, 2005), better describes the proliferation of alternative nutrition discourses than the hegemonic ideologies of healthism. Nutrition and its relationship to healthcare and personal health reflect more the governmentality of health, the combination of the efforts of thousands of agencies, organizations and political groups in a web of shared power, than the class structures and ideologies of healthism.

The Canadian medical anthropologist Moffat (2010) called for a reframing of the biomedicalized construct of the obesity crisis. She saw this reframing of the issue as essential to improved communication between those in critical sociology and cultural studies, who see only a social construction, and those within the medical profession who see only a medical crisis. The end result of this communication would be alternative approaches, a middle ground for healthcare providers, who can choose alternative metaphors to replace the crisis dialogue now in place (Moffat, 2010). The current focus on obesity and the prevalence of funding for obesity research has, in many ways, subsumed the nutrition/healthy eating discourse within the academy, with only youth overweight and obesity having been problematized, and a resultant bias in the funded research.

The current obesity-related biopedagogies have had several negative outcomes. Shilling (2008) defined the body pedagogies that are used by schools to inculcate societal norms, beliefs, and the experiences and embodied outcomes that result from these practices. He described health as a cultural construct, meeting the neo-liberal economic demands, and measured as personal success or moral failure binary. Greenhalgh (2012) defined biobullying as the last “acceptable” discriminatory practice, and as a direct result of the constant repetition of these obesity-related health messages. This messaging comes from authority figures such as teachers, coaches, physicians, nurses and even parents and is
interpreted by youth as allowing the practices of fat-shaming and weight-based discrimination (Greenhalgh, 2012; Puhl et al., 2015).

The effects of fat shaming can last a lifetime. Taylor (2011) documented the Othering discourses of adolescents, including overweight teens, used to distance themselves from perceived obesity. The unhealthy Other is still to be shunned and ostracized, and one proves one’s worth by being healthy and thin, or at least healthier and thinner than the Other, the Outsider, or the Deviant. The overweight can bully the obese, and the obese can bully the morbidly obese in a pecking order defined by body composition as an indicator of moral worth.

The very ontology of nutrition is criticized by the work of Allison and Jessica Hayes-Conroy (2013a) that calls on post-colonial feminist principles to define the multiple approaches to nutrition as all being facets of one discourse, none of which are the truth, but rather, all of which are subjective truths. While the scientific discourse is embedded within the predominately “white”, middle class world-view, there are other cultural worldviews such as vegan, or differing ethnic paradigms of healthy eating (Hayes-Conroy & Hayes-Conroy, 2013a). The Hayes-Conroys call into question the belief that the simplification of nutritional discourse into basic food groups can then be interpreted into culturally sensitive guides (such as Eating Well with Canada’s Food Guide First Nations, Inuit and Métis). The very universality of core nutritional truths is defined as a political and cultural construct, as is the notion of what defines health (Hayes-Conroy & Hayes-Conroy, 2013b). The Hayes-Conroys’ work expands on the colonial aspects of nutritional education and counselling, but does not specifically look at the effects of childhood education based upon this idea of the universal, singular nutrition truth.

The most thorough Foucauldian study of nutrition can be found in Coveney’s Food, Morals and Meaning (2006). Focused on the governmentality of modern nutrition education, his research looks more at the disciplinary techniques that are employed through the family. Coveney details the process of applying historical, monastic self-discipline tools in the nutrition discourse to develop self-disciplinary tools that create the modern self-reflecting, self-regulating, health-conscious subject. Governmentality
developed the population sciences: social statistics to track indicators of adequate health, social sciences that track behaviour, and population medicine that determines what will contribute to longer, more productive lifespans (Coveney, 2006; Hacking, 1990). The state can therefore define the nutritional truths through the knowledge it has created, and define both normality and deviance from the healthy condition. This power/authority is then used to determine the proper, self-regulated conduct to be inculcated in the population (Coveney, 2006).

Coveney defines the two aspects of nutrition as: the scientific truths that are established through research, and the ethical/moral obligations of the individual as a healthy citizen. He posits that they form a superb example of Foucault’s empirical-transcendental doublet, treating the individual as both object and subject (2006). It is only when the nature of the doublet is fully apprehended that the constant contradictions of nutrition education and public health efforts make sense. Further, he demonstrates that modern nutrition education is almost entirely focused through the panopticon effect, with constant health/medical surveillance always implicit in the individual’s life. A citizen’s health becomes the witness to, and proof of their ethical and moral obedience to nutrition and lifestyle modifications (Coveney, 2006). This technology of surveillance and pastoral care of the individual allows public health efforts to be focused on all individuals, regardless of their class or social position.

1.2 The Study

This study examines the governmentality of modern nutrition education through the policy documents and classroom texts of Ontario. Advances in modern nutrition science have been used to create institutional authority and power over individual lives and eating choices since the end of the nineteenth century. I am interested in the specific practice of dietary self-analysis; this can be traced through the nutrition education offered to Grade 4 children where dietary analysis entered the curriculum in the 1930s.

The formative years of early nutrition science from the late nineteenth century to the discovery of the vitamins is often described in food studies as the New Nutrition. During this period nutrition was often taught to children as a science that fell in the intersection
of biology and chemistry. The subsequent discovery of the function of vitamins and their essential nature to the health and strength of the population led to a shift in nutrition education and to new public health practices associated with the Newer Nutrition. By the late 1930s, as North America came out of the Depression, Canada looked to its population as a valuable resource when entering World War II in 1939 and sought ways to maximize that resource.

This thesis examines modern nutrition education in Ontario, starting with the 1942 introduction of the first federal Food Rules and the educational materials and policies of Ontario that followed this new form of nutrition knowledge and authority. A second juncture was precipitated in the post WWII economic boom and formed when the Hall-Dennis or Living and Learning Report (1968) combined with the nascent multicultural definition of Canada. Another major shift was experienced in the 1970s when the Nutrition Canada Survey and the Lalonde Report moved the goals of public health towards prevention and the new concerns about overweight and obese citizens. The period of 1995 and through to the 2015 Ontario Grades 1-8, Health and Physical Education curriculum document mark a third approach to nutrition education in the school system influenced by provincial budget cuts and concerns over education quality.

I examine the international development of western modern nutrition science and how the authority of this knowledge was used to create self-disciplinary technologies through Ontario Education policy and Canadian public health policies. The development of the Food Rules and the use of classroom dietary analysis at the Grade Four level became entrenched in nutrition education over the course of the 20th century and this paper will examine this practice through critical discourse analysis of classroom documents typical of my three periods: 1941-60, 1961-94, 1995-2015. The three documents analyzed for this study are:

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4 The New Nutrition is a term from the first modern nutrition scientists and “Newer Nutrition” was coined by Levenstein in Paradox of Plenty (1988) to describe the distinct form of micronutrient knowledge developed in the 1920-40s. I use these terms to differentiate the knowledge and practices of these periods.


As this thesis is written, Canada is in the midst of a major revision of the Canada’s Food Guide; the writing group involved has identified as a guiding principle that “[k]nowledge and skills are needed to navigate the complex food environment and support healthy eating” (Government of Canada, 2017). This is making nutrition education and healthy eating choices once again part of the specialized public health discourse and raising questions of what pedagogies will be used to develop the “knowledge and skills” within the population. Understanding of the historically entrenched intersection of the self-disciplinary technologies of nutrition education, and population level biopolitics of public health, can allow creation of effective teaching methods. These more effective methods and classroom materials would support an individual’s healthier lifestyle choices in childhood and as an adult.

1.2.1 Methodology and Methods

1.2.1.1 Methodology

It has been a particular interest of mine to understand the reasons that the discourses of nutrition and healthy eating have been constructed in North America as a domain of self-recrimination. In our current nutrition discourse we have communicated the essentials of healthy eating: a diet that is high in fruits and vegetables, contains whole grains, limits dangerous fats and overly processed food (Crotty, 1995; Ontario Federation of Agriculture, 2017). Yet in Ontario, the specifics remain poorly understood and highly contested (Ontario Federation of Agriculture, 2017); a healthy diet is often viewed as
punitive and limited (Bisogni, Jastran, Seligson, & Thompson, 2012; Sobal & Bisogni, 2009).

Critical discourse analysis (CDA) seeks to examine both the role of ideologies and power to shape discourse; the role of CDA can be seen as revealing power, dominance, discrimination, and control as expressed in discourse (Wodak & Meyer, 2009). So the tools of CDA may reveal the various functions of the specialized nutrition discourses, which have created a medicalized dietary discourse that focuses on the treatment of disease (such as gluten-free diets for Crohn’s), or the biomedicalized diets that aim to prevent diseases such as CVD, diabetes and cancers through the consumption of protective foods⁵ such as omega-3 fish oils and super-foods. The current specialized healthy eating discourse reassures the individual that eating a proper diet and undertaking the proper amount and type of exercise will probably prevent illness, and probably protect one from the ravages of disease, or ameliorate the severity of disease if it appears. All of these are true at the population level, but cannot be guaranteed for any individual, as a myriad of unique environmental effects are also present. I undertook a CDA to examine how the practice of nutrition education and dietary self-analysis is taken up by the elementary healthy eating education and how it shapes the truths, and possibilities for children, that are created within this discourse.

Foucault used the concept of the regimes of truth to describe the social construction of what is held to be true and false, who gains power/authority by this knowledge and what power can be held by authority thus created (Foucault, 2002c). O’Farrell describes Foucault’s theory that discourse is created to win, or that knowledge is created to give authority, rather than to arrive at empirical truth (O’Farrell, 2005).

Foucault himself described the genealogy as: “a form of history that can account for the constitution of knowledges, discourses, domains of objects, and so on (2002c, p. 118). Garland (2014) described Foucault’s genealogies as being rooted in the present, in a

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⁵ “Protective foods” first emerges as a term in the inter-war period when manufacturers of highly processed foods, such as white bread, suggested that these foods were part of a healthy diet, as long as protective foods were also consumed.
problem explicitly within the current time, which is why they are described as “histories of the present;” they seek to reveal the hidden in our contemporary relationships to technologies of power-knowledge. The genealogy seeks to weave together the “synchronic similarities across disciplines in the same time period [that] were more apparent than the diachronic similarities within disciplines over time” (Garland, 2014, p. 370). Garland suggests that the genealogy’s “troublesome associations and linkages” (2014, p. 372) can reveal today’s practices and institutions as emerging out of the forgotten, and as such, more problematic than they appear.

I believe the genealogical examination of nutrition education reveals the flows of authority/power and those knowledges given truth status. My choice of genealogical CDA is congruent with my constructivist ontology and my conviction of the accuracy of Foucault’s description of the role of biopower in public health. My research examines the indoctrination of elementary school children into the practice of dietary self-examination as a historically created practice, focused by the introduction and use of the 1942 Food Rules. CDA of elementary nutrition education texts used in Ontario traces the effects of these specialized discourses and how this knowledge/authority creates new subjectivities, new identities for children.

Coveney’s work (2006) argues that it is important to understand the empirico-transcendental doublet nature of the nutrition discourse to understand how it functions. Foucault defines the empirical-transcendental doublet in Chapter 9 of The Order of Things (1970) as a mode of subjectification that is from a prior regime of truth, at the threshold of modernity. In my understanding of this complex passage, man, through his ability to create empirical knowledge, transcends his own nature, yet in seeking to capture and communicate this truth, this sublime experience, must descend into the empirical/historical and shed the transcendent. Like Escher’s staircase, the nature of truth is both embodied and historical, empirical and transcendent, and each necessarily defines/creates the other. Coveney argues the remnant of the empirical-transcendental doublet can be seen manifesting now in nutritional education. Truth is defined not only as a reflection of the politics and available technology of the science in a period, or its historicity, but also a reflection of the period’s social discourse on the morality of eating
behaviours, the very definition of the upright or transcendent individual, which is currently defined through health.\(^6\) In *Truth and Power* Foucault says: “there are actually a whole order of levels of different types of events differing in amplitude, chronological breadth, and capacity to produce effects” (2002c, p. 116). I use Coveney’s simplified manifestation of the empirico-transcendental doublet as a definition within this research, as my scope is not to define *man*, but to explore the nature of nutrition education.

Modern nutrition science has evolved through basic understanding of the digestive process, to the distinct needs of the human metabolism, and the complexity of that metabolism in response to modern affluence and stressors. As empirical health science starts to grapple with an understanding of the human, not as a mammal but as an ecosystem with its own biome (Dietert, 2016), and definitions of ethical behaviour become more tribal than societal (Godin, 2014), it becomes more important to use “historical research to disturb contemporary conceptions and help bring about change” (Garland, 2014, p. 371).

Pastoral care is a biopolitical strategy of the state, used to protect the health and longevity of individual citizens in order to benefit from their collective creativity and productivity. This Foucauldian concept is relevant in examining the healthy eating curriculum, as the state is attempting to shape the eating choices of the individual. This pastoral care to increase personal safety and longevity is, in fact, working for the population at the same time as it profits the state. Foucault predicted that biopolitical projects would be productive of enhanced lifespans (Foucault, 1973); nutrition science has not just enhanced lifespans, but also decreased deficiency disorders, and decreased the spread of communicable disease by increasing immune system function. Citizens are likely to live longer, healthier lives if they follow the norms created by state institutions, the empirical, scientific truths of what is needed to stay healthy and avoid risk (Foucault, 1973), but

\(^6\) In nutrition there is often a “should” or “ought,” which are words indicative of moral judgment embedded in scientific evidence-based advice. The empirical science becomes conflated with value driven moral judgments.
only if the state has identified the right risk factors, and has identified the correct nutritional guidance and only, if in fact, there is a single, unalterable truth.

Public health policies surrounding healthy eating education are biopolitical projects, and classroom nutrition education is a self-discipline technology, so using Foucauldian theory and CDA allows an effective exploration of healthy eating education and the changes in the dominant sources of truth.

1.2.1.2 Methods

Barry, Osborne and Rose describe the process of genealogical research as being most important in “…domains that emphasize psychological and anthropological constants or the immutability of nature” (2005, p. 272). I believe that the science of nutrition has presented itself as representing an aspect of immutable human nature, and the science of metabolism and deficiency as universals. Primary nutrition education is where the discourse is pared down to its simplest forms; it seeks to inculcate in youth the basic tenets and messaging of its time and place. Assembling the history and forming an understanding of how the discourse formed the classroom practices of each period allows a new understanding of childhood nutrition education and the dietary self-analysis.

I have followed van Leeuwen’s (2008a) approach to pedagogical CDA. He argues that the power of authority/knowledge is made relevant to different groups at different times through the regulation and proceduralization of social practices. The process of recontextualization of documents allows the perception of the substitutions, deletions, rearrangements and additions of reactions, purposes, legitimations and evaluations. Elements such as the actors involved, their actions, the elements of time and space within which they act are therefore examined (van Leeuwen, 2008a, 2008b).

The work of Coveney on the Foucauldian nature of the nutrition discourse shapes my analysis. Foucauldian CDA, according to Jäger and Maier (2009), centers on four questions: what is valid knowledge in a certain place and time; how it arises and gets communicated; how it constitutes subjects; and what consequences it has on society. These four questions are used to understand the effects of the education, health/nutrition
and economic discourses on nutrition education in Ontario, as the children educated under the changing discourse grow into self-governing adults. The nutrition education of children has been explicitly described as a way to promote health and productivity in Ontario since 1898, and Adelaide Hoodless’ textbook *Public School Domestic Science*. My research explores this biopolitical project through the school curricula and classroom materials used in Ontario, an approach that has not yet been undertaken.

The discourse of each period was assembled through extensive reading of education and nutrition curricula, classroom materials, and policy documents of both Ontario and Canada. Early documents from Britain and America have also been examined, as these outside sources heavily influenced practice. The classroom texts approved for use by each Ontario curriculum or relevant Circular 14: approved texts and resources, the Ontario primary curriculum documents of 1950/51, 1975 and 2015 were read to assemble the period discourse. Text books, policy documents and historical criticism were obtained through: Western Library; the Archives of Western University, University of Alberta, University of Guelph; the Library and Archives Canada; and through purchase.

The six elements of the discourse as defined by Hall (2001) form my area of study: statements about nutrition education; statements about subjects who embody childhood malnutrition; knowledges that are given truth status; rules about how to talk about healthy eating education; the regulation and organization of healthy eating education; and changes to the discourse over time. I analyse the language of the discourse, as well as the non-obvious: interruptions, distortions and changes in what is considered valid knowledge (Fairclough, 2001; Kendall & Wickham, 1999). The discourse strands were analysed into sub-topics of truth, power and identity with comparisons of the three time periods, as well as the absences and neglected topics (Jäger & Maier, 2009).
1.3 Prologue: New Nutrition to the Newer Nutrition: 1840s to 1941

In 1842 Justus Liebig published *Animal chemistry, or, Organic chemistry in its applications to physiology and pathology*, in which he described the chemical makeup up three types of food, describing what we know as the macronutrients. Knowledge of protein, lipids and carbohydrates and the number of calories each produced brought new knowledge and a new authority over food and diet. Stage relates how early home economist Ellen Richards saw the modernization of American diets as essential work that would improve the health and relieve the poverty of the urban, immigrant population. Her 1890 New England Kitchen was set up to feed the poor and educate them in hygiene and the strengths of the Yankee diet by tallying the macronutrients of each meal that was served. The Kitchen was avoided by most of the urban poor she was trying to educate, as Richards deemed flavouring ingredients a waste of money and the food was bland. Richards was shocked that her nutrient tallies were unimportant to the customers of the kitchen, and was distressed over this failed nutrition education effort (Stage, 1997).

Levenstein (1988) argues that her cultural imperialism and failure to recognise the importance of culturally acquired taste preferences doomed the scientifically calculated, effective diets she promoted.

Concurrent with the New England Kitchen effort, Wilbur Atwater received funding from the USDA to fund calorimeter experiments on humans and by 1899 had published *A New Respiration Calorimeter And Experiments On The Conservation Of Energy In The Human Body*, which established that the first law of thermodynamics did in fact apply to humans as well as animals. The ability to determine not only the number of calories in a meal, but the energy requirements of an individual meant that it was possible to define a diet as adequate or inadequate to meet the activities of life.

The science of human nutrition could define the number of calories an average person would need based on size and activity levels and what percent of those calories ought to come from each type of macronutrient. Ostry (2006) documents the twin concerns over malnutrition and infant mortality that drove social and health reforms in this period. The new nutritional knowledge created a new form of authority over the malnourished
subject. Famine and starvation could be defined, adjusted and defeated; minimal caloric needs could be assessed and diets evaluated. This calculation of optimal diets based on caloric needs led to some very interesting dietary advice. It was evident to early food scientists that vegetables and fruit were simply less efficient sources of carbohydrates than grains, and that milk delivered inexpensive and abundant protein as well as lipids. Indeed, a growing child could meet all known nutritional needs on a diet of whole grain bread and milk and leave meat and vegetables for the working members of the family to consume and thus save the family budget. This model of the child’s ideal diet became quite popular in both Britain and America at the beginning of the 20th century and remained in nutrition texts well into the 1940s, despite the recognition of essential micronutrients such as vitamins and minerals that started with Funk’s description and naming of the vital amines in 1912, with vitamin B1.

In England, Seebohm Rowntree was undertaking his massive 1898 survey of York, documenting the conditions of poverty and calculating morbidity and mortality rates by districts. Poverty: A Study of Town Life was published in 1901 and documented the appalling conditions of the urban poor, including their diets. Rowntree was convinced that the plight of the poorest citizens could be improved by adopting a simpler diet that was scientifically balanced and adequate. The poor would spend considerably less of their resources on a diet that would rely heavily on milk or cheese and whole grain breads, eschewing meat and vegetables as unneeded expense. He also calculated the poverty line for the first time as he linked actual household income to the basic needs of a family and the consequences of increased morbidity and mortality when the income of a family was below this minimum.

In 1903 Rowntree presented his views at the hearings of the Inter-departmental Committee on Physical Deterioration. This British enquiry was set up to answer the questions of the military that had rejected so many possible recruits for the Boer war as unfit for service. The military was concerned that the needs of the army might be harder to meet if whatever was causing this deterioration was not identified and corrected. Testimony was heard from many eugenics supporters, anti-poverty activists and medical experts. Almeric Fitz Roy and the committee however, defined the problem as relatively
straightforward. They found that the children of the urban poor were not being fed adequate diets. This was, the committee determined, likely to result in feeble adults who were unable to support industry as workers, unable to support the military as soldiers and ultimately were likely to become a burden upon the parish workhouses. The committee therefore undertook to remedy this waste of Britain’s resources through the feeding of school meals. They further proposed that as the state was being required to step in and assume responsibilities that parents were not meeting, the state therefore had the right to educate children in hygiene, nutrition and temperance in order that they might raise their own children correctly and thus eliminate the problem of inadequately nourished children inside two generations (Fitz Roy, 1904).

Downing, in *The Cambridge Introduction to Michel Foucault* (2008), defines *governmentality* as the belief held within the discourse that regulation and governance of a subject is essential to the health and safety of the population, usually in response to a crisis or the *problematization* of an issue. That Fitz Roy chose to use the growing authority of nutrition science to silence the eugenic arguments and quash the anti-poverty economic arguments is interesting. There was no discussion of better pay and letting the poorest workers of Britain feed themselves adequate diets; rather the governmentality of nutrition science is exercised through the education of children into self-disciplinary technologies of nutrition. The British government saw its obligation to the children of the nation as a resource management problem; as parents are not managing the resource properly, nutrition supplementation and education will eliminate the problem. The state did not trust that parents would manage better economic opportunities by caring for their children, nor did it antagonize industrial interests that were paying incomes far below Rowntree’s poverty line. The direct feeding of children applied the state’s resources to develop citizens who would give back to the country for the greatest number of years and at the same time utilized the newly established state education system to resolve the problem over the long term. The use of the authority and power of the new nutrition knowledge is linked directly to school curricula; the government of nutrition in children is established as a way to overcome poverty by making the poor responsible for better managing within their economic resources.
In Canada the influences of international nutrition science and the early Home Economics movement can be seen throughout the country, yet there was a distinct difference in the curriculum of Ontario. Adelaide Hoodless attended the influential 1903 Lake Placid conference, and was deeply involved in the domestic science curriculum of Ontario. Her 1898 textbook, *Public School Domestic Science*, was a thorough textbook, with sections on the chemistry of food, hygiene, household management, invalid and child care, in addition to the expected recipes. She gave a good account of the chemical understanding of food of the period and in direct contrast to her British and American colleagues stated that nitrogenous foods or albuminoids (proteins) were essential: “As already stated, a mixed diet is the only rational one for man. An exclusively vegetable diet, while it may maintain a condition of health for a time, eventually results in a loss of strength and power to resist disease” (Hoodless, 2006, p. 10). In contrast to her international colleagues, Hoodless defined meat and bread as the essentials of a complete diet. She also compared the results of Atwater to those of other scientists in England, Germany and Italy, noting that they predicted different values. Further, she defined the art of cooking as the development of flavours that “make the mouth water,” (Hoodless, 2006, p. 18) a far cry from Ellen Richards’ disdain of vegetables and spices as mere flavouring agents and as such unnecessary. As Hoodless was not just the textbook’s author, but set the curriculum for domestic sciences in Ontario and was responsible for the training of the teachers of domestic science at the Normal schools of Ontario, her influence on Ontario’s nutrition education would be felt for decades. For children, this would be mostly in the intermediate school level and older as female students learned domestic science or home economics. Interestingly, in some Ontario school boards while girls attended household science and boys attended shop classes, for a few weeks each year they reversed places and learned “basic” skills, but this was not a universal practice (Department of Education, 1942).

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7 Organized by the co-founder home economics, Ellen Richards

8 Normal schools were institutes of teacher training in Ontario, 1847-1953.
Hoodless’ opinions on the importance of a varied diet, while influential in Ontario, were not universally held at the opening of the 20th century. The application of reformers’ interpretations of the science of the day resulted in proposed diets that were usually bland, often meatless, and according to the reformers, far more cost-effective than traditional or culturally based diets. The nutrition scientists of the period were a bit more sceptical and the early 20th century saw a determined search for the vital or accessory factors in food that were needed for humans. In 1910, Kazimierz Funk isolated the first of the *vital amines*, the substance we now call vitamin B$_1$. For the next thirty years, nutrition science discovered more and more vitamins, substances needed by the body to maintain health and functionality. These discoveries led to the scientific knowledge regarding the etiology of deficiency diseases, an important breakthrough after the failure of hygiene theory to explain or eradicate some of the persistent diseases such as pellagra and scurvy. The growing sophistication and relevance of nutritional science meant an increase in the authority and power of the knowledge created.

Increased knowledge creates increased biopower and the governance of nutrition was of immediate value in the care of a nation’s citizens. Foucault stated “at the same time, the development of the different fields of knowledge concerned with life in general… methods of power and authority assumed responsibility for the life processes and undertook to control and modify them” (1979b, p. 142). If the increased consumption of simple foodstuffs rich in micronutrients can create a stronger, vigorous population with the capacity to be more effective employees or soldiers, it follows that it is in the best interests of any nation to make sure its citizens obtain a complete diet. Ostry documents the public health projects of food fortification undertaken in Canada as the federal government sought to improve the nutritional status of Canadians within the division of federal/provincial powers (Ostry, 2006).

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9 The discovery of Vitamin A came after vitamin B, in 1912 by Hopkins, but was rediscovered in 1917 by a far more publicity savvy American, Elmer McCollum who named it Vitamin A, leaving thiamine the name vitamin B. Despite McCollum’s claims about Vitamin A, the Nobel was given to Hopkins alone.
The economics of the newly discovered vitamins were rapidly exploited in North America. Levenstein argues that a better name for the essential factors of the diet could not have been invented, as companies promoted the vigour and vim that accompanied the consumption of vitamins (Levenstein, 1988, 2012), and the middle class preoccupation with vitamania persisted right through the Depression. The size of the vitamin industry even during the Depression was staggering, with over $100 million sales per annum in 1938 (Levenstein, 2012). While the middle class bought vitamins, the home economists and social reformers were taking the gospel of the balanced diet to the poor and hungry. Ziegelman and Coe describe the persistence of the New York school system lunchroom supervisors during the Depression and their quest to have children of all ethnicities eat the “‘mild’ and easily digested fare endorsed by home economists” (Ziegelman & Coe, 2016, sec. 1390) and the constant nutrition education in the lunchroom that was further reinforced by nutrition-centered projects in art, music and English classes. During the depression, school lunches were often the only meal the urban child would eat each day, and the home economists of New York took their duty to feed the children nutritious lunches seriously. They also took every opportunity to drill the children in the benefits of the ordinary American diet (Ziegelman & Coe, 2016).

The influential Teaching Nutrition to Boys and Girls (1934) by Mary Swartz Rose, a professor of Nutrition at Columbia University, comes out of this period and was instrumental in the establishment of the nutrition education programs in America, Canada and Britain. Rose developed a curriculum around a series of rat experiments designed to provoke deficiency diseases in one pair or rats whilst the control rats were fed a complete, healthy diet. Rose was adamant of the placement of these exercises in Grades 4 or at the latest Grade 5, for at that age the children began to question their teachers and authority figures and would no longer accept nutritional prescriptions. The deficiency disease states were meant to persuade children that their food preferences were less important than the truths of modern nutrition science. She firmly believed in the whole wheat bread and milk dietary for children. Fruits, vegetables and meat in the diet were
“desirable” and more “appetizing” but not essential to a child’s wellbeing. Other modules in her education program explored the variable needs of bodies based on size and amount of work, as well as the roles of vitamin A, vitamin C, and calcium in health.

*Teaching Nutrition to Boys and Girls* is a program for the promotion of science as much as nutrition. The entire education program is based around the promotion of science within the classroom, on the discovery of nutritional truths by the scientific method and the training of young people in this method. The placement of these experiments in Grade 4 is deliberate. It is meant to provoke deep emotional responses to the deficient rats’ condition, and to convey information that the children are not in a position to question or argue against. It was Rose’s opinion that children “must have convincing evidence that [the] dietary practices recommended are really better than their own free choice” (1934, p. xi). The deficiency disease states were used to inculcate dread of trace or mild deficiency in the child’s diet. Rose states: “the aim is to develop the attitudes which will enable a child to learn to like any food he ought to eat. This is surprisingly easy if children are trained from their earliest years” (emphasis added) (1934, p. xiii). The influence of education is seen as an effective way to form a lifetime of healthy eating habits. Rose wrote that elementary nutrition education is directed at fulfilling the civilian’s obligations to be healthy and fit; for her, modern nutritional science was the best guide to achieve that goal.

This book is typical of the discourse that had been developing from the authority and knowledge of the *Newer Nutrition science*; nutrition education of children was essential to the early indoctrination of obedience to scientific knowledge, in order to produce strong, beautiful, healthy citizens. Food was seen as nutritious in this discourse. It was not linked to culture or identity with the exception of promoting an identity as modern, ethical citizens who embraced scientific knowledge and turned their backs on tradition and personal preferences. There is a scientific approach to nutrition in this book, which includes the firm conviction that science has the power and therefore an obligation to

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10 In her 1917 text *Feeding the Family*, Rose advised that vegetables need to be cooked until mushy and possibly sieved until the child was 8, and might be best avoided altogether until that age.
improve the lives of humankind. Rose held the Kantian conviction that if the children know and understand the science of nutrition, that they will then be obliged to act on this knowledge and eat a healthy diet. In her worldview nutritional truth had priority over all other motivations or limitations and within the truths of nutritional science were a new era of health and wellbeing.\textsuperscript{11}

This nutrition text was foundational to many of the education materials that would be produced for the next thirty years. It established ways of speaking about nutrition such as describing those that ate deficient diets as \textit{picky eaters}. It established the teaching of nutrition as a process of \textit{doing} science, positioning nutritional knowledge as empirical truth produced by that science. It also used hyperbole and distortion of the science by using the deficiency diseases to create fear of vitamin inadequacies in young children. It is fascinating to me that Rose wrote this book in a period of rapid expansion of nutritional knowledge with the frequent inverting of nutritional truths.\textsuperscript{12} Yet in the midst of all this change in nutritional truths, Rose confidently asserted the nutritional truths of the early 1930s. Such was the influence of this book and the author that these truths were taught well into the 1950s, despite being debunked by subsequent nutrition research. Rose’s proposed rat experiments were described as “popular” in an Ontario elementary health curriculum text of the early 1970s, and remain as the basis of introductory undergraduate biology courses to this day.\textsuperscript{13}

\subsection{1.4 Nutrition for Everyman}

The public health of this prologue period 1904-1942 was based in the firm conviction that good hygiene and good nutrition would change the lives of the population. The

\footnote{\textsuperscript{11} Foucault in \textit{Birth of the Clinic} describes a similar belief during the French Revolution: the government closed all the schools of medicine as once citizens could eat properly there would be no illness.}

\footnote{\textsuperscript{12} Rose stated emphatically that children didn’t need any vegetables before the age of 8 in 1917; by 1934 she was writing of the essential nature of vitamin A and C in the child’s diet.}

\footnote{\textsuperscript{13} Changes in the discourse over the appropriateness of animal experiments have moved these experiments from the Grade Four classroom into undergrad biology programs, where they remain popular and effective teaching instruments on the role of deficiency diseases and the structure of the scientific experiment (personal communication, Dr. L. Marchuck, 2/14/2016).}
improvements science was making in the lives of citizens were realized and captured in falling infant mortality rates and other areas of government interest. The science of nutrition was complex and although it was possible to simplify and teach it to children successfully, it required much training of the teachers to do so (Rose, 1934). Yet the belief in the science of nutrition was probably stronger than the science itself. In Britain, scientists had been put to work on a project of determining how to best optimize the nation’s nutrition, right down to how many fields of each crop were to be sown in order to feed the population an adequate diet (Ministry of Food: Scientific Adviser’s Division & Pyke, 1945). The League of Nations was pressuring its member nations to find locally acceptable nutrition standards, despite the fact that nutrition science was not at a point where it was actually possible to determine anything beyond minimums needed to prevent deficiency (Ostry, 2006). There remained confusion and considerable anxiety as to what a proper diet was, a condition that is familiar to most who survey the field of nutrition in 2017.

The next chapters describe the changes that occurred as a response to these rapid scientific changes, and the reactions of the Canadian and Ontario governments to the shifting knowledge of this prologue period.
Chapter 2

2 Guided and Misguided: Nutrition Education in Ontario, 1942-60

The efforts of nutrition education to remove confusion and support the selection of an adequate or even optimal diet flourished with the help of the Home Economists. Trained in universities and colleges, the home economics (HEc) professional might specialize in nutrition, or in many other aspects of the home and family, yet their avowed purpose was the application of science in the lives of the citizens. Active in public health and industry, this body of experts sought to bring the benefits of a scientifically managed life to everyone, incorporating the newest of scientific advances and the efficiency of industry to the home and family (Levenstein, 1988; McGrath & Johnson, 1968; Stage, 1997). Knowledge translation, although not a term of the period, was a primary purpose of most HEc positions (Stage, 1997). The perceived problem of misguided, false and deliberately fraudulent nutritional knowledge was given new urgency with WWII, and new solutions were required. The HEc movement had risen in power during the depression with their knowledge of economical, safe and healthy ways to manage the care and feeding of a family, often backed by government knowledge/authority. It was to play a significant role for the next two decades, shaping the consumer knowledge/information that flowed out of government policy, and guiding nutrition education.

2.1 Nutrition and Population Health, The Food Rules of 1942

The effects of both the Depression and the food rationing of World War II on the diets of all Canadians had to be considered by federal public health policy makers. In light of the new discoveries about essential vitamins and minerals and deficiency diseases, it became more urgent to ensure that citizens were getting nutritionally adequate diets, rather than just sufficient calories. It was especially important to ensure the health and vigour of the children of the nation, given the new knowledge of the importance of childhood nutrition to subsequent adult health and strength. A governmentality of eating however, moves
from the regulation of food fortification and other biopower applications into what Foucault called anatomo-power or self-disciplinary technologies (Foucault, 1988a). This would call for different approaches and would require moving nutrition knowledge from the expert knowledge of the unseen, untasteable nutrients that only chemists, biologists and nutritionists understood and that was used to improve population health, to a nutrition knowledge for Everyman.

The Food Rules were a major, intensive effort of the Canadian Council on Nutrition and Nutrition Services,\textsuperscript{14} to standardize a diet that was radically different from the majority of the New Nutrition’s scientific dietary advice. This was a new dietary message for the common man: there was now a way to eat a healthy diet without involving scientific measurement. Food was ordered into six distinct types of health-protective foods, with a suggestion of the number of servings/amount needed a day for each kind of foods that would meet the Recommended Daily Allowances (RDAs) for vitamins and minerals. The Food Rules were based in part on the 1938 Canadian National Dietary Standard of the Canadian Council on Nutrition, which was used to provide adequate nutrition to families through the Depression\textsuperscript{15} (Ostry, 2006), and the development of the recommended dietary allowances (RDAs) by the American Food and Nutrition Board (Nestle, 2013) as interpreted by Canada’s own Nutrition Services. Mosby and Ostry both note the influence of the Department of Agriculture in promoting the largest sectors of Canada’s domestic food production, meat and dairy, as having the highest health protective properties, privileging them over other foods.

The grouping of foods that share common essential nutrients and provision of basic estimates of what would supply an optimal diet was seen as a way to form nutrient knowledge into rules of eating that would protect population health, in other words, as an instrument of biopower. It is important to understand that the Food Rules of 1942 are a

\textsuperscript{14} Formed in 1941

\textsuperscript{15} Ostry documents the political role of the Dietary standard as it was used to set relief payments and was therefore a matter of considerable economic pressure and resultant compromise
population health tool. The Food Rules are a proceduralization of nutrition knowledge, a way to allow non-expert individuals to examine their diet and correct deficiencies in that diet when compared to a standard or norm. This standardization of the healthy diet is a way to use the power of averages and to increase the population health by encouraging more people to eat a diet that is considered sufficient. The more people who embrace this form of self-surveillance and alter their diets to conform to the rules, or to more closely comply with the rules, the healthier the country’s population will become. The Food Rules and accompanying publications, the Healthy Eating pamphlet and the Food Rules Score Sheet, sought to establish healthy, achievable norms for the Canadian population and to give Canadians the needed tools to meet these norms. The Food Rules were never an individualized eating plan, nor did they address personal health issues; that required knowledge/expertise beyond the Food Rules.

The “popular” score sheets, as they were referred to in other concurrent government writings, could be easily obtained from the federal government. Nurses and educators were encouraged to keep an abundant supply for distribution. The score sheets that allowed individuals to track their diet quality for a week at a time were necessary to move population goals down into the individual citizen’s surveillance and behaviour modification. The Food Rules Score Sheets were printed on thin, blue paper, easily distinguished from other documents, small enough to fold up and keep in a pocket. They were not record sheets or check sheets but score sheets, and allowed you to compare your score to a maximum score and to calculate your averages by food group and by total dietary compliance, with both a daily and weekly score. This form of scoring and comparison to the perfect score posits an ideal meal plan\footnote{16} that Canadian should aspire to. Nutrition may have escaped the scientist’s lab, but it was still a process that required quantitative measurements, regulation and adherence to norms. Nutrition was quantified, measured, \textit{scored and judged} on its adequacy and compliance, with the obligation on the individual to improve low scores.

\footnote{16}{It is notable also that extra portions are not scored; this score is to show sufficiency, not excess or actual consumption.}
The re-education of the population on the necessity of a varied diet, particularly given the truth claims of the last four decades, required the dissemination of this knowledge through multiple channels, and Nutrition Services was happy to send copies of the Food Rules to churches, schools and many other groups. Home economists, nurses and teachers were referred to the *Healthy Eating* publication of 1943, created by Marion Harlow to explain the new Food Rules, so they could assist others to use the Food Rules. This application of self-disciplinary technologies allowed the state to move the governmentality of nutrition down into anatomo-power through the surveillance of the family, the school and social groups.

It is important to place the promises of health through better nutrition into the changing population health discourse. Gallant, Ogunnaike-Cooke and McQuire define 1948 as the peak of tuberculosis cases in Canada with improved nutrition being one of the major reasons for the subsequent decline of morbidity and mortality\(^{17}\) (2014). Fraser, in his study of Historical Statistics of Canada, calculates the infant death rate or number of deaths per thousand live births, at 102 in 1921 falling to 42 by 1950, while the maternal mortality rate dropped from 4.7 to 1.1 over the same period (Fraser, 2014). These improved population health markers are considered indicative of nutritional health, and contributed to the authority and power of nutrition knowledge. The Federal government and the citizens of Canada saw significant benefit in the application of nutrition science. The public health projects that sought to remedy nutritional deficiencies succeeded through food supply regulation and supplementation (Mosby, 2012; Ostry, 2006) and the dissemination of nutrition educational materials to encourage uptake of the newly defined healthy diets (Mosby, 2012). Elementary nutrition education was significant in disseminating the messages of the 1942 *Official Food Rules* in order to improve population health and adherence to the new Food Rules.

The widely distributed posters of the 1942 *Official Food Rules* urged “EAT RIGHT – FEEL RIGHT, CANADA NEEDS YOU STRONG” and added across the bottom the

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\(^{17}\) This decline preceded oral antibiotic treatments (1952), though streptomycin injections were being used against TB from the end of the war on and also contributed to the decline.
injunction “DO YOUR PART IN THE CANADIAN NUTRITION PROGRAM.” (Mosby, 2012) The rules were given to the citizens as instructions, not as the guide they would become in 1961, but as rules. The nation of Canada required patriotic obedience as it required healthy, strong bodies to provide economic and military strength as a growing country. Canada, as a nation at war, was clear that the citizens were seen as a resource that needed to be marshalled and maintained properly.

2.2 Moving from Wartime to Peace

This wartime discourse of patriotism was short lived; by 1944, the Official Food Rules had been reprinted as the Food Rules without the civic responsibility admonishments. The 1944 revised version simply reads: “These are the foods for health. Eat them every day. Drink plenty of water.” (Health Canada, 2002) The major change was the combination of eggs into the Meat and Fish recommendation and the addition of cheese to the recommended protein sources. The Healthful Eating companion publication for teachers and nurses was also extensively revised in 1948, both in text and images. Original authorship credited to Harlow was replaced by authorship by the Nutrition Division, Department of National Health and Welfare. Gone were the hard science and blunt explanations that nutrients make you healthy and strong, replaced by messages about the benefits of good nutrition through healthy eating. The document is lavishly illustrated, often with visual metaphors such as a train engine being stoked in the description of how carbohydrates provide energy for the body. The post-war Healthful Eating publication was a document of persuasion. Diets were adaptable; each member of the family had different needs that would be met in differing ways from infancy to old age. Throughout the policy literature of Canada during this period, the expectation was clear that teachers would become knowledgeable and enthusiastic disseminators of nutrition knowledge (Archibald, 1946; Ontario Department of Education, 1950; Phair &

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18 Cheese remained a protein source until the 1977 Food guide when it became a dairy item.

19 Previous images on the page were activities of daily life: i.e. children playing an adult sweeping.
Speirs, 1945). Education in Ontario however was changing rapidly, and expectations of teachers were to change substantially.

In Ontario, in 1945, the Hope Commission was tasked to report on how to meet modern educational needs in Ontario post WWII. Five years later, the Commission returned a 900+ page report that proposed a series of alterations to the education system to reduce the education provided to Ontario children and to lower the costs of public education for the province. In the five years of the Commission, Ontario experienced major changes in its economy and birthrates, as well as massive post-war immigration; the Hope Report failed to address these important shifts. The Hope Report suggested ending high school in Ontario with Grade 10, which neither employers nor students wanted. Businesses in Ontario no longer hired students with a Grade 10 completion certificate as they had prior to WWII; they sought Grade 12 graduates and this caused students to remain in school longer. According to Harold Campbell’s 1952 *Curriculum Trends in Canadian Education*, the need for a high school diploma to get any clerical job or further training opportunity changed schools dramatically. The students who previously would have left school on completion of Grade Ten were remaining in school to Grade Twelve, causing overcrowding and an increased need for teachers. Further, many of these students were not academically oriented and the extant senior curriculum was aimed entirely at university preparation; this caused further problems as students often repeated courses to obtain a better grade, placing a greater strain on already taxed resources. Massive curricula revisions added extensive non-academic course choices, such as shop and home economics, in order to accommodate the new student demand and ensure the success of the students trying to complete a Grade 12 diploma (Campbell, 1952).

The changes in perceptions around the increased need for education affected not just the high school curriculum. Prior to WWII, the Grade Eight completion certificate was traditionally the highest many rural children attained; a Grade Ten completion was typical for students entering further technical or vocational training, and a Grade Twelve
diploma was necessary for those entering university.\textsuperscript{20} Ontario developed a set of new curricula to support the changes proposed in the 1950 Hope Report as the province moved to end publicly funded schooling at Grade Ten. The curriculum for Intermediate levels (Grades 7-8) was rewritten in 1950 and completed with a massive amendment in 1951. The proposed earlier curtailment of public education meant curriculum subjects were to be introduced earlier in the intermediate grades to allow proper support for the senior grades. This included the earlier introduction of the health, nutrition and home economic curricula.

Shifts were occurring in the size and locations of schools also. The baby boom and substantial immigration had shifted population into urban areas at unforeseen rates. School boards were shifting from supporting rural one-room schoolhouses to supporting new, larger institutions built to complement the suburban building boom and the rapid growth of families. The new suburbanite parents of these children were immersed in an educational discourse that promoted the importance of education to achieve success in the white-collar jobs that Ontario was offering. Schools were pushed to add kindergartens and offer early childhood education opportunities, and the sheer numbers of the baby boom population meant that new schools needed to be built. The rapid expansion of the economy and the building boom meant that the tax revenues were available to build schools to accommodate these children, but the staffing of them caused problems as the Normal Schools (teacher training colleges) struggled to expand to meet the demand for new staff (Gidney, 1999).

The size of the voting population that had children enrolled in school made education an issue of note in the political discourse as well.\textsuperscript{21} Parents were pushing for more and expanded educational opportunities for their children at the same time as the government

\textsuperscript{20} The Hope Report proposed a new tuition-charging institution that would offer two years of university preparations, for the students that were going to attend university had families with the resources to pay for this service, and Grade 12 was unneeded by any other students.

\textsuperscript{21} In 1950s Ontario, the education portfolio became a precursor to party leadership for the provincial Conservatives.
was trying to reduce schooling opportunities out of fear of the rising costs associated with population increases. Widespread public opposition to the Hope Report, and the expansion of the tax revenues that accompanied economic growth at unprecedented rates, meant that most of the Hope Report recommendations were abandoned. Further, the social discourse was being pushed by the growing number of parents to consider education in a new way, allowing the progressives in education to gain power (Gidney, 1999). As Ontario experienced a surge of multi-cultural population growth throughout the 1950s, progressive education reform was looked on in a favourable light, as it was perceived as offering more opportunities and as being a way to develop the potential of the baby boom children to flourish in a rapidly changing world.

The changes to the high school home economics curriculum that Campbell outlined were reflected in the 1950 Intermediate Level curriculum and were echoed in the Primary and Junior levels. The education of this period was still tied to the social expectations of the conservative, largely Protestant or Catholic school boards and their inspectors.

### 2.3 Elementary Nutrition Education

The 1950 nutrition education curriculum was included in both science and home economics, with recommended texts for classroom use in these courses. Many of these books were American as textbook publishing in Canada was still limited in the post-war period. The textbook, *Good Food and Nutrition for Young People and Their Families* was on the list of Ministry of Education approved texts supporting the 1950 Ontario curriculum (Ontario Department of Education, 1950). The text was used in Ontario classrooms and for teacher education, making it influential in the nutrition education discourse; it was typical of the approach used in other documents on nutrition education from the period.

Written in 1946 by Amidon, Bradbury and Drenckhahn, *Good Food and Nutrition for Young People and Their Families* demonstrates many of the aspects of the nutrition education discourse of the period. Published in accordance with the recommendations of
the War Production Board, this book has only one colour plate: the American *Basic Seven Chart*, similar to Canada’s *Food Rules*. The first section of the book is entitled “Let’s Eat Right” and walks the child through the commonness of poor nutrition, the importance of good nutrition and then the self-evaluation of diet. After the chapter on diet evaluation, there is one that explains the importance of three square meals a day and how to ensure one is eating them; how to modify the concepts for industrial workers, the office worker, and the sick. This chapter is heavily based on the proto-food guide of America, the Basic Seven, just as Ontario nutrition education relied on the Food Rules. There is a chapter on the responsibilities and pleasures of mealtimes, addressing the popular belief that pleasant meals are better digested and therefore more nutritious. Children thus have a special obligation to learn good table manners, this being essential to the nutritive value of meals. The final chapter of this first section focuses specifically on the necessity of a proper childhood diet for every child as a citizen’s obligation.

The title of this section “Let’s Eat Right,” carries us into the world of nutritional authority. The good, better and best are absent terms; there is instead only right and wrong in nutrition with children expected to learn what is right, and do it. Unlike Rose in *Teaching Nutrition to Boys and Girls*, who was confident that children learned from experiences gained doing scientific experiments, Amidon et al. expect children to follow directions. The understanding gained through classroom experience is absent and unneeded; in its place is hyperbole and government authority. Children are, in the terms of the text, woefully ignorant and possibly misguided. This lack of proper understanding is rife and the only remedy is education. The subtitle of the book “*for Young People and their Families*” indicates the extent of the problem according to the authors and publisher. The young people are expected to learn proper nutrition and teach

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22 Ostry documents that the League of Nations Health Organization was pushing for each nation to form individual nutritional standards throughout the 1930s. Many different countries published their first version of the food guide in the 1940s.

23 A later section in the book is entitled “Are You on the Wrong Track?” and explores nutritional fallacies and the unassailable nature of nutritional science truths.
not only their siblings, but also their parents. This is indicative of the change in obligation that is to be placed on children; they are no longer only to be held responsible for themselves and the children of future generations, as the 1904 Fitz Roy report demanded, but are also responsible for the current actions of their parents and the entire family.

The chapter on the nutritional evaluation of diets is worth examining in detail as it combines the educational process with an almost evangelical process of nutritional re-education of their parents and siblings that the children are defined as responsible for. If, as Coveney (2006) says, all nutrition education may be seen through the empirico-transcendental doublet, this American book, written during war years, strongly emphasizes the transcendental role of the patriotic citizen. It is a moral and patriotic duty for a child to learn the empirical science that defines the healthy diet. Children will grow into the roles of soldier, or a worker who supports those soldiers; they have a duty to eat correctly and become the strongest, healthiest citizens possible. The process of eating right has multiple definitions and it is an area of governmentality. Canada’s Food Rules and America’s Basic Seven are there to define proper behaviour within the authority of nutrition science. The moral obligations of the citizen to the state demand obedience to the authority of nutritional expertise, for according to Amidon et al., “Everyone needs to know and be able to use certain nutritional facts. Such knowledge is part of well-informed and enlightened citizenship” (1946, p. 5).

To demonstrate the correct and proper way to evaluate one’s diet, the reader is given the pedagogical story of Billy Bradshaw and his family, and their experiences evaluating their diets. The introduction to the story of Billy Bradshaw starts with the author violating the fourth wall and directly addressing the reader’s dietary concerns and the need for truth, asking them “Take nutrition and the truth. You want to know whether you and your family are eating what they should, don’t you? This chapter will help you find out” (Amidon et al., 1946, p. 28). The reader is invited to be a co-witness, with the narrator, to the Bradshaws’ nutritional enlightenment. The reader is defined as the first character in the story, the truth of nutrition is their sought after goal, and the inevitable remedial action to their diet is both required and noble, as it comes out of the legitimate authority of the nutritional truth. As an expression of biopower, this chapter offers the
explicit calculation of one’s diet according to accepted nutritional knowledge, which is presented as an agent of transformation that cannot, and should not, be resisted. The authority of the government Food Rules will show you your mistakes and in the words of Amidon et al., how “to do things over and do them right” [emphasis added] (Amidon et al., 1946, p. 28). There is no room for improvement; there is only the binary of right and wrong. The price of knowledge is the obligation on the reader/student to evaluate and act to correct one’s diet, but this process is a noble one. It is possible to rise out of ignorance into the truth as defined by nutritional authority and backed by government.

As the narrative unfolds, Billy Bradshaw at 10 years old has embraced both nutrition education and self-discipline within the school setting and is about to educate his family. Coveney’s (2006) description of the process of self-observation, self-examination, confession and self-renunciation is an accurate description of the dietary analysis that is being brought into being in this passage. The goal of the proper citizen is to undertake this self-disciplinary process in order that self-reflection might become true self-regulation, conforming to both empirical science and transcendent moral obligations (Coveney, 2006). This 1946 text is eager to introduce us to the new tools available to Everyman to undertake the rituals of reflection, confession and abnegation. The chapter containing Billy Bradshaw’s story is entitled “Checking up on Your Food.” The narrative starts with Billy and his mother discussing that night’s radio show on the Basic Seven Chart that is the subject of the classroom lessons Billy has received, and of Mother’s Parent Teacher Association meeting. The legitimation of the knowledge through the various channels demonstrates to the reader the authenticity and relevance of the Basic Seven as a form of authority. The truth and knowledge contained by the only coloured plate in the book is of public and civic import, beyond just the education of a child. Mother asks Billy to get a copy of the Basic Seven poster for her from his teacher. The hierarchical dissemination of nutrition knowledge is demonstrated: standardized by the government, distributed by the schools, delivered by the student to the family, and finally, acted on by the members of the household.
When the food guide is brought triumphantly home, it is folded, its knowledge hidden,
secret, but ultimately available to the seeker. *Mrs. Bradshaw* opens the document, in one of only three references to her title/name as opposed to her position/role as *Mother*, in the entire story. Mrs. Bradshaw is being given power, knowledge and authority; linguistically, she moves beyond her role as mother as she rises into this knowledge. Interestingly, the text capitalizes the slogan “FOR HEALTH… EAT SOME FOOD FROM EACH GROUP…EVERY DAY” (p. 30) giving it different emphasis than in the actual document. The text describes the image of a distinctly white, hetero-normative family as “a picture of a man, woman and two children” (p. 30) that bears the caption “U.S. Needs Us Strong, Eat the Basic Seven Every Day” (p. 30). The obligation is on every member of white, middle-class society, of all ages, to heed the governmental authority found in the food guide, and for Others to emulate and assimilate into this culture. The state has need for healthy citizens that will be productive members of society, and population level science shows that following the food guide with regular exercise are factors that will optimize health. This oversimplification and conflation of population level health with personal health denies discussion of individual factors, such as economic resources and genetics, and external factors such as economic policies, environmental degradation and the condition of the food supply. This document supports and encourages the belief that health is wholly attainable by an individual and solely their responsibility.

Billy and his mother explore the different food groups, defining and explaining each for the reader. Billy’s knowledge of the food guide is gained from Miss Hawkins, his teacher. At home, he initially takes on the role of teacher, explaining to his mother, but ultimately his mother winds up reading the guide aloud and exploring the knowledge contained in the guide. Billy and his mother agree to test their diets against the food guide; Mother further decides that “After supper Priscilla, Daddy, you and I will all try

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24 There are three textual references to the *foldedness* and *unfolding* of this document in three consecutive sentences, strongly emphasizing this fact.

25 She is always referred to by her name/title as a source of information and copies of the guide.
and remember what we had to eat today and see how our diet measures up,” (1946, p. 31). Billy is excited, as it will be fun. The presentation of the diet self-evaluation as an activity akin to other after-dinner games and entertainment, as a fun activity for the whole family is interesting. We have just been reminded that it is an obligation to the state to be healthy, yet the guidance and wisdom of the new food guide will make this self-examination into a fun, normal activity. The portrayal of the submission to the self-disciplinary process as a family event, the proceduralization of self-examination and confession as a fun activity, is coupled to patriotic obligation and the normalizing expectation of the white middle class to be nutritionally savvy and willing to do the work to become so.

The process of nutritional assessment portrayed in this text is an exercise in applied biopedagogy. After dinner Billy gathers the family; each member is given a paper and pencil and directed to write down all they had consumed that day. Billy as the source of knowledge is clearly directing the action; Mr. Bradshaw is resistant. It is clear to the reader as witness that Billy has been transformed by his new knowledge of the importance of diet, while his father and sister Priscilla remain ignorant and unchanged. In her second show of authority, Mrs. Bradshaw laughs at the reticence of Priscilla and her husband to participate in Billy’s game and directs both of them back to Billy’s instructions. Billy explains the process: that each must make a chronological list of all foods eaten over the course of the day, “exactly” as consumed. This normalization of the recording and categorization of foods in the diet is essential to using the food guide and to the sorting by nutrients that are the hallmark of modern nutrition science. This early version of dietary examination is missing portion size, but is substantially the same as a modern dietary assessment. This form of regulation of nutrition information and the proceduralization of diet self-examination remain typical seventy-five years later.

Mr. Bradshaw submits to the process and immediately becomes Ben: his authority, position and power are lost as he becomes equal to his son in the process of self-observation. Ben and Billy are acknowledged in the text as equals in dining opportunity and choice, but at this point Billy still has more knowledge and power in the conversation. In the text there is a line illustration of Father and Priscilla sitting at the
table, heavy bodies in non-submissive gestures, yet looking to young Billy, who is standing in a powerful pose and facing his family. Mother is standing behind her husband. The illustration is entitled *Facing family food facts*. Billy is the leader, the authority in both text and illustration; his new knowledge of nutrition is to be both acted on in his own dietary choices, and brought home to his family to make them into better, healthier citizens. Ben’s list is then divided into the binary of “Dad Had”, and “Dad Didn’t Have.” This is done aloud, and at the end of the categorization *Father* confesses that he has not eaten well; self-observation has moved to self-evaluation and public confession. “Well, your Dad didn’t do so well, did he? … I’ll certainly have to do much better than that if I’m going to be a good example for my youngsters” (Amidon et al., 1946, p. 34). Self-renunciation follows along with a pledge to self-regulate. At this point in the story *Mr. Bradshaw* has completed all the steps of a self-disciplinary technology, and is granted both the return of his title, and the additional power to direct the dietary analysis of the rest of the family. Power shifts from Billy to his father as knowledge and authority are completed through acceptance of all aspects of the reflection/confession and abnegation of self-discipline. *Mr. Bradshaw* has not just power, but the obligation to lead his family to better nutrition by taking up his authority as leader of the family.

The narrative next turns to Priscilla as the lowest powered actor; her list also is divided into the “had/did not have” binary. Mrs. Bradshaw, in her final use of authority, chides her daughter for holding false “notions,” and Priscilla agrees to consume disliked items such as orange juice to improve her overall diet. Priscilla is almost powerless in the

![Facing Family Food Facts](image)

Figure 3 *Facing Family Food Facts*, *Good Food and Nutrition*, (Amidon et al., 1946, p. 33)
narrative. Despite being older than Billy, she has missed learning the newer nutrition at school and lost the opportunity to be enlightened. She is laughed at, chided and must commit herself to eating and drinking disliked foods for the sake of her health. Priscilla is criticized and her behaviour judged as inadequate by every other member of the family; her only recourse is confession of her faults. Her personal likes and aversions are irrelevant, her knowledge is dismissed as misguided and judged as powerless, she must submit to the authority of her family and the governmentality of the food guide. This example of how the powerless are humiliated, and must submit through adaptations of diet and behaviour is chilling. Priscilla is abject, forced to conform to differing standards and ignore her own dietary preferences. Her knowledge is dismissed as being in violation of the government rules and thus valueless. In this narrative she has the role of those who choose to eat in a non-conforming way, in opposition, as a counter discourse; because of her choices and her beliefs, she is rendered powerless and in violation of cultural norms until she recants and promises to follow the path of nutrition enlightenment. Her failure to self-regulate using nutritional norms is measured, found wanting and corrected by public scrutiny. Her failure to practice self-disciplinary technology correctly results in the movement of power away from her as an individual and into a higher regulatory body- the invocation of pastoral power. Her family lovingly and excruciatingly point out all her faults and allow her to pledge to remedy her deficits and embrace societal norms.

Billy’s list is the next to be examined, and although he immediately confesses his deficiencies, they are still brought forward for public examination. Even the priest, the avatar of authority, must submit to public scrutiny and confession. Billy is defensive; though better nourished than both sister and father, the need for improvement remains. His sister comments on his improved eating behaviour since he has learned about nutrition in school, yet the Basic Seven reveal the errors within his diet. The authority of nutrition science reveals the remaining failings of newly reformed Billy, demonstrating the need for all citizens to undergo the process of dietary evaluation in order to eat properly. Knowing and taking steps to improve are shown to be insufficient to escape from the binary state of improper eating. Proper eating is defined as attainable but
requiring vigilance; good intentions are insufficient. For young Billy, his capitulation to 
convenience at lunch has undermined his ability to practice proper eating habits.

Mother’s diet is brought forward for examination and is discovered to be the poorest diet 
of the family. By having just a glass of milk for lunch, consuming the perfect food from 
the last four decades of nutritional advice, she has left herself in a disgraceful dietary 
mess.

    I suppose most of the bad things in our diets are my fault. You didn’t have a 
chance to have whole wheat or enriched bread or green or yellow vegetable. And 
    I certainly should have urged Dad and Priscilla to drink their orange juice and get 
more milk. (Amidon et al., 1946, p. 37)

In addition to her public confession of her inattention to diet, mother confesses her role in 
feeding the family an inadequate dinner, and failing to enforce the self-discipline 
technologies on the husband and children who are under her authority. This portrayal of 
maternal neglect and the remorse mother is feeling implies that the loving, well-informed 
and enlightened parent will urge dietary obedience to the food rules and the dutiful child 
will obey. Father reminds the children that they all need to make better choices and that 
mother cannot be reasonably blamed for the total inadequacies of each individual’s diet. 
There are many reiterations of the disciplinary statements that have been presented 
throughout the narrative: that the individuals have an obligation to eat healthily; that the 
knowledge of the inadequacies of their choice must inspire better behaviour; and that 
strength and health are the benefits of eating right. Mr. Bradshaw extolls the strength of 
his family to do the right thing when making dietary choices for “If the Bradshaw family 
can keep themselves strong and well by eating right, they’re going to do it, aren’t they?” 
(Amidon et al., 1946). With the liberty of dietary choices comes the morality of eating 
right, demonstrating Foucault’s words: “for what is morality, if not the practice of liberty, 
the deliberate practice of liberty?” (1988b, p. 4)

This pedagogic story is situated in the social discourse that sought to normalize white 
middle class values within a self-disciplinary technology. Self-discipline technologies 
are often situated at the family level, and throughout this pedagogic story there is little 
discussion of outside groups or other characters. There is no guest at the table, no friend
to give differing perspective from other cultures or socio-economic status. In this example, we see how the governmental authority of nutrition is reproduced and disseminated through the educational system and directed to the family, where it is used intra-family in a way that reinforces the anatomo-power of dietary regulation. The food described is simple fare, easy to classify into the food groups, with no challenges to the classification system, so the difficulties in applying this sort of food group system are not discussed. The work of Ristovski-Slijepcevic, Chapman and Beagan found that food guide-type systems were often perceived by non-dominant cultural groups as marginalizing traditional foods, placing additional burdens on the food provider to maintain both traditional health knowledge as well as complying with the governmentality of nutrition authority that their children valued (Ristovski-Slijepcevic, Chapman, & Beagan, 2010). Nutritional truths as discovered by empirical science are focused on the foodstuffs of the dominant cultural group, and there is no mention in the text on how to adapt these procedures or “truths.” To be well nourished is to eat and behave as the self-disciplined white middle class does.

The gendered roles of nutrition are pronounced; Rose’s text from the thirties speaks of children; Amidon et al.’s text, a decade later, has strongly defined gender roles. The male characters display reason, as well as the capacity to work within the dictates of empirical science and thus their moral superiority. The power remains mostly divided between Billy and Father throughout the narrative as they scientifically examine the family’s diets. The mother character only can display power as Mrs. Bradshaw, as wife and title-holder. Her power displays are to support the power of nutritional authority through Billy’s actions and to rebuke her daughter for unhealthy eating practices. Both female characters undertake the self-examination to emerge rebuked and chastised or guilty and judged as wanting, while the male figures emerge from self-examination empowered and morally stronger. Priscilla has to assume responsibility and renounce not only her poor eating choices but also her incorrect nutrition knowledge: her turpitude is demonstrated by allowing common childhood food aversions to impoverish her diet. Mother is responsible to her family to eat well herself, to know/learn the correct nutrition knowledge (not the out-dated ideas of earlier in the century), to feed the family appropriately and to ensure her family is in compliance with healthy eating guidelines.
Billy and his Father must lead the family to health through the application of nutritional science and moral authority; their knowledge is their power, and their actions are to guide the family’s moral wellbeing by adherence to physical health norms and scientific nutritional knowledge. In Amidon et al.’s post war discourse, biopower accumulates in male roles, whereas females take a subordinate position. Even Miss Hawkins, Billy’s teacher, obtains her power/authority through her knowledge and possession of the government’s food rules. Male empirical science, in the form of the Basic Seven, is correcting the female mismanagement of diet, household economics and even unpatriotic parenting errors.

This narrative also defines both the governmentality of nutritional truths and the privileged position of the white middle class. The Priscilla dialogue allows for no counter discourse. There is only the binary of correct or incorrect, compliance or ill health and moral laxity. Within this narrative, to follow any other path than the prescribed path is to surrender moral authority and thus power and to be vulnerable to others who accumulate it. All four characters in the narrative have failed to eat properly; yet the highest condemnation is reserved for those who fail through wilful disobedience or denial of nutritional knowledge: failure through neglect or inattention can be remedied. The dietary self-assessment will guide you to proper behaviour as defined by the state. The correct/incorrect diet binary denies any other nutritional truths and the actions that follow from them, privileging empirical science and the white middle class diet over all other cultural or social norms.

The nutrition education discourse has changed from earlier scientific approaches of the 20s and 30s with this and other contemporaneous narratives. It is no longer the child’s obligation to feed themselves and successive generations properly, but to learn and share nutritional education with their family and change the eating patterns within the home. The strength and health of the family members are dependent on the child being able to communicate and correct their family’s lack of nutrition knowledge, or even worse, misguided or misinformed knowledge. The food guides were a brand new form of nutrition governmentality, set against the moral failings of a family that puts taste, tradition, convenience or outdated knowledge over proper eating. The youngest child
who has learned nutritional truth can thus educate their elders, and may exploit this knowledge/authority as power. Modern rational thought, proven through empirical science, is seen by government and nutritionists as the way to increase the overall health and prosperity of the country; this use of biopower is brought down to the level of the individual through the anatomo-power rituals, such as the dietary self-examination that Billy and Mr. Bradshaw exploit and use to lead their family.

This vision of family self-surveillance and the embracing of dietary self-analysis demonstrates some of the changes introduced by the Food Rules, and other such guides. This new ordering of foods by nutritional value and needed servings reveals a new form of governmentality of the body. The binaries make simple the judgement of good and bad, Self and Other. Good is a healthy, strong, sufficiently nourished body, indicating that one is well-informed and enlightened; one can see the importance of proper eating and meet one’s moral duties as a citizen through correct eating. The identity as good citizen is tied to practicing the proper self-discipline, and is reflected in the health and fitness of the body one presents to the world. The emphasis is on prevention of deficiencies and on the embodied proof that one is patriotic and participating in the nutrition knowledge provided by the Canadian Nutrition Program.
Chapter 3

3 1962-1995 Progressive Education and the Aftermath

3.1 Early Sixties: Expanding Possibilities

Social changes in North America were redefining the roles of women and the definitions of family. Marketing of convenience products changed the role of the mother/homemaker and economic growth made modern conveniences affordable. Modernity and convenience were socially valued and the perception of convenience proved to be more marketable than quality or nutritional value, especially when it came to food (McGrath & Johnson, 1968). McGrath and Johnston were commissioned to explore the changing role of the home economist (HEc) in the mid-60s. They identified the shift as industry saw the HEc’s expertise in design and education as irrelevant, as marketing could create more demand and increase sales through appealing to desire rather than quality. The food industry entered a period of growth and amalgamation, developing into larger corporate structures, while the home economists and the forms of nutritional truths they promoted entered a period of confusion and declining influence/relevance (McGrath & Johnson, 1968).

The changing nutritional knowledge and changes in perceptions around food preparation and convenience as well as the changes in available foods caused a rewrite of the Canada Food Rules. The 1961 introduction of Canada’s Food Guide (CFG) marked a step away from the authoritarian voice of government by rules with the introduction of a consumer-friendly five-coloured guide. The guide was republished in the mid 60s, updated with modern fonts and diagrams to appeal more to youth culture. The relevance of the food guide was largely as a teaching tool for children and young people. The children first educated with the 1942 Food Rules and with the precepts of the Newer Nutrition were the parents of the school-aged children of the mid 60s.

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26 The messages of nutritional science had remained steady since the late 40s when the discoveries of new essential nutrients and deficiency diseases had ended.
Ontario by the 60s had become a veritable multi-cultural mosaic. Troper documents the Canadian policies that governed immigration as Canada struggled to find suitable immigrants to provide workers for the construction boom and revitalized industries in the post-war period. Canada accepted waves of politically displaced persons immediately post-war, as well as the Italian, Greek and Baltic economic immigrants who came to Canada in the late 1940s and 50s to fill available jobs. While immigrants were accepted to certain provinces, many moved to Toronto seeking employment and housing. This massive influx of immigrants drove the building boom to new heights through the 60s, intensifying the urbanization of the Ontario population in the Toronto and suburban areas and kept economic growth stronger than anticipated (Gidney, 1999; Troper, 2003). This relatively prosperous population was more ethnically diverse\(^\text{27}\) and had different expectations of food. As a result, the food supply adapted to the changing needs of the population, as there was economic means to import foods and establish new food production within Canada to supply the market needs.

The mainstream diets of Canada in the 1960s and 70s were influenced by heavy advertising efforts from the corporate food suppliers. Kraft and General Foods promoted the convenience and satisfaction that could be found in using their products though television, print and in-store promotions. The need for longer shelf life led to a new food science, and knowledge of the chemical preservation and stabilization of foods. The flavour palate of fat-salt-and sugar that hid the stabilizers and preservatives was promoted over the nuances of flavour derived from herbs and spices. The promotion of fast, convenient food was reinforced through advertising aimed directly at children, creating markets for products of increasing artificiality such as Tang and Jello. The promotion that linked food preparation convenience to the modernity and technology of the space program made Tang into one of General Foods’ most successful products. Jello was portrayed as a fun food, yet it was also versatile, from the salad course to dessert and

\(^{27}\) Post WWII, Canada sought, in order of desirability, immigrants from Britain, Holland, Germany, Austria, Italy, Eastern European Jews, and the people of Slavic peninsula. In 1951 a small quota of immigrants from India, Pakistan and Ceylon was allowed, but in the 1960s the majority of immigrants were Italian, Greek and Portuguese. Troper (2003)
beyond, with recipes for cookies and other food items that utilized the artificial colour and flavour found in the product.

The food resistance discourse of the 60s was tied to the ecological resistance discourse and promoted an awareness of international cuisine, especially vegetarian diets, as more sustainable. This counter-culture nutrition discourse moved away from the empirical nutritional sciences and brought eating and feeding choices into the political or spiritual realm. Lappé placed the choice of food into the context of the ethical citizen who considers the economic, political and environmental consequences of their actions (Lappé, 1971). The sponsor of *Diet for a Small Planet* was Friends of the Earth, an environmentalist group that reached international status in 1971; they framed eating not so much as a patriotic act, but as a humanitarian and political act. The Moosewood cookbooks came from the Moosewood collective, a group founded with the aim of improving diet and protecting the environment. The kitchens of urban alternate restaurants developed a new, distinctly western form of multi-cultural vegetarian cooking. The highly flavoured whole foods were a re-defining of healthy, nutritious foods. These new dietaries formed a counter-culture to the prevailing suggestions from the test-kitchens of corporations, schools and government food labs. That this focus on vegetarianism was a strongly moral alternative to the dominant North American dietary discourses can be seen in Katzen’s reflection on the impact of a vegetarian lifestyle eighteen years later: “…it has turned out to be true that what’s healthy for us really is healthy for the environment (1992, p. 219).” Although heavily influenced by the nutritional science described within *Diet for a Small Planet*, it appears that at the time of writing *Moosewood* in the seventies, Katzen wrote out of conviction in the moral superiority of a vegetarian diet, not out of the empirical conviction she found in 1992.

These counter-culture vegetarian food discourses brought forward a new set of obligations for the civilian. The obligation to one’s country to eat properly so as to become a healthy strong soldier or a productive citizen, was replaced with an obligation to the planet, to live properly so as to not over-consume its resources. A diet that would reduce pollution and contamination, and ensure the fecundity of the planet was being proposed as an obligation of the global citizen. Feeding one’s family a pan-ethnic
vegetarian diet was therefore an act of resistance to the dominant culture of North America, a political act of the well-informed global citizen. The recognition of other cultural taste palettes as valuable and promoting health by adding dietary diversity encouraged neophilia or the love of the new. The counter-culture expectations of food neophilia, cultural diversity and ecological responsibility of the global citizen became new *truths*. Accepted at the fringes, these truths then moved into the mainstream. Government of nutrition shifted with challenges to the health benefits of highly processed foods versus whole foods. The new mainstream awareness of foods that were highly culturally specific, such as yogurt, grows out of support for the counter-culture diets within the nutrition academy.

The obligations of self-examination and self-control remain unchallenged in this counter-cultural discourse. Food and eating, while political, is framed as an act of individual choice. The moral obligation to eat in a proper fashion is tied to ethical, sustainable behaviours rather than patriotism, but remains as a moral behaviour expected from the individual. Amidon et al.’s *well-informed and enlightened* population that they believed would embrace the laboratory scientist’s view of nutrition had embraced a different set of truths. The identity work of who is to be considered enlightened moved, as new knowledge was created and accepted as knowledge and given authority. The construction of the multi-ethnic vegetarian diet as socially responsible, environmentally sustainable, and personally healthier, placed new obligations on those who wished to identify as well informed and enlightened. New styles of cooking, different textures and flavours, all required dietary neophilia, the willingness to experiment and discover new taste experiences. The construction of a diet that emphasized fresh, whole foods and flavour palettes from around the world provided a stark contrast to the limited flavour palette of industrialized foods, and the gradual changes that had entered the main-stream diets since the post-war period.

As the whole foods discourse moved into the social discourse, these ideas became accepted as modern and enlightened; traditional practices became redundant or adapted to remain relevant. Levenstein discussed how the culturally constructed American obsession with beef and with diets low in vegetables, that had proved capable of
overriding other dietary backgrounds throughout the nineteenth century, was finally admitting new possibilities (Levenstein, 1988, 1993). The 1977 *Canada’s Food Guide* (CFG) (Canada Department of National Health and Welfare. Bureau of Nutritional Sciences, 1977) marked a major revision with the reduction to four food groups and an emphasis on whole foods. The “meats and fish” group had been renamed “meats and

![Figure 4](image.png)

Figure 4 Back page, *Canada’s Food Guide*, (Health Canada, 2002)

28 The 1977 food guide also allowed enriched bread as equivalent to whole grain bread.
alternates” and beans, nuts and seeds were explicitly listed as equal to poultry, beef or fish as opposed to the previous “may be used in place of meat (Nutrition Division; Department of National Health and Welfare, 1961)” The CFG also incorporated the recently introduced metric system, listing portion sizes in both metric and imperial, an example of the state using food as reinforcement for other behaviours considered socially desirable.29

3.2 The Education Discourse of 1968-1980

The release of the Hall-Dennis Report or Living and Learning (1968) saw the ascendency of the progressive educational movement in Ontario schools. The child-centered approach was to be fully adapted in all subjects from Kindergarten to Grade 12, with Grade 13 to be phased out. Children were to learn through experience and discovery, with the teacher as guide rather than authority. Learning to learn would serve students better in a rapidly changing society than the memorizing of facts that typified previous pedagogies. Students would learn at their own pace, with growth and progress according to their abilities seen as success, rather than scores on tests. Aligning Ontario with the rights of a child to education as declared in the United Nations Universal Declaration of Human Rights, the Hall Dennis report was a superb example of socially constructed education reform.

The Hall-Dennis report sought to establish Ontario educational policy as an instrument of social changes. Multicultural and vibrant, the school system would reflect the increasingly diverse population of Ontario. New methods of teaching would release the child from “soul-numbing education,” allowing them to realize their full potential as students and eventually citizens by exercising three basic, essential rights:

- a right to all that healthy growth implies, a right to be taught how to communicate and live with others, and a right to be able and free to decide for himself, when he is mature enough to do so, what position to take with respect to

29 The introduction of the metric system had met with consumer resistance, especially in recipes and cooking.
major issues in human life (Ontario Department of Education: Provincial Committee on Aims and Objectives of Education in the Schools of Ontario, 1968, p. 73).

I find it interesting that the first right of the child is defined as *all that healthy growth implies*: growth in one’s physical being as well as intellectual, social, artistic, even political growth. In the same discussion, the report stated that when the province assumed the costs of educating the child up to Grade 12, the parents’ right to deny their children these freedoms were lost: the “general public may want to have some say about what had been parental prerogatives (Ontario Department of Education: Provincial Committee on Aims and Objectives of Education in the Schools of Ontario, 1968, p. 73).” Society, through the educational system, had the responsibility and the right to protect the child from violence or neglect but also to reshape the education system to allow the child to grow as a free individual, capable of being in conflict with the society, its more privileged members and its institutions, if they should so choose. The writers of *Living and Learning*, like the 1904 Committee on Physical Deterioration, saw the obligation of the state to care for the child as giving the state authority to educate the child, to enable social reform through that education and promote the interests of the state over those of the family. The child had the obligation to learn to learn, and when mature, to actively participate in the issues of human life within their society: this was defined as *healthy growth*. Thus child-centered education placed the obligation on the child to learn, to decide and to act in a way that was morally congruent with their developing beliefs, not simply to follow the traditions of parents or state. The child must first turn within, through self-observation and self-examination, and then externalize through self-regulation of action. In other words, progressive education is the epitome of a self-disciplinary technology. The *Living And Learning* report sees education as a way to open resistance discourses, as a moral act of both the education system and educated populace, or perhaps as Foucault’s morality: the deliberate practice of liberty.\(^{30}\)

\(^{30}\) “for what is morality, if not the practice of liberty, the deliberate practice of liberty?” M.F. *The Ethic of Care of the Self*, 1988b
3.3 Overweight Canadians and the Creation of the Obesity Crisis

The nutritional discourses in Canada were also changing in order to remain relevant amidst the broad social changes of the 1960s and 70s. Nutrition Canada completed a comprehensive nutritional survey of Canada over 1970-2, as part of the WHO effort to survey as many countries in the world as possible. Beaton, writing in 1981 on the state of Canadian nutritional health, described the survey and analysis that set the agenda for nutrition research and policy through the 1970s. Despite a few sub-optimal nutrition states, deficiency diseases were almost eradicated across Canada; instead, for the first time, there was an increase of overweight Canadians. Although only indirect comparisons could be made, as there were no base lines to compare the new data to, it was clear that over the last two decades the percentage of the population that was judged in the high-risk (overweight) category of the Ponderal Index\(^{31}\) had grown alarmingly.

The survey showed that after age 40, 61-87% of the population were determined to be at high risk due to their weight. The correlations of overweight and obesity with chronic disease were on the horizon, yet at this time the presence of an increasingly overweight population was a concern, an issue to be addressed through dietary and exercise changes needed by a significant portion of the population (Beaton, 1981)

The survey itself, released in 1973 as *Nutrition: a National Priority*, makes some interesting conclusions, and presents policy recommendations that are worth noting. Preliminary analysis found “no consistent effects of season, income or community type” (Nutrition Canada, 1973, p. 111), but the authors note that this compares low income against all other incomes and does not measure the effects of very low income on health. The report concludes that the food distribution system in Canada is effective year round at supplying adequate foodstuffs. The study also noted:

\(^{31}\) The Ponderal index = Mass(kg)/height(m)\(^3\) has been replaced for the most part by the more sensitive Body Mass index = Mass(kg)/height(m)\(^2\). Both are considered population-based indicators.
1. decreases in the physical component of both work and home life,
2. major changes in the food supply with a far greater percentage of the diet being derived from fat,
3. similarity of diet between the overweight and normal weighted individuals,
4. inadequate understanding of metabolic processes.

Yet the survey declared overweight to be “a self-inflicted health problem” (Nutrition Canada, 1973, p. 112), as it stemmed from personal choices. Corrective measures were therefore to be focused on early detection and preventative programming, aimed at altering personal lifestyle choices and behaviours.

The priorities identified by the study reflect a governmentality approach that divided obligations. Supplementation and fortification of foods, and the regulation of foods “devoid of nutrients” (1973, p. 117) are state obligations, as well, “effective motivation of the Canadian public to see the value of nutrition and related health aspects is of paramount importance” (1973, p. 118). In the words of the text, nutrition problems would be reduced if “people” understood the importance and “consumers” made wiser selections; the state had decided that the four societal changes defined in their report would be solved through consumer education and enlightened personal choices.

Government and industry must provide a place for nutrition professionals to operate, and industry should develop and promote healthy foods. The development of nutrition education programs for all age groups was defined as a social task in order to reach all levels of society. Industry, media, health professionals and education institutions all needed to co-operate with federal co-ordination to ensure proper dissemination of motivation and knowledge to the consumer.

I found it interesting that Nutrition Canada notes in its Priorities chapter that nutrition education can be direct or indirect; the approach is what will make it effective:

The influence of advertising on children’s food selection patterns suggests that children too could be receptive to nutrition education. Nutritionists are well aware of the beneficial influence of a well-executed nutritional component in the school curriculum on eating practices, not only on the school children themselves
but on the family at home as well. (Sabry, Campbell, Campbell, & Forbes, 1974, p. 120)

In a most peculiar logic, the effectiveness of manipulative and expensive advertising efforts directed towards unsophisticated children, is used as proof that children can and do select their own food, and so should be targets of self-disciplinary technologies. The theme of educating the child and placing the obligation upon the child to change familial eating patterns is reiterated, although the goal has moved from prevention of inadequate diet, to prevention of overconsumption. There is no discussion of how the child is supported in their efforts to understand the sophisticated marketing techniques being used to motivate their buying decisions or how this marketing might be at odds with the obligations to self and family.

Also interesting are the omissions in assigning obligations. The report states that sport and exercise facilities should be available at the workplace, but, unlike other sections, fails to identify who is responsible for this goal. While the responsibilities of business enterprises are frequently mentioned, this is not defined as a specific corporate responsibility. Although the report places emphasis on the immediate development of a healthy lifestyle within the polity, the provision of adequate fitness facilities is clearly not the responsibility of government.

The following policy recommendation outlines clearly the consumer’s responsibility to:

acquire reliable nutrition information and to selectively promote nutritious food and reject foods that offer little nutrition. Consumers should not depend on government to spoon-feed them information nor should they be misled by excessive promotion of goods of questionable nutritional value. There is no substitute for a well informed consumer (Nutrition Canada, 1973, p. 121).

I find it interesting that within this policy recommendation there is recognition of excessive promotion of dubious foodstuffs, and a distancing from the role of the state to discern and disseminate nutrition information. The language suggests that for citizens to expect this service to be spoon-fed to them is to neglect their role as consumers. The four
changes in Canadian society and lifestyle as *defined within the report itself* are deemed immaterial to nutrition and health policy; the citizen fulfills their obligation to the state as an educated and motivated consumer. Government is focused not on industry or food regulation, but on the self-discipline technologies that must be taught quickly and effectively to Canadians in order that they might avoid this self-inflicted problem of weight-related ill health through their choices as consumers. In recommending that Canadians improve their nutrition education and therefore their motivation, Nutrition Canada retreats into the belief that the understanding of nutritional truths necessitates behavioural change. Further, it reiterates the concept that there is a single nutritional truth and knowledge of this truth morally obligates people to eat better. *Consumers* are expected to ignore issues of convenience, and as *citizens* to focus identity work on the diet they consume, and on their identity as a moral and healthy consumer.

The focus is on the individual’s responsibility for preventative action to protect their future health. Yet the individual also has an obligation to the state to protect against the risks of ill health/rising expenses. The regulation of foodstuffs is deemed as a corporate responsibility with no embellishment as to what repercussions there might be on companies that knowingly manufacture food that is injurious to health. Ultimately it is a consumer choice/responsibility to resist excessive promotion and culturally constructed convenience, as it is the individual who will suffer the possible ill health consequences. As early as 1973 we have the state withdrawing from the control and regulation of the safety of the food supply, citing it as a corporate responsibility and the regulation of diet as individual consumer choice. In education, this manifested in the senior grades of home economics as curriculum changes that reflected an emphasis on consumer education and the social sciences. Once more we return to the aims of Hoodless’ 1897 text, namely education being a way to prepare young women to be proper mothers and stewards of the household. The role of young women was defined as educated and discerning consumers. *Well informed and enlightened* had changed definition rapidly in the discourse that continued to develop in the 80s, as the post-war boom economy slowed beyond the occasional resource-based hiccup.
The protection of the individual’s nutritional health evolved from being defined in the 1920s as able to buy and consume vitamins, to eating as a patriotic citizen in the 40s by following the *Food Rules*. In this period, the definition evolved from being able to buy and consume a pan-ethnic diet in the 60s, to a responsibility to protect and manage one’s health as a consumer. Further, the conscientious citizen protected other taxpayers by avoiding disease states. As an educated participant in the market economy, they protected the health of self and family whilst allowing the abuse of less deserving or educated citizens.

The emphasis is placed on the self-disciplinary technologies and the sites of transmission that Foucault defined: the schools, family, churches, social groups, the military and higher training institutions. The emphasis on anatomo-power, enacted through the marketplace as a consumer, returned stronger than ever as the late 60s and early seventies faded into the self-absorbed eighties. If we define the center of biopower as the intersection of the axis of government or pastoral care of the citizen and the axis of self-discipline, nutrition had become a matter of self-care and the withdrawal of social interest in education in nutrition accelerated. Self-discipline strategies were advanced as the only legitimate path to person fitness and health as the diet and fitness industry became a significant economic resource. In the 80s it was an accepted social truth that obesity was a personal failure, indicative of poor judgement and insufficient will power (Crawford, 1984, 2006). Given thirty years of relative stability in nutrition knowledge, the principal components of a healthy diet and lifestyle were available for anyone to understand. The economic abundance of the post-war period had made good nutrition accessible to most Canadians. The resistance dialogues of the 60s had challenged the notion that desirable food was both heavily processed and/or expensive, by recalling the healthful properties of whole foods. Yet by the 1980s, we had returned to the *well-informed and enlightened citizen* who had access to knowledge, and sufficient time and resources to choose and consume a healthy diet.
3.4 Keeping Healthy, A Nutrition Text of 1974 Ontario

The text I have chosen for analysis is interesting in that it falls into the period of educational reforms heralded by the Hall-Dennis Report, but before the definition of obesity as an educational problem.

The Healthy Living Program and the Grade 4 textbook, Keeping Healthy, typified the nutrition education documents of this period. Published by Doubleday in Toronto in 1974 and 1977, this book brought the health education of the Ontario curriculum to the students with a child-centered approach. The sole chapter on nutrition/dental care was a replacement for the rat feeding experiments that were, according to the Ontario health curriculum discussion papers, still quite popular in Ontario at the end of the 60s (Ontario Ministry of Education, 1975). The body copy was laid out in a consistent grid along the spine of the book with exercises, important key facts and “Think About This” questions as annotations in the substantial white space of the large margins. Chapter Six, Eating for Good Health, follows Fighting Disease, the chapter on germ theory and the immune system. The language of fighting disease, and of most other chapters, is significantly different from the language of the nutrition chapter. The child is addressed directly throughout the book, but in the chapter on nutrition the discussion becomes deeply personal.32 Throughout the book the reader is asked to reflect and make connections between the information in the text and their own life and the community in which they live. The child is an articulation of the relationship between the community and knowledge. The chapter on nutrition asks children to consider themselves as individuals, as the center point of a web of relationships that are formed to members of their families, within a cultural heritage, and within their community.

The chapter on food and nutrition opens with a pedagogical story about the Kagami family sitting at the family dinner table, enjoying the new food spaghetti that Mrs. Kagami has learned to make from Mrs. Puzo. The family demonstrates their enjoyment

32 Chapters 1 & 2 use a slightly less personal tone as they discuss Good Health Practices and Being Happy with Yourself and Others but like the nutrition chapter ask the child to reflect on personal experiences and behaviours.
of this new food and their openness to new, likable food items. This opening paragraph introduces the first topic of the chapter: food is fun to eat. Food is a sensual delight, with smells, tastes and appearance all having a role in why we enjoy food. Further, food is cultural, with traditions that reflect where one’s family originated. Eating food is further defined as a practice of community building, for sharing food with family or friends leads to enjoyment of one’s life. First and foremost however, in this text, food is shown as a source of sensual pleasure before any other concepts are entertained. The child is then asked to focus on and identify the aspects of eating that are important to themselves and to their family. Then the child is asked to identify the equivalent but different values that each and every person in the class has.

The emphasis is on encouraging dietary neophilia, on overcoming cultural barriers and enjoying the world of delicious food that is available. The language is mostly focused on the sensory aspects of food: if something smells good and looks good, then the cultural background of the food is unimportant to determining whether it will taste good. The Other-ness of food is really only different, not inferior, nor suspicious, and the child is assured they can move safely and enjoyably beyond the family-defined norms of feeding. The narrative asks the reader repeatedly to define and share the foods that are enjoyed by themselves, their families and their peers, possibly even creating a class cookbook to take home to parents and share with them. There is social benefit to be found in this expectation of dietary openness and exploration, and this creates an obligation to share this benefit with their family. Just as Billy Bradshaw had to share the benefits of nutritional education, the reader is asked to share these pedagogic insights with their family. Unlike the Bradshaw dialogue, the child is promoting: a multi-cultural society; an openness to diversity; and the possible health benefits that can be found in dietary neophilia. However the economic benefits of promoting familial change always accrue to the society. Just as a wartime society needed healthy soldiers and workers, Ontario was in need of the immigrants, the workforce they represented, and the economic expansion and growth they supported (Troper, 2003).
The second section of the text focuses on the science of nutrition. The four food groups remain significant in this text, but are no longer the exclusive focus of the chapter. The photos of the meat group and the milk group violate the grid used for the body text, demonstrating their importance nutritionally, and possibly more importantly, economically for Ontario. The bread and cereal group and the fruit and vegetable group photographs are smaller, confined to the text grid.

The text asks the child to reflect on their favourite foods in the Meat or the Cereal groups, emphasizing the pleasure to be obtained from these foods. The fruits and vegetable page asks the child to define the benefits of eating vitamin and mineral rich foods and ask which they have eaten recently. The milk page asks which of these foods do they eat? The emphasis is now on the empirical knowledge of the benefits of fruits and vegetables as nutrient-dense foods, and the obligation to consume them to remain healthy. Likewise the dairy group has the benefits of consumption emphasized. There is no language of

33 In this text defined as the Milk Group, the Meat group, the Fruit and Vegetable group, and the Bread and Cereal group
liking dairy or even fruits and vegetables; the language here is rooted in obligation and science of nutrition. Liking is found on the meat and the grains page.

The binary of what is liked as opposed to what is needed to be healthy is strikingly evident in this section of the chapter. The grains page has a notable omission: there is no textual reference to whole grains and the photograph has only four whole grain items out of the twelve displayed. This omission is contrary to the Canada’s Food Guide of the day, which emphasized the need for at least one whole grain food a day and the consumption of fortified breads. In the text it is clear, that there are foods the child needs to eat, such as dairy products and fruits and vegetables. These need to be eaten more often. There are also the foods the child likes to eat and already eats frequently. There is a deep divide between the two types of foods and the child is scientifically obligated to eat the healthy portions of vegetables and consume the proper amounts of milk or dairy foods. Coveney’s empirico-transcendental doublet has re-emerged; the science of a healthy diet is clear, as is the expectation that the child will work on self-transformation, becoming a better person by undertaking the proper, healthy eating practices.

The questions in the text body and in the margins constitute almost half the text. Each description of the food groups returns to the science of macro and micronutrients, emphasizing the sub-chapter title: “Foods You Need”. The text relates several truth statements about macro & micronutrients, followed by a series of questions. Each page asks the reader to recall the items they eat that would belong to this specific group, reinforcing the process of defining foods into groupings based on their nutritional content. The text’s emphasis is on what they as individuals want, like, and experience as pleasant, reflecting the goals of child-centered education, variations on what do you know about, can identify or eat from this food group. The questions prompt the child to define their personal relationship to the food groups. The sensory properties introduced earlier are absent; the science of nutrition is dominant as the child is told that all four food groups are necessary for health. Unlike earlier nutrition texts, there are no promises of embodied strength or beauty; health alone is worth the sacrifice of eating unpleasant or disliked food. For the vegetables and fruit group and the milk group, the self-examination questions are focused on expectation of eating these foods without liking.
them. Vegetables are stated to be “rich” in vitamins and minerals. The reader is asked to identify “any foods in the fruit and vegetable group that have certain vitamins or minerals in them” (Fodor, Glass, & Moore, 1977, p. 116), inscribing their value not as tasty or enjoyable, but as a source of needed nutrients.

The activity on the Bread and Cereal page is a “Try Doing This” suggestion. The reader is to “keep a record of the foods you eat for a week. Try to place each of the foods into the food group to which it belongs” [emphasis added], (Fodor et al., 1977, p. 117). The reader may keep the weekly record but even the authors sound dubious of the reader’s ability to sort them into the four food groups. The solution is demonstrated in the next section, which exhorts the reader to develop a good eating practice such as eating items from all four of the food groups, every day, because this practice will get them every nutrient needed in their diet and thus is a good health practice. The way to ensure healthy dietary results is to plan out one’s diet in advance, using easily identified items of the four food groups, rather than their actual diet that they were asked to record earlier. The reader is told they “might like” some of the foods in the planned diet although it is not clear how to adapt the diet if they don’t like them. Further, if the reader wishes to be healthy it is important to like many different foods, so one never gets tired of one’s favourite foods and suffers deficiencies because of a limited or highly selective diet. The self-examining questions in the main text direct the child to examine how and why they got tired of eating a certain food, priming the concept of their own diet as unhealthy, due to being overly restricted. The margin questions under the title “What Would You Do?” ask the reader: if a food looked and smelled good but you had never eaten it before, would you try it? This returns to the beginning of the chapter, where the reader was asked which unfamiliar dish might appeal to them. Different foods may not be familiar, but they might be healthy or good for you and a favourite of your peers. Dietary neophilia is a good and healthy practice, supported by empirical dietary knowledge and undertaken to improve one’s physical health, in addition to the beneficial social practice of a few pages earlier.

The final section of the dietary advice is a return to the concept that pleasant meals are better digested, and therefore more nutritious, a concept popularized by the Greek
philosophers and accepted ever since. Manners and pleasant conversation are socially constructed as important, especially at mealtimes. “Being polite is acting or behaving in ways that people accept as being right. … You are polite when you say ‘Please’ and ‘Thank you’ when you are supposed to.” (Fodor et al., 1977, p. 119). While allowing a slight cultural wiggle room by defining manners as behaviours that are socially set, the authors then describe and validate middle class white standards of courteous listening to elders, non-confrontational conversation and minding one’s Ps & Qs. In the margins the reader is asked what they have done to make meals pleasant and what they plan to do in the near future, modelling the described behaviours as expected, and setting them as an obligation. This section could have been written in any nutrition text for children from the 1920s forward and is decidedly out of place when measured against the emphasis on self-knowledge earlier in the chapter. The Living and Learning Report’s aims of education clearly state that children should be educated to express their rights to individual thought and expression; this portion of the chapter that is dedicated to table manners seems at odds with that intention. The text asks children to know and understand their relationship with food, but to act on it is now fraught with peril. They may be endangering the nutritional safety of their entire family if they cause a confrontation or upset the family at their meal. Likewise, to violate the good eating practices (as defined by the four food groups and the rules of courtesy) is to risk ill health. This chapter closes the nutrition education discourse by opting for freedom within limits; and the need for children if not to submit to parental authority, to at least not make mealtimes and feeding/eating behaviours a battleground. The text is clear: while eating is sensual and social, there is an empirical science that must be acknowledged or deficiencies and lack of health will be the price.

The invitation to children to consider not only the foods they are familiar with within their family, but also the foods consumed by others in their classroom and community opens them to the possibilities of discovery. It is possible to discover new tastes, new foods that will be attractive, delicious, nourishing and safe. The text encourages the practice of expanding one’s food choices as a good health practice that makes one better nourished and more apt to be healthy, producing empirically sound and therefore good behaviour. Sharing foods and traditions from other cultures is considered socially
important. The definition of eating well is in keeping with the social discourse that welcomes an expanding immigrant population to Ontario, whilst remaining tied to the empirical science of nutrition.

Nutrition is no longer defined as the most effective way to nourish a growing body into a beautiful, capable adult labourer or soldier as it was at the turn of the century and through most of the early 20th century. Good nutrition is portrayed as a benefit of belonging to a strong economy in a multi-cultural community that welcomes diversity. The reinforcing of behaviours that accept diversity without imposing hierarchical values starts at the lunchbox and is propagated through the family. Just as FitzRoy and the committee members of the Inter-departmental Report saw the education of children as a way to resolve a societal issue within two generations, the discourse of Keeping Healthy reflects the social and educational movement to create more tolerant adults and to build a strong multi-cultural nation. The focus is on the social aspects of eating behaviour and the potential to shift behaviours into tolerance of other cultural backgrounds, with better nutrition and dietary neophilia as empirical proof that these behaviours are healthy and justified. Nutritional authority creates biopower that can be applied to the social engineering of cultural shifts the rapidly expanding economy in Ontario needs. With the erosion of British colonialism and the dismantling the Anglo-Protestant identity of Toronto, the nutritional education discourse echoes a new multi-cultural truth found in the social discourse of cultural equality. In a multi-cultural society that is defining itself as welcoming and granting equality of citizenship to new immigrants, it becomes important to normalize culinary diversity in the service of integration. Unlike Richards’ efforts in the 1890s to convert immigrants to a Yankee diet, the model of Ontario in the 1970s is to embrace and make mainstream the flavour palates of Italian, Greek and Southern European cuisine. The counter culture discourse of eating diversity is returned to the mainstream as supporting the maintenance of adequately nourishing diets and building a multicultural society.

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34 Nutrition knowledge was to eliminate child malnutrition and enfeebled adults who were reliant on state support.
In this multicultural society, the outsider or Other has changed. No longer is the Other defined as from a different cultural background than you, but rather as someone who chooses the over-restricted diet, rejects good, nutritious food, and dietary advice, and thus fails to eat a healthy diet. The conflation of the healthy diet and being healthy that was seen in previous nutritional education came out of the prevalence of deficient and sub-optimal diets, especially following the Depression. In the 1970 nutrition education materials, we see the explicit conflation of lack of health and poor eating habits. The picky eater (such as Priscilla in the 1946 text) remains singled out as having embraced risky dietary choices and imperilling their own health in a period of abundance. There is no recognition of the possibility of inadequate diet due to SES or the inability to access adequate food stuffs. The teaching of a causative relationship between diet and health is a biopolitical strategy. Coveney describes the use of monastic denial and control of bodily passions as the model for state self-disciplinary technologies (2006); by the 1970s these messages of self-restraint were in contention with the imperatives of the marketplace. Dietary excess and indulgence were rife, and supported the economic growth of the 1960s and early 70s. The discourse of child-centered nutrition education moved the obligations of self-discipline technologies from the family, the church, and the social groups down onto the individual child. During this period, the education policy promoted an education that allows the child, when mature, to make decisions according to their own ethical beliefs (Ontario Department of Education: Provincial Committee on Aims and Objectives of Education in the Schools of Ontario, 1968), yet the discourse of nutrition education focuses on each and every eating choice made daily by the child. The question that must be asked is: does the immature child, usually ten years of age in Grade 4, have the capacity to perform such self-examination and self-disciplinary functions? Is there capacity to handle, especially if unsupported by the family, the obligations of eating a healthy diet? Ironically, the counter-discussion of a child’s obligation to be polite, and obedient to parents at mealtimes, while not congruent with the Ontario child-centered philosophy, does move the obligations of healthy eating back onto the parents. If the

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35 A situation that was common on federal lands such as reserves, even in the heights of the post war economic boom
parents have the right to demand obedience from their children, then the parents must shoulder the responsibility of enforcing the *proper* diet and their children’s nutritional obedience to the science of nutrition. This is perhaps one of the clearest examples of the web-like nature of power; the power flows from state to school and family, and thence onto the individual child, but can also move back onto the parents. My concern is that children confronted with socially constructed dietary rules, possibly beyond their capacity to understand and/or act on, risk suffering from dietary anxieties and frustrations that persist into adulthood.
Chapter 4


4.1  Obesity at the end of the century

Several developments characterized attitudes towards nutrition and the problem of obesity during this period. By the end of the 20th century, agencies like the World Health Organization expressed profound concern for the future of the children who were being identified as overweight and/or obese in growing numbers by the end of the century (WHO Division of Noncommunicable Diseases, 1998). The World Health Organization’s panel on Obesity explored the globally rising numbers of children with Type II diabetes, and the lifetime of attendant health problems, which bore out concerns about childhood overnutrition. The rapid expansion of rates of obesity and the concurrent rise in NCD in developing countries further supported concern over the correlation between childhood obesity and NCD in developed countries and pushed the problem from the medical into the economic and social realms (WHO Division of Noncommunicable Diseases, 1998). The work of Popkin concerning the Global Nutrition Transition showed the burden of obesity and chronic or non-communicable disease (NCD) that was rising in developing countries as they adopted a western style diet and imports of western food products increased (Popkin, 1998; Popkin, Adair, & Ng, 2012). Swinburn’s work on the obesogenic environment demonstrated the political and economic contributors that led to population overweight and obesity increases. (Egger & Swinburn, 1997; Ravussin & Swinburn, 1992; B. Swinburn, 1999; B. A. Swinburn, 2008). The global emphasis on improving childhood health as a preventative action to reduce the economic and social burden of NCD contributed to the continued presence of the healthy lifestyle education.

Amendments were made to Canada’s Food Guide in 1992 to address rising obesity and cardiovascular disease by suggesting a low-fat, 2300 calories/day diet that emphasized the carbohydrates of vegetables, fruits and grains (Government of Canada, Health Canada, Health Products and Food Branch, 2002). In Canadian policy, health was
constructed as a personal responsibility. Clear evidence about the harmful effects of trans-fats in cardiovascular disease, and the disproportionate consumption of trans-fats by Canadians was demonstrated in the 1990s. Despite the concerns about CVD health, Health Canada notably failed to enact the 2004 NDP proposal to ban artificial trans-fats that had the backing of all three parties in Parliament.\(^3\) Regulation of the food supply was adapting to larger suppliers and more movement of food, as food manufacturers increased economies of scale. In 1997, the creation of the Canadian Food Inspection Agency (CFIA) placed the authority to ensure the safety of the food supply within the Department of Agriculture; Canada defined food safety as an industrial problem rather than a health issue. Food safety practices are largely self-audited by producers, with CFIA oversight on the audit practices (Canadian Food Inspection Agency, 2015). The CFIA website defined part of their role to consumers as “the CFIA verifies that the information provided to consumers is truthful and not misleading, enabling them to make healthy food choices,” (Canadian Food Inspection Agency, 2015). The state would regulate the food industry and their claims, but it remained a consumer responsibility to choose the right foods.

### 4.2 Education in the 1990s

The 1990s saw cuts in medicine and education, as massive economic slowing unbalanced budgets, and discourses of economic sobriety and restraint became dominant in Ontario. Both the Liberal and the New Democratic Party (NDP) as Ontario’s ruling parties struggled to reduce budgets. Education was a target of repeated attempts to streamline and reduce costs. The 1994 NDP Love of Learning Report sought to balance the progressive goals of education within a significantly lower funding model by making cuts in services and options, and removing items from curriculum wherever possible. The

\(^3\) The Canadian government has not yet regulated salt content and just banned trans-fat content in 2017, despite consistently identifying them as known dietary problems and accepting the health benefit claims of countries that have regulated these substances.
accompanying 1995 Common Curriculum set a single curriculum for the province, overriding local school boards’ previous ability to set curricula that met the provincial goals while accommodating community standards. The NDP lost the 1995 election before fully implementing these proposed changes. The Conservative Harris government assumed power in June of 1995, and proposed a “Common Sense Revolution” of severe budget cuts and withdrawal of government services, especially in education and healthcare (Motluk & Galbraith, 2000).

Gidney (1999) documents how the Common Sense Revolution platform promised to deliver more quality for less cost. To deliver the tax cuts promised, the education budget was reduced by a billion dollars, or over 22% of the grants to school boards. The passage of Bill 104 in 1997 consolidated school boards, reducing the number from 129 to 72. Bill 160, passed later the same year, put all funding control, both for taxation and school funding, under provincial control, and promised equality in funding for all schools. The massive financial re-organization of the school system in Ontario was also accompanied by reforms in curriculum as The Ontario Curriculum, Grades 1-8 (1997) replaced the Common Curriculum (1995).

Learning outcomes were specified in each area of education; each grade, each module was to have several outcomes and students were judged to have achieved the outcome, or have failed to master and display the outcome specified. Education was focused on outcome-based metrics, or on the measurement of what the students were to reproduce under standardized testing. Wien & Dudley Marling (1998) critiqued the new curriculum for its lack of concern for any philosophy of education, and its proposal that education can be reduced to measurement of a checklist of facts known by the majority of students. Wien also criticized the binaries of education set up in the Ontario Curriculum, Grades 1-8, which are best captured in the curriculum’s repeated “Students will …” followed by a list of measurable outcomes.

These documents, describing endless expectations, fail to acknowledge that education affects the structure of the psyche or that learning is experienced subjectively. If education does not deal seriously with learners' deep commitments
and desires to be particular kinds of people, and the contents of the unconscious in terms of imagined possibilities for being, then all of us are servants to a vision of education less than fully human, less than who we might become, for it results in loss of agency, loss of power, loss of deep feeling and motivation to produce, loss of a sense of place where one belongs. This vision of education annihilates affect and supports alienation and a fractured identity by creating a circumscribed notion of meaning that makes no place for human feeling. (Wien & Dudley-Marling, 1998, p. 410)

The 1998 Health and Physical Education Curriculum covered all the healthy living topics such as nutrition or healthy eating as it was called. However, the Grade Four content remained a dietary analysis of "over a period of time, their own food selections, including food purchases (e.g. ‘everyday food’ versus ‘sometimes food’) and determine whether or not they are healthy choices” (Ontario Ministry of Education and Training, 1998, p. 15). The wording of this outcome is of note; Nestle documented the introduction of everyday food and sometimes food as a positioning tactic of the food industry to make food of no beneficial nutritional value into wholesome or at least acceptable food items (Nestle, 2013).37 In the Ontario curriculum itself, the deceptive and/or misleading language of the food industry was being used to describe what the children were expected to learn about healthy living.

This curriculum reflected the changing discourse in several ways. Nutrition was not a word that was used; the focus was on healthy living skills and literacies. Childhood obesity was seen as a matter of lack of education and inability to determine what behaviours contributed to a healthy lifestyle. Environmental and/or social influences were no longer considered relevant. For example, in describing the obligations of the teachers, students and parents, the teachers are to model healthy living, and present the information using an appropriate strategy. The students must make the effort required and be “motivated, self-directed learners” (Ontario Ministry of Education and Training, 1998, p.

37 The first edition of Nestle’s Food Politics was released in 2003, and critiqued the same food/eating discourse within which the curriculum was written in 1998.
3) The parents however, are requested to know the curriculum and “promote healthy active living through their own habits and practices. They should also support healthy eating and take responsibility for developing their children’s self-esteem” (Ontario Ministry of Education and Training, 1998, p. 3) The self-discipline technologies of the home are to effect any behavioural or attitude changes required by the healthy eating/healthy living curriculum. The return to the Kantian belief that knowing the proper behaviour will change actual behaviour was part of the provincial mandate to return to common sense in education. However, Hacking argued that common sense is in fact constructed, often from the assumptions that are carried unknowingly within the dominant discourse (Hacking, 1990, 1999). This retreat to an education that develops skills to discern a healthy diet, makes many assumptions about the children and their families’ abilities to access and consume a healthy diet. The adoption of better eating choices became an irrelevant problem for the school, as they have shifted the responsibility onto the parents. The more specific curriculum of 2015 would take this farther, and place further obligations on the child.

The curriculum shifted the ability to define food by categories onto the Grade Three level, which was interesting as this sort of categorical discernment is a skill not associated with primary grades (1-3), but with the Junior grades of 4-6. Students were to be graded only on the knowledge of what healthy living practices are. As Wien noted above, this education did not concern itself with identity or motivation. The purpose of healthy living education had taken a firm step away from creating a mode of subjectification, in that it offered little in the way of identity or motivation. It sought to create knowledge of healthy behaviour but didn’t provide the relevance of those norms in the child’s life, leaving that for other avenues of self-disciplinary technologies such as family, social groups such as Girl Guides, 4H, and increasingly, sports coaching.

The changes that were made by the Conservative government to the Ontario school system and to education were draconian. The system tottered and portions collapsed as massive reforms were pushed through (Gidney, 1999). The very goal of education shifted from its progressive child-development foundation that had stood since the introduction of the Programme of Studies or little grey book of 1937. In 1998, students
were considered an input, to be measured, graded, compared and discharged when quantitatively judged as complete. Progress was ascertained by standardized test results, although the tests were highly criticized. Wein (1998) saw the tests as being both over-emphasized in the classroom as teachers strove to meet board expectations, and as prone to manipulation to demonstrate “improvements” in the classroom for political purposes.

In this environment, that any form of nutrition education remained is somewhat odd, yet as the 1994 *Love of Learning* report pointed out, “Curriculum, like many other areas that are important and in which careers are spent, expands - it never shrinks. New topics are added, but there is never agreement on what no longer need be taught” (Bégin & Caplan, 1994, p. 108). Beairsto describes the impulse to fill curricula with endless lists of information to be taught: “In a rush to ensure that students know all the basic essentials in a world where knowledge is growing exponentially we have fallen into the trap of filling heads rather than changing minds” (Beairsto, 2011). The healthy living curriculum was still perceived by politicians and educators as essential in preventing childhood obesity, and the lifetime expenses of preventable disease, or at the very least, in supporting the appearance of fighting obesity (Evans, Rich, Davies, & Allwood, 2008; WHO Division of Noncommunicable Diseases, 1998). Although the healthy living curriculum had been all but abandoned in Ontario, it remained too politically difficult to remove (Bégin & Caplan, 1994).

The struggle to keep healthcare costs within limits that had started with the federal Lalonde Report in 1974 was taken up by the Ontario Conservatives and the Common Sense Revolution. The 1995 election of the Ontario Conservatives marked the increased severity of spending cuts in healthcare; the Harris government forced cuts throughout the system, just as they were cutting the education system (Motluk, 2000). Healthcare was stripped down, and as with education, the Harris government rewrote the definitions of essential services. Health maintenance and chronic disease prevention became a more immediate personal concern as medical/health support was dismantled. The social discourse of nutrition as a component of the healthy lifestyle gained traction; the truth that good nutrition was required in the prevention of illness formed in the social discourse. The biomedicalization of risk discourses and risk prevention was heightened
in Ontario by insecurity over the ability to get prompt treatment for illness as waiting lists grew and referrals to specialists became delays in treatment (Romanow, 2002). By 2002 the federal Romanow Report advocated for increased spending and targeted certain areas of healthcare to improve patient outcomes, with federal financial aid for the provinces. This marked a returning federal economic commitment to the health and wellbeing of citizens.  

The new millennium brought changes to dietary recommendations as well. The World Health Organization Nutrition Panel of 2002 looked at the role of diet and nutrition on NCDs and released their reports in 2003 & 2004. The report cited evidence-based recommendations for a global reduction of added sugars to 10% of daily calories and salt to <5 grams/day or 1.7 grams of sodium, accompanied by recommendations of 60 minutes of moderately active exercise daily for mostly sedentary persons (World Health Organization, 2003). Fifteen years after the CFG revisions that recommended a low fat and limited calorie diet, a revised Canada’s Food Guide was issued in 2007 that included lifestyle activity goals. Eating Well with Canada’s Food Guide (2007) was far more educational; the food guide contained more explanations and definitions, now explicitly stated within the actual guide. The guide was similar in layout to the explanatory publications aimed at nurses and teachers that had accompanied the food guides of the 60s and 70s. In 2007, portion sizes and multiple exemplars were specified for each category. Specific recommendations reduced the number of grain portions, and added suggestions to drink water and moderate one’s consumption of other foods. Exercise was integrated into the food guide. The food guide was described as the second most

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38 The Canada Health and Social Transfer (1996-2004) had combined the monies from federal commitments to the province and gave the provinces discretion over how to spend the lump sum. In 2004, this transfer was split into the Canada Social Transfer and the Canada Health Transfer. The federal government made condition for the full amount of the Health Transfer: improvements to provincial healthcare spending, and reduced wait times for specific procedures.

39 Moderately active exercise is defined as brisk walking and is set at 60 minutes to prevent weight issues, rather than the 30 minutes that is known to improve cardiovascular and metabolic health outcomes, but not address weight.

40 The 2007 Guide also recommended increased vitamin D consumption as research consensus was reached on the vital role of vitamin D and the low measured levels within the Canadian population.
requested government publication (after tax forms) according to a CTV report of Feb 7, 2007.

The 2003 election of Dalton McGinty and the Liberal party in Ontario was based on a platform of increased spending on healthcare and education. The return of funding to health, education and nutrition institutions allowed some recovery from the previous provincial governments cuts. Yet the educational reforms of consolidation, central funding and standardized curriculum and testing remained. The healthy living curriculum of 1998 remained as Ontario curriculum, although there were no resources on the 1996 Circular 14\footnote{The 1996 Ministry of Education Circular 14 list of approved resources for classroom use remained in effect until 2006 when it was replaced by the Trillium List.} of approved resources to support healthy eating topics.

4.3 2013 and Forward, A Reassessment

The second decade of the 21st century saw a number of federal and provincial reports released that are directly related to the themes of this research. In 2013 two of the threads that weave through this study re-emerged into policy discourse: the Fullan report on education and the report of the Healthy Kids Panel, No Time to Wait: the Healthy Kids Strategy. The two reports captured distinctly different views of Ontario’s children. The Senate Report on Obesity released in 2016 reiterated the concerns of the Ontario Healthy Kids panel, but on a federal platform. The Ontario Federation of Agriculture published their Food Literacy Attitude and Awareness Research Report in 2017, which examined food literacy knowledge in Ontario’s younger people, specifically teens, millennials and young parents. Also in 2017, the proposed amendments to the food guide were released for comments, and Prime Minister Trudeau set up a working group to create Canada’s first unified food policy that would unite health, agriculture, industry and equitable access to sufficient food.

These documents all express concerns that government policy and regulatory decisions are needed to protect Canadians’ health, and often outline very specific suggestions. They are mentioned here not because it is possible to judge their effects or how true they
will become, but because they indicate to me a possible shift, a building of power in an alternate truth about nutrition: that to improve population health beyond where it is now will take a new governmentality of nutrition. Until the health of the population is judged to be in crisis, the process of changing policy or regulations in any meaningful way will be difficult if not impossible; the power that is held by the food industry and other marketing interests is too invested in the status quo. However as the average weight of the individual moves further and further away from healthy norms, the point may come where food follows smoking and becomes a target of greater biopolitical regulation and control.

4.3.1 The Healthy Kids Report

The Ontario Minister of Health formed the Healthy Kids Panel in 2012 to define and address the problem of childhood overweight and obesity. The 2013 report defined the cost of ignoring the problem as twofold: the current generation of children would experience increased NCD morbidity at earlier onset; and the costs of treatment would decrease available funding for other programs and services. The panel called for a three-part strategy: improvements to pre-natal and early childhood nutrition and healthcare; a healthier food environment including universal school nutrition programs; and healthier communities. They saw implementation coming through increased funding, economic commitments from both government and private sector and the development of resources that would provide both knowledge and services to support families and communities. They called for a surveillance and monitoring system that would, in effect, provide Foucault’s pastoral care of Ontario’s children through measurement and monitoring of individual children’s weights, risk factors, as well as the effectiveness of the programs offered to them. This system was to report annually to the citizens of Ontario on the state of the children and the progress towards the Minister of Health’s goal of a 20% reduction in the number of overweight and obese children (Healthy Kids Panel, 2013).

In the words of the report, the problems with overweight and obesity remain overconsumption of calories, yet the patterns and knowledge of healthy eating seem to be missing:
Why focus on food? To have the greatest impact on weight, we must focus on healthy eating. On average, we are all consuming too many calories – about the equivalent of one extra meal – every day. It’s almost impossible to be active enough to burn off that many extra calories. Having said that, being physically active is also an important part of being a healthy kid (Healthy Kids Panel, 2013, p. 24).

The report found that most children do not receive any consistent healthy eating education in Ontario schools, despite the curriculum (Healthy Kids Panel, 2013). The report promoted a nutrition program that provides healthy food for any child coming to school hungry. Like the Fitz Roy report of 1904, this report defined the feeding of hungry children as essential to their ability to learn, and their health as adults. This paradox of hungry children who need healthy food, and children who are overfed excess calories, can exist not just in the same school but also in the same child. The report authors suggested that the schools develop a common education in healthy nutrition that includes hands-on cooking skills. Further, they suggested that the principles of healthy eating be applied to all food in the schools including fund raising activities—activities such as hot dog lunches and cookie dough sales. They also suggested that Ontario’s School Food and Beverage policy be moved out into the community into “all publicly funded, subsidized or regulated settings where children play and learn, including: Early Years Centres, Best Start Hubs, child care settings, schools, and community sport and recreation facilities” (Healthy Kids Panel, 2013, p. 37).

The response in the media to this report was congratulatory, but other than its initial splash of publicity, and a few small initiatives at the local school boards level, there has not been significant action on these recommendations by the Minister of Health or other branches of the Ontario government. The authors of the report warned that failure to act on these recommendations would result in greater costs being incurred in the future; however the general tone of the report was a call to address social determinants of childhood overweight and obesity by moving the government of nutrition into regulatory action. The perceived opposition to increased regulation over protecting childhood health
has sunk this report into obscurity as an interesting footnote on what experts in health and nutrition saw as a viable course of action.

### 4.3.2 Great to Excellent, a Report on Education

Michael Fullan wrote *Great to Excellent: Launching the Next Stage of Ontario’s Education Agenda* (2013), a report to the Minister of Education on the successful curriculum and organizational changes since 2003 that have resulted in better education for Ontario students. The report examined the period of 2003-2013, after the massive Common Sense Revolution cuts, and after the departure of Mike Harris as Premier of Ontario. The first paragraph of the report described the state of education in 2003 as “troubled”, “stagnant” and a “downtrodden system” (Fullan, 2013, p. 1). Fullan admitted that goals for literacy and graduation rates have not been met and “[t]here are some serious gaps - aboriginal students do not fare well; some ethnic subgroups have not progressed; and math has leveled off” (Fullan, 2013, p. 6). Fullan described the accomplishments of the Ontario system in instituting a *best practices* environment as having led to significant improvements in teaching and educational outcomes. He did not identify himself as the architect of the educational reforms he praised, nor did he acknowledge the 57% increase in budget after the 1995-1997 cuts as relevant to the education outcomes. *Great to Excellent* defines education as increased scores and greater percentages of passes. There is no mention of outcomes for the students such as employment or entry into desired post-secondary education. Successful education has nothing to do with the student’s life beyond their test scores. Students remain as inputs and it appears that the statistics generated by them are defined as the outputs of education in Ontario.

### 4.3.3 The Senate Report on Obesity in Canada and *A Food Policy for Canada*

The Eggleton-Ogilvie *Senate Report on Obesity in Canada* released in 2016 reported the Stats Canada figures that as of 2013: 1 in 3 children and 2 in 3 adults are overweight or obese; that 1 in 5 adults live with chronic diseases like heart disease, cancer and diabetes; and these diseases are now showing up in children. The authors define this as posing
unacceptable risks to the future health of Canadians. The problem is consistent across all Canadian provinces with a slight worsening in the Maritime provinces (Standing Senate Committee on Social Affairs Science and Technology, 2016). The results of the current healthy living curriculum have not offered any protection to Ontario children.

The report notes:

Repeatedly witnesses emphasized the need for a comprehensive, health-in-all-policies, whole-of-society approach under federal leadership and coordination, the impact of which would be greater than the sum of each individual component. The committee was told that policies, wherever possible, should encourage or facilitate the pursuit of healthy lifestyles. In this regard, witnesses suggested that a health lens, [sic] should be applied to a range of policy development, across departments and across all levels of government. An effective all-of-government platform would encourage the development of provincial and regional initiatives that promote healthy lifestyles. As such, the committee would like to see the federal government take aggressive measures to help Canadians achieve and maintain healthy weights (Standing Senate Committee on Social Affairs Science and Technology, 2016, p. 28).

The Senate report is clear that for there to be meaningful change to the overweight and obese population problem there must be changes to government policy. This is not an issue to be approached as a health-only problem; it affects agricultural policy, industry practices and regulation. Like the members of the Healthy Kids panel, the authors see a crisis, a problem that will not be managed with the current approaches. They still believe that education is important, and are “[a]dvocate[s] for childcare facility and school programs related to breakfast and lunch programs, improved physical education, physical activity and nutrition literacy courses” (Standing Senate Committee on Social Affairs Science and Technology, 2016, p. 51).

The themes from the 1904 British report are now emphatically apparent within Canadian approaches. The need to feed the children in order to educate them is reiterated, yet there is a major distinction from the earlier discourse. The results of Canada’s practices of
relying heavily on education are measured and judged as inadequate to support any meaningful changes to childhood malnutrition. The biopolitical project of ensuring the health and potential of Canadian citizens by increasingly relying on self-disciplinary technologies has reached its applicable limits, just as the public health initiatives of fortification and hygiene in the 1940s did (Ostry, 2006). This report sees the need for further improvements in population health as being urgent enough that government regulation and policy shifts are needed to avert the coming crisis. This perception of an oncoming crisis may be what ultimately hobbles this report.

Foucault saw the rapid shifts of what is truth, what is possible to discuss as being tied to discursive events. These events are usually found in the construction of a crisis in the social discourse, that sweeps away all former structures of truth and knowledge, creating new truths, new power (Foucault, 2002c). Until we reach a perceived crisis in the social discourse, not just in the specialized discourses, there will not be sufficient power to make the changes this report calls for. It is not clear yet what the tipping point is going to be to define the obesity crisis, not as a medical problem, but as a societal problem; yet it is possible to see movement within Canadian policy documents.

The current federal government has called on Lawrence MacAulay of the Ministry of Agriculture to create:

*A Food Policy for Canada* [that] will set a long-term vision for the health, environmental, social, and economic goals related to food, while identifying actions we can take in the short-term. A food policy is a way to address issues related to the production, processing, distribution and consumption of food (“A Food Policy for Canada - Canada.ca,” 2017).

and further:

In order to make healthy eating choices, Canadians depend on sufficient access to affordable, nutritious, and safe food, and require information to make healthy food choices (“A Food Policy for Canada - Canada.ca,” 2017).
Additional efforts to promote healthy living through nutritious and safe food choices, [sic] can improve the overall health of Canadians, while lowering health care costs (“A Food Policy for Canada - Canada.ca,” 2017).

The first claim promises that the new food policy will be the sort of food policy that has been called for, by invoking a balanced approach, seeking long-term benefits for population health and the economic stability of the agricultural & food manufacturing sectors. Yet the second quote reflects the Ministry of Agriculture thinking, of adequate information and consumer choice being all that is needed. This position is likely to be supported by industry, as they have invested heavily in this concept since the 1980s (Nestle, 2013).

The final quote, however, may be the most important argument, that the ability to reduce healthcare budgets may force changes in the government of the food supply, when the economics of not doing so are perceived as a crisis. The economics of a health crisis would affect many sectors. It is interesting to note that the 1904 report on physical deterioration was a response to the British military, when they had trouble finding adequate healthy recruits for the Boer wars. This becomes especially relevant with recent American military reports that almost 25% of recruits are disqualified due to overweight or obese status (Cawley & Maclean, 2012).

This attempt to integrate food security, health, environmental protection and agricultural economics has potential to be a discursive event itself. If Canada was to adopt a policy that would “align and co-ordinate current and future federal initiatives strongly linked to agriculture and food,” (“A Food Policy for Canada - Canada.ca,” 2017), it could institute a re-ordering of priorities and/or evaluations and could remake the statements of truth surrounding food. If farming subsidies were based on the new food guide that places vegetables and fruit as highly health protective foods, it would reshape the food supply. The redeployment of federal agriculture support funds to prioritize the availability of fresh produce would possibly create a new urban agriculture, focused on low-impact, high-yield aquaponic farming and other initiatives. Altering the cost and availability of
fresh produce throughout the year could alter the trajectories of non-communicable disease incidence rates.

The altering of so many truths about nutrition, eating and health around such an event would offer a situation analogous to that of the early 1940s, when the need to offer new tools and new knowledge translation strategies became evident. The need to shape a Newest Nutrition might yet emerge. The time to evaluate all of the embedded assumptions of nutrition and nutrition education may appear much sooner than expected.

4.3.4 Let’s Eat Healthy Canada Infographic

Health Canada recently released the *Let’s Eat Healthy Canada* (2017) infographic that defines one in three children in Canada as overweight or obese, and is concerned over the increasing incidence of NCD in childhood. The infographic details dietary deficiencies and shows the links between diet and increased risks of ill health. The all-capital slogan “DIET IS THE #1 RISK FACTOR FOR CHRONIC DISEASES” is outlined in an orange block, followed by the information that eating vegetables and whole grains reduces risks of diabetes, CVD and colorectal cancer, yet Canadians are not eating these protective foods in sufficient quantities.

While the slogan is “Let’s eat healthy”, the role Health Canada seems willing to take on is more education. There is no *us*, there is only *you* the reader being asked to consider *your* health, *your* diet and even *your* budget. If you are spending 30% of your food budget on prepared food and that food is increasing your risks of obesity and ill health, should you be adjusting your lifestyle? This infographic calls upon the reader to assess their diet: are they among the 5 of 6 people who fail to eat whole grains? Perhaps the 2 out of 3 who never eat plant proteins such as nuts, beans and seeds? Self-assessment, self-judgement and self-discipline are still the go-to dietary education tools; education and understanding the *nutritional truths* will change behaviours. The last slogan implores: “CANADA—LET’S MAKE THE Healthy CHOICE THE easy CHOICE!” yet
Figure 6 Let’s Eat Healthy Canada, (Health Canada, 2017)
the reader is left with no guidance on how to make those choices easier, just the concern choices *ought* to be made differently. We return not just to the morality of eating, but also to a naturalistic or *is/ought* fallacy. Health Canada has made a strong case that unhealthy eating is risky; it follows that you ought to eat better. The right thing to do, the moral or correct behaviour is *eat better*. There are echoes from the 1942 “Canada needs you healthy” that can be seen in #EatHealthyCanada.

### 4.3.5 Food Literacy Attitude and Awareness

In the summer of 2017, the Ontario Federation of Agriculture (OFA) released the *Food Literacy Attitude And Awareness Research Report*. The report surveyed teens, millennials and parents with young children on various food literacies. It found only 25% had used the *Canada’s Food Guide* (CFG) in the last year, nearly 25% couldn’t name a single food group, and there is little knowledge transfer from parents to children on food related topics such as food shopping, prices, locations, or the CFG. It also found that current food education is not working: “data shows the current way of reaching teenagers is neither effective nor impactful [and the] (credibility of these sources was questioned by respondents)” (Ontario Federation of Agriculture, 2017, p. 7). The study found that highly experienced and knowledgeable individuals were not seen as credible by teens and millennials.

This study brings forward two very interesting points: if both education and the family are no longer transferring *nutritional truths*, and they are the principal sites of self-disciplinary indoctrination, is there any explicit healthy eating education at all? If scientific knowledge and government authority are considered suspect, then who is a healthy eating authority?

To claim there is a standard curriculum is not to say that healthy eating is taught in each grade, in every school in Ontario. The inconsistent nature of classroom materials might be the most notable feature of this period. The selected text for analysis has been, and still is, used in Ontario classrooms and features a dietary self-analysis. It also reflects the withdrawal of support for the healthy eating curriculum in the education system, and the shifts of power that came about because of that action.
4.4 Eat Well and Be Active! To Get the Royals to the Feast: A Grade 4 text from 2009, revised 2011

This classroom activity set produced by the Dairy Farmers of Canada is a widely available, free resource for Ontario teachers. Created by dieticians, Eat Well and Be Active (Dairy Farmers of Canada, 2011) was first released in 2009, revised in 2011 and reprinted in 2015. It is a two-sided, legal size, laminated sheet that comes with a whiteboard marker. The front is a “game” with a check sheet to track food consumption and exercise and the back is a simplified version of the Eating Well with Canada’s Food Guide (CFG) with supporting information. In 2009, when it was published, it met the 1998 Grade Three curriculum-specific expectation of being able to identify & classify foods into the food groups as defined by CFG and the Grade Four expectation that students will be able to analyse their consumption.42

This three-day activity focuses on public self-observation, self-confession and self-assessment of one’s eating and physical activity. It employs a check sheet with a binary pass/fail for completion of a day’s correct diet/activity, rewarded with a game piece sticker. Collecting all three stickers in a three-day period allows the child to “win”; otherwise he/she is instructed to erase the chart and try again, with no recognition of successful days completed. The sheets have a space for the child’s name, so they can be stored in a common location or displayed, making this a public activity.

42 The 2015 curriculum places this learning activity as Grade Two content; Grade Four children should be learning about macro and micronutrients, yet the game states the diet recommendations for 9-13 year-old children and the exercise recommendations for 5-11 year-olds. It would appear this game is aimed at 9-11 year old students.
The resource was created, and funded by the Dairy Farmers of Canada during a period when milk consumption by children has decreased. This game, and the other components of the educational packages that support the classroom nutrition curriculum from kindergarten to high school, are biased towards promoting the consumption of milk and dairy products. By providing free classroom materials for every year of the curriculum, this marketing board emphasizes the role of dairy consumption and advances their own nutritional truths. The game provides the teacher with a nutrition module that requires no preparation, yet the check sheets allow teachers to assess student participation and evaluate their ability to meet curriculum expectations.43

43 In addition to classroom materials for each and every grade, the teacher can also get regular email tips and “Nutrition clips” to use in newsletters to parents, building teacher loyalty to the program.
There are several concerns I have with this game as a teaching tool. Although the back panel has information on the four food groups and what is considered a portion under the

Figure 8 Portions, Eat Well and Be Active,(Dairy Farmers of Canada, 2011)
CFG, it also explains that not all items eaten will contain a full serving of a food group, or may even be more than a single serving. However, it remains mute on how to score these items on the check sheet. The check sheet only rewards the student for eating a full complement of all four food group items, plus getting 60 minutes of activity. There is no verification, so it is actually incentivising the distortion of the diet and outright lying over consumption and activity, making it a poor model of dietary analysis. The examples of mixed dishes given, i.e. pizza, do not define portions nor do they match up with the exemplars given for portion sizes. The exemplars do not use common lunch-box items such as fruit cups or juice boxes. There is no reward to the child for day-to-day improvement; success is defined by only by fully completing the check sheet on a given day. A child who is eating no vegetables beyond french fries entering this activity, gets no recognition for eating a fruit, or further vegetables in an effort to build a healthier diet, if they fail to eat six portions of vegetables and fruit that day. Also puzzling is the complete absence of any mention of whole grains and the food guide directive to eat whole grains more often, but this is a Dairy Farmers’ publication. The food guide portion size exemplars are heavily weighted towards dairy products, and like their publications for other grades, use both images and examples that feature dairy over the variety of foods that remain the primary recommendation of the food guide.

What is perhaps most disturbing are the absences, the omitted information and the elided topics such as the whole grains mentioned above. The section on Milk and Alternatives never actually mentions any alternatives to milk such as soy or almond milks, which allows an incorrect definition of alternatives as being processed forms of cow’s milk. There is no reference to water; the only beverages referred to are 100% fruit juice and milk, despite the injunction in Canada’s Food Guide to “Satisfy your thirst with water!” (Government of Canada. Health Canada, 2007). As a document meant to teach healthy eating in the age of the obesity crisis, there is nothing in this document about satiety, fullness or satisfaction. There are no messages that it is okay or even important to

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44 Satiety is the feeling one may stop eating, a stomach fullness, whereas satiation is the feeling one does not need to initiate feeding, a gut fullness.
listen to your body and stop eating when full, rather the reverse in fact, for it only rewards those who have eaten all the required portions. There are, as mentioned earlier, no rewards for improvement either in physical activity or eating choices: one must erase the entire check sheet and start again if one fails to check off a single box.

The underlying assumptions about who the children in Ontario schools are can be problematic also. There are four suggestions each on to how to improve diet and exercise. Entitled “Having trouble getting there?” the dietician authors suggest that children who can’t meet the guidelines try extra vegetables at dinner or drink milk with their meals. Likewise, the suggestion to eat food group foods and drinks as snacks presupposes that these items are available for the child to consume. Then for those who have no vegetables or milk to consume, it suggests the Grade 4 child help with the grocery shopping or making meals at home. The physical activity section also has a section for those “having trouble getting there,” which helpfully suggests they walk or bicycle to school because issues of bicycle ownership, and urban safety for children walking/cycling are not part of the assumptions about the students of Ontario that this game makes. The assumptions about the family resources being able to provide all these items are based on middle-class values and expectations. If there are no vegetables or

![Figure 9 Getting There, Eat Well and Be Active, (Dairy Farmers of Canada, 2011)](image)
milk, go buy them. They assume a safe, suburban school/neighbourhood, not rural distances or urban traffic. The winners of this game are affluent or middle-class children, who recognize themselves in the images, eat the right sort of foods, and have parents that can pay for extracurricular sports.

The visual content of this document is troubling also. While the CFG information mimics the food guide in layout and colour, it uses larger images of dairy products; the glass of milk is as large as the turkey. The images on the game are predominantly white males. The game itself has one female character in the entire illustration; the Queen is seen sitting passively, surrounded by action-hero type knights with bulging muscles. There are no non-Caucasian characters in the illustrations and the hero of the story is, of course, the white, male knight. Despite being created in 2009, there is very little inclusivity; every child must identify with the over-muscled white male hero, whose image is further used to represent physical activity on the check sheet. In the illustration, the image of the white knight meeting and conquering the black knight calls on the

Figure 10 Images, Eat Well and Be Active, (Dairy Farmers of Canada, 2011)
discourses of purity and moral goodness, establishing the moral nature of healthy eating while perpetuating a racist trope.

*Figure 11. Game illustration, Eat Well and Be Active! To Get the Royals to the Feast, (Dairy Farmers of Canada, 2011)*
The language of the game is mostly directive, but the check sheet is written in first person statements: “Vegetables and Fruit, I need 6 servings a day.” The instructions on how to play the game state that the King and Queen have been invited to a feast but there are three obstacles standing in their way. The reader is asked “Can YOU eat well and be physically active for 3 days to help get them there?” There is no logic or reasoning as to why healthy living should have such a consequence, but it is fascinating to me that the avowed purpose of three days of healthy living is to assist a figure of authority overindulge. The obligation to eat in the prescribed ways and meet activity guidelines is once again an obligation to the power of the sovereign. The purpose of the task/quest is to assist the royals, not to attend the feast oneself; there is no reward offered for this assistance, or healthy living, beyond the acquisition of “puzzle pieces” that complete the image in the game illustration. There is no attempt to link the healthy behaviours of eating according to the CFG, or being active according to the Canadian Physical Activity Guidelines with feeling good, having more energy, being healthier. There is no personal benefit suggested anywhere in the document; rather the game promotes the odd conflation of healthy eating and fighting against obstacles. Healthy living is an activity to be done because an authority has said it ought to be done, similar to the Amidon et al. text of 1946. Given that the authority that created this document is the Dairy Farmers of Canada, this becomes rather disturbing as commercial interests take on governmental authority/knowledge and power within the authority of the classroom.

The game illustration shows the three obstacles to the Royals. The first challenge is a broken coach wheel. The second challenge is a uniformed dark-haired black knight barring the path. The third challenge is the crossing of a river. The internal struggle of the child to live according to the check sheet becomes externalized as physical challenges. All three of these conflicts are met by the white knight so the King and Queen can travel to a castle for the feast, mostly by sitting safely in their carriage. The bottom of the check sheet, where a quantitative summation might be expected, is entitled “Clear the Path” and invites the reader to take a puzzle piece for each day of completeness. Unlike the 1943 score sheets there is no tally, no score to improve or compare against, there is only the binary of pass/fail, winner or loser.
The tacit learning of this game is that healthy living doesn’t need to be understood and may be impossible to understand. Certainly, with the information that is offered in the activity, it would be difficult to understand what categories and what quantities of food one had consumed unless it was neatly divided into separate containers, such as a “lunchable” or pre-packaged food item such as yogurt tubs.\textsuperscript{45} Tick off everything for three days without any thought is the best strategy for the child to adopt, as lying or disconnecting from the activity makes them winners; while the more one tries to do this activity as it is supposed to be done, through analysing and recording one’s diet, the more likely one is to fail. That a healthy lifestyle is composed of eating to complete an empirically defined number of portions and $X$ minutes of activity, but not to listen to one’s hunger, thirst or satiety clues or pay attention to the body’s exhaustion/capacity is another tacit lesson. There are no consequences in this game beyond the win/lose; there is no link between healthy lifestyle and ability to enjoy life, only the peculiar promise of the over-muscled white knight, who supports the authority of the state while receiving no reward. Further, winning is defined as proper consumption \& exercise, a quantitative value rather than healthy eating or lifestyle, a more qualitative goal that seeks to establish habits that contribute to lifelong health.

In a society that focuses much attention on child health, on the avoidance of childhood obesity through the uptake of healthy lifestyle behaviours, this game attempts to establish authority through an is/ought fallacy. The naturalistic or is/ought fallacy is found in any argument that derives a highly judgemental ought statement from a factual is statement. “Children ought to eat healthy diets so they grow up with lower risks for NCD” sounds like common sense, yet it rests on many contentious concepts such as: what the optimal diet for a child is; who is responsible for providing the resources to supply a healthy diet for every child; or who is to provide food that is nutritious and not deleterious to health. Without defining one’s philosophy of obligations and responsibilities, the ought statement is not supported by the is truth statement. The definition of what a child ought

\textsuperscript{45} Ironically, foods highly processed and/or high in sugar.
to do and eat to have a healthy lifestyle is biased in this learning activity that seeks to produce consumers, rather than healthy children.

The Ontario Healthy Eating curriculum seeks to avoid this issue of undefined assumptions by not asking for or specifying any identity when it comes to food choices, yet by relying on *Eating Well with Canada’s Food Guide* or even worse, classroom materials prepared by commercial interests, the biases of the food industry are perpetuated. The *empirical truths* of nutrition science are defined by the state to promote population health, then distorted, over-simplified, and often biased by commercial interests before publication as a food guide (Nestle, 2013; Ostry, 2006) and finally taught to children as a way of self-improvement that is more likely to confuse rather than motivate the child. Rose’s 1934 pedagogy may have been built on dubious science, but it was aimed at the child’s affect as well as intellect; it was crafted to inspire trust in science and the fear of malnutrition so the child would be motivated into eating a healthy diet whether they might enjoy it or not. Amidon et al.’s Billy Bradshaw dialogue used the eat/did not eat binaries but demonstrated and promoted the knowledge that Billy could and did improve his diet. Ben Bradshaw exhorted his family to do better, as they contemplated the failure of each family member to eat properly. *Eat Well and Be Active!* is the vestigial remains of a naturalistic fallacy attempting to become a self-disciplinary technology. The identifying of Ontario school children as *at-risk* of obesity and the association of NCD disease with obesity is used to justify the commercial abuse of the healthy living curriculum. The withdrawal/overwriting of the knowledge base that is used to form nutrition science weakens the authority of the materials used to support this curriculum. The use of marketing tools attempting to build sales of dairy products is ineffectual as a means of building healthier individuals, and unlikely to increase population health. The creation of these materials by dieticians with little or no pedagogical theory, for the purpose of furthering commercial interests, should sound a cautionary note over their use in the classroom. Since the Ontario government has withdrawn from providing adequate materials and training for teachers whilst requiring that a healthy living curriculum be taught, these questionable materials will continue to be used.
Chapter 5

5 Nutrition: Truth, Power and Identity

“Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regime of truth, its ‘general politics’ of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true” M. Foucault, *Truth and Power*, (2002c) p. 131.

The question of what is proper food to eat has probably been around for as long humans have. The dietary laws of halal and kosher food show us one type of solution. Plato wrote of the dietetics that led to health and wellbeing, whilst Kellogg influenced more modern diets. Nutrition science was based on the thermodynamics of macronutrients and the metabolic effects of both macro and micronutrients; the individual was defined as the biological processes. Yet Foucault asks us to look at the *effects* of power/knowledge, to see the regimes of truth, and then observe how the individual, within these webs of power, truth and knowledge, can create themselves (Foucault, 2002b). The definitions that have been assigned to proper food and proper eating practices have been part of religious identity; have determined the respect and admiration of one’s peers; or justified one’s abasement for immoral, depraved or even wicked behaviours. The definitions of proper food and eating practices have even been given a semblance of universality by nutrition science. These knowledges are given authority, and power when individuals adopt those truths to work on themselves, when they subject themselves to the authority, and constitute themselves in relationship to these knowledges, these truths.

Nutritional authority determines who establishes nutritional truths, what questions get asked, answered and entered into the discourses and eventually what subjectivities are
produced. The authority of nutrition knowledge has been fundamental to both the rise and fall of nutrition education as a practice of governmentality and an instrument of biopower. The work of Sotos-Prieto et al on improved nutrition reducing all-counts mortality (2017) reflects a returning interest in the application of nutritional truths. The growing science of epigenetics and the construction of diet as vital to DNA replication with subsequent health implications has opened a renewed research interest in diet and nutrition. Dietert argues that the ongoing research into microbiomic biology places a heavy emphasis on diet as well; the health of the microbiota, and all of the consequential beneficial or detrimental effects are determined by the host’s diet (2016). The modern applications of nutritional science have moved beyond deficiency and obesity, and if nutrition is as fundamental to health as modern research is indicating, nutrition education will continue to be a useful tool of biopower.

Historically, the understanding of the role of macronutrients and the scientific understanding of metabolism as an oxidation process, changed the wisdom of healthy eating into the science of nutrition. This New Nutrition was applied to many facets of life at the end of the 19th century and the opening of the 20th. The pursuit of this scientific knowledge was profitable. Both government and industry saw the power of this knowledge and identified a well-nourished population as the source of men fit to be soldiers and productive workers (Fitz Roy, 1904; Gorst, 1908). The New Nutrition was a way for the state to optimize the potential abilities of citizens, making them more capable, stronger, healthier (Fitz Roy, 1904; Rowntree, 1922). Reformers saw the potential of the New Nutrition to eradicate hunger and poverty through more efficient use of the poor’s scant resources. Economists saw a justification for keeping wages low, as nutritional knowledge would allow the lowest paid workers to thrive on wages that were being shown as inadequate for survival under traditional dietary norms and Rowntree’s 1901 calculation of the poverty line (Fitz Roy, 1904). Industry saw the marketing

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46 Diet plays a role in the modification of DNA replication processes that have been linked to cancer, autoimmune disease, mental illness and diabetes.

47 *New nutrition* is macronutrient based, 1890-1920s, *Newer nutrition* refers to the vitamin and micronutrient knowledge of the 1920-40s.
potential of poorly understood nutrients as a device to persuade consumers that their foods were healthy (Levenstein, 2012).

The positivist position of nutritional science at the opening of the 20th century held that it was possible not only to improve, but also to optimize diets and create a strong, healthy, beautiful population. Scientists such as Ellen Richards and Mary Swartz Rose tried to introduce a bread and milk diet for children that eschewed vegetables and spices as unneeded flavourings. The power of this new branch of scientific knowledge was influencing social change on many levels: poverty reformer Seebohn Rowntree tried to remove meat and vegetables from diets as unneeded costs that burdened the poor; the 1904 Inter-departmental Committee on Physical Deterioration sought to use the power/knowledge of nutrition science to counter the effects of urban poverty, and through the education of children, eliminate the malnourished British subject within two generations. This power to change society and improve population health made nutrition into a topic of governmentality, as nation states vied for economic and military strength to dominate other nations. Investing in, and better understanding of the science of nutrition was seen as a way to eliminate malnutrition, and lead to an era of population health and national prosperity.

This pairing of resource optimization and scientific authority/power made nutrition research profitable, with labs being financed by government and industry; indeed nutrition was sufficiently important in the heights of the “Vitamania” of the 1920s and 30s to create a challenge to the authority of medicine as the arbiter of health. This power struggle was short-lived, and medicine dismissed the claims of nutrition and set in place the disdain for nutrition in the medical community that has existed for most of the 20th century (Levenstein, 1988, 2012). The result of this de-medicalization of nutrition knowledge was the institutionalization of nutrition as a commercial enterprise and as a result nutrition was embraced by the organizations of food processors as a powerful marketing tool, a practice that remains imbedded in the food supply of North America (Levenstein, 1988, 2012; Nestle, 2013).
The Newer Nutrition knowledge, formed by the discovery of vitamins and essential micronutrients in the 20s and 30s, allowed the discovery and the subsequent eradication of deficiency diseases that had remained untouched by the hygiene theory. This in turn contributed further to the authority of nutritional truths. Yet the power of nutrition remained in the scientific and expert knowledge that defined and measured the invisible macro and micronutrients. Ostry’s study demonstrated the Canadian practices of applying this expert knowledge to shape a healthier, stronger population through public health projects and food fortification through the 1930s (Ostry, 2006). Yet Foucault maintained that power was found “at the point of intersection of the discipline of the body and the control of the population” (2002c, p. 125) or the intersection of anatomo-power and biopower. For anatomo-power to govern the individual’s body - the actual eating choices of an individual - required a different strategy. The pastoral care of the individual citizen required a technology to translate the understandings of the nutrition lab onto the tables of the citizens. Nutrition knowledge would be most powerful when employed by the individual, self-governing according to the state’s directions, reinforced by the state through public health projects.

The introduction of the 1942 Food Rules redefined food into nutrient-based categories. These categories meant that a diet that was nutritionally adequate could be quantified in a new way; a basic analysis of any diet was possible without specialist training or knowledge. In turn, the government of the standards and norms of the healthy diet could be established and communicated to the population. Introduced during a period of war, the Food Rules were portrayed as a form of patriotic action for a loyal citizen, rather than being an intrusion on an area of personal choice. The Food Rules exploited both the empirical science and the moral obligations of the war-time citizen. “CANADA NEEDS YOU STRONG” proclaimed a 1942 edition of the Food Rules; the act of eating properly was portrayed as an act of the patriotic, moral citizen. The Food Rules and accompanying score sheets published by the federal government allowed the citizen to determine their score and compare their eating habits to the state defined proper score. The procedure of dietary analysis allowed the citizen to apply the self-observation, self-examination and self-regulation that identify a self-disciplinary process, or in other words, a new mode of subjectification. The government defined this procedure for the
well-informed and enlightened citizen, who in caring for the nutritional health of their body, worked to the benefit of the nation, and might improve their own quality of life.

The standardization of a nutritionally adequate diet, that conformed to the prescribed number of portions of each food group, was an exercise of biopower to improve population health measures in Canada. The introduction of Canada’s Food Rules and score sheets simplified nutrition messaging into concrete rules that regulated categories and quantities of food required. An understanding of nutritional adequacy remained as expert knowledge, as did the dietary response to illness states. However, the individual could now be held responsible for compliance with the simple food rules and this compliance provided adequate nutrition over the population. It is important to understand that compliance to the Food Rules offered no guarantees of individual nutritional adequacy or health; it fulfilled the nation’s need for improved population health through the actions of the individual citizen. In other words, if an individual’s health improved, it was of benefit to that individual but that was not a specific objective of the knowledge/power evoked by the Food Rules.

Given that Canada’s Official Food Rules were formulated at the population level, they pass for truth (i.e. conflate what is true and what is scare-quoted as “true,” (Haack, 1996)) when used as an individual diet analysis tool. The food guides are passing for truth when they are used as a way for individuals to eat the best possible diet, one that is appropriate for their body and any possible illness states. This is, for example, why we have different eating guides, and special education programs funded by the province for persons with diabetes, because adherence to the CFG might injure that person. The food guide is meant to function over population groups and must be reconciled to individual health circumstances. The information is “true” for the average or normal person, but with no information of what or how that normal person has been defined, or how to adapt for individual needs: without specialized knowledge, the CFG passes for truth. In certain circumstances it may be true, but again, without specialized knowledge those circumstances are also impossible for the citizen to determine. The passes for truth fallacy is common in many government or introductory publications that have been oversimplified or overgeneralized into pseudo-truths. The real danger comes when
information that passes for truth is the only information offered, when it becomes treated as empirical or objective truth, or as the authority that is relied on in the provision of the required Ontario nutrition education goals.

The introduction of a simple self-analytical tool and the definition of proper diet was seen as a powerful marketing tool by the farmers’ marketing boards as well as the government (Ostry, 2006). The inclusion of specific foods in the Food Rules and the number of portions required in a healthy diet became a target for lobbying efforts, and commercial research labs were funded and tasked to prove empirically the need for inclusion of specific foods in the defined healthy diet (Levenstein, 2012; Nestle, 2013). The formation of the Food Rules created further knowledge; industry’s power remained in funding to determine the research questions asked, and thus the truths that were created and added to the nutritional discourse. Governmental power and authority made inclusion in the Food Rules into a lucrative proposition and well worth financing research, or controlling the nutritional truths. The results were self-regulated consumers with increased consumption.

The economic prosperity of the post WWII period coupled with better understanding of nutritional adequacy ended most nutritional deficiencies in Canada, as may be seen in the Nutrition Canada Survey of 1970-72. The immediate benefits of nutritional education to improve diets, and the public health programs of nutritional supplementation and fortification had reached their potential. The burden of nutritional deficiencies was substantially decreased as was shown in the improvements in both infant and maternal mortality rates. Consequently, nutritional research focused on the role of foods in the etiology and treatment of disease states such as cardiovascular disease.

In response to the Western social discourse of individual empowerment, and a growing distrust of large food processors, the number of alternative nutritional discourses rose in the 1960s and 70s. Although the history of nutrition has been filled with varying alternative discourses that ranged from academic disputes, to corporate purchasing of

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48 The food processors were going through a period of substantial amalgamation and consolidation.
nutritional authority, to outright fraud, most have been commercial in nature. The alternative health discourses of the 60s and 70s were a turn away from corporate interests and explored low impact and sustainable eating practices. Crawford argues that the revelations of environmental degradation and pollution such as Carson’s 1962 *Silent Spring* gave these alternative discourses power. The feminist health movement also added power to the discourses that were challenging the authority of government and industry (Crawford, 2006). The power of these combined alternative discourses led to an integration of some of the themes into the dominant discourse. There was a different voice in the nutritional education materials of the 70s, as new authority was given to different truths, different knowledges.

These alternative discourses were tied to consumer support for organic and alternative farming practices. These limited discourses have remained empowered in North American culture, and have evolved into current locavore and other dialogues. The continuing strength of these alternate discourses from the mid-20th century may be due to the weakening of conventional nutritional discourses through the 80s and 90s. The majority of nutritional research funding was focused on obesity, concerns about diet-related pathology, and the effects of additives (Levenstein, 1993). The Canadian government and large-scale food producers were disregarding the food safety concerns of the alternative discourse, actually reducing government oversight of the food supply and increasing industrial control over safety (Canadian Food Inspection Agency, 2015). Self-reliance and the support for small scale, preferably organic farming, manifested in the farmers’ market movement (Pollan, 2008).

The economic recession of the late 1970s, coupled with improved population health markers, decreased the importance of nutrition education. In the education discourses of the 80s and 90s, the task of governments to reduce educational spending combined with the neoliberal discursive shift towards personal risk avoidance, and placed an emphasis on individual dietary regulation that moved the goals of nutrition education further along

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49 Elmer McCollum and his $1.25 million dollar in grants from the Grocery Manufacturers Association in 1938 to promote the nutritional value of white bread and the canned/preserved foods is a good example.
the anatomo-power axis. Individual dietary self-disciplines were motivated by risk avoidance rather than patriotism, obedience or the goal of being healthy to reduce the costs of Medicare. Nutritional education that focused on preventing deficiency was irrelevant in the rising obesity discourse, for population-based food guides failed to address individual concerns and were not designed as a weight control tool. *Canada’s Food Guide* did address population level dietary concerns, such as the 1992 revision that addressed fitness and heart health; yet support for the individual’s health concerns through diet modification was limited. This limitation was especially apparent in Ontario where access to dieticians and expert advice for individuals was not supported by the state, until the individual was hospitalized, or diagnosed with a severe illness. Nutrition-based preventative healthcare remained unavailable for the citizen.

The Ontario Healthy Living curriculum set the content of educational materials, or determined the nutritional truths to be taught. These documents became more specific in the 1998 and 2015 revisions, with detailed learning requirements of the students. Yet the Ministry of Education offered fewer classroom materials and teachers were no longer supported or trained to teach most healthy living modules. By 1998, corporate interests had recognized and exploited the power of producing and directing classroom educational materials that aimed to shape individual food preferences and eating choices.

There are current Ontario nutrition education materials written by dieticians and supplied to teachers at no cost at the Ontario.teachnutrition.ca site run by the Dairy Farmers of Canada. These materials are written to meet the 1998 government curriculum, and are biased towards the consumption of dairy products. It is interesting to note that in 1984 when there were concerns about the safety of consuming eggs in any quantity, the Egg Marketing Board produced a lavish set of classroom educational materials.

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50 Lalonde proposed in 1974 that the duty of the civilian was to prevent non-communicable diseases to preserve healthcare budgets for treatment of other major medical concerns.

51 Rather than the proposed trained volunteers or community organizations that were expected to provide this education to children in the Love of Learning report of 1994.
material aimed directly at the primary grades.\textsuperscript{52} Similarity to the 1984 egg marketing efforts is notable, as in the proposed 2018 Canada’s Food Guide the Dairy food group has been eliminated and the cachet that milk has had as the “perfect food” since the 1920s (Hiscock, 1929) is further diminished.

The power that elementary nutritional education manifested in the early 20th century has been dissipated, moved into commercial interests that are willing to create and use nutrition knowledge as a commercial strategy. The governmentality of nutrition has yielded the low-hanging fruits, with programs of supplementation and fortification to prevent deficiencies in the majority of the population and the tools of dietary self-analysis. Further benefits to the state will only come by use of legislative and economic commitment to improve the food supply. The use of regulation and economic incentives will disrupt the current food production status quo, so will likely be contentious; the economic stability of slow-moving corporate interests will be jeopardized and new, smaller economic players will benefit. There are several proposed measures that are being considered by Health Canada to further regulate the food supply and improve population health markers: trans-fats were banned in September of 2017 (with full implementation in 2018) and regulations over salt content in processed foods continue to be considered.

\textbf{5.1 Truths and Valid Knowledge}

In the early 20th century, nutritional science knowledge was in a state of flux. The discovery of the macro- and micro-nutrients led to a functional description of human nutritional needs and metabolic processes by the end of the 1930s. Most modern nutrient discoveries\textsuperscript{53} confirm the importance of a diet that emphasizes variety and is high in vegetable and fruits, whole grains and plant-based proteins. Levenstein documents the beliefs in \textit{hidden hunger} or sub-optimal vitamin intake that were held in North America in the 1930s. The role of vitamin deficiencies in the etiology of disease states such as

\textsuperscript{52} Starting Out (1984) provided games, crafts, educational activities and quizzes free to Ontario teachers.

\textsuperscript{53} Such as the role of flavonoids as anti-inflammatory factors, or the harmful effects of trans-fats.
pellagra, scurvy and beri-beri was discovered, and led to concerns about inadequate intake and non-symptomatic vitamin deficiencies. The ability to measure the vitamins in a food, before and after processing, led to legitimate concerns about modern processed foods’ nutrient loss and their ability to properly nourish people (Levenstein, 1993, 2012). The state needed to reassure citizens that the proper diet would nourish them adequately in the face of strong commercialism of vitamins, and despite rationing and food shortages. The Food Rules were a government strategy to form the nutritional truths that sufficient nutrition was available in the food supply, and healthy eating was both within the abilities of the citizen, and their expected duty. With the injunctions that “Canada Needs You Strong” and “Eat Right – Feel Right,” the Food Rules were establishing the ability of each Canadian to determine the strength of their diet (and make improvement as needed), as well as unquestioning belief in the morality of obedience to the truths of nutritional science. As discussed in Chapter 2, Amidon et al. took up these themes in the Billy Bradshaw narrative of 1946, and used Coveney’s empirico-transcendental doublet to detail the obligation of citizens to unquestioningly follow the truth of government nutritional claims.

The establishment of adequate nutrition as important to healthy childhood growth, led to the truth claims found in multiple nutrition texts of this period: good nutrition would make you strong, healthy, and beautiful; it was an effective and efficient way to use one’s food budget; and was evidence of patriotic citizenship (Department of Education, 1942; Silver, 1945; Stone, 1943). The truth claim that adopting practices of dietary analysis and self-discipline would result in physical and moral superiority remained consistent across multiple texts and was fundamental to elementary nutrition education of this period. Both public health and national security were constructed as being dependent on

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54 At the time they knew there were consequences to sub-optimal nutritional states, but what the symptoms were, remained unclear. In the early 40s, there was crisis over the specific fear that thiamine deficiency would cause a demoralized population, apathetic in the war efforts (Levenstein, 2012; Ziegelman & Coe, 2016).

the adoption of these self-disciplinary technologies to move better nutritional choices into
the eating practices of the individual, and down the anatomo-power axis of personal
choice. The forming of scientific knowledge and authority as part of these new dietary
practices called for rapid dissemination and adoption of these practices, to ensure a
healthy and productive population. The mixed messages of moral and physical benefits
and obligations return us to Foucault’s productive nature of power and truth. The state
disseminates these nutritional truths to be taken up by individuals. The individuals work
on themselves, constructing identities as moral citizens, who heed the dietary advice, and
thereby demonstrate their health, strength and patriotic behaviours.

By the 60s, the perception of resistance to dialogues of control and rules contributed to
the revision of the Food Rules as Canada’s Food Guide in 1961 (Government of Canada,
Health Canada, Health Products and Food Branch, 2002). The economic abundance that
Ontario was enjoying made choosing a healthy diet easier to accomplish. The patriotic
discourses of nutrition had vanished; variety and neophilia were encouraged as valid
paths to nutritional health. By the seventies, the emphasis on self-knowledge remained
part of the dietary analysis, but expanded to encompass one’s cultural identity and
personal preferences. The nutrition education of Keeping Healthy focused on the
individual rather than the family, as self-interest and self-awareness were used to
motivate healthier choices. Knowing one’s self and remaining congruent to that identity
was given weight in the moral identity formed by the child, as long as that identity
conformed to nutritional adequacy and thus health. The child remained subject to the
truths defined by the empirical science of the four food groups. Further, dietary self-
examination was a path to self-knowledge that could be used to guide self-disciplinary
acts, insuring health and optimal growth.

The benefits of good nutrition took on differing meanings in the late 60s and early 70s as
the identity of cultural eating practices became emphasized over the healthy growth and
beauty aspect of mid-century nutrition education. As mentioned earlier, this social
construction of Canada and especially Ontario as a multi-cultural society was essential to
support the economy as there were insufficient people to meet industrial needs without
immigration. The massive immigration in the post-war period propelled the economy
even higher than predicted by economists (Gidney, 1999; Troper, 2003). The role of food as a form of cultural identity became more important during this period, as did the equivalence of differing cultural identities within the multi-cultural mosaic. The truth of identity being a motivator in food choices flourished briefly in nutrition education, as a companion to self-knowledge.

By the mid-1970s however, federal government fears over rising health care costs had introduced the concepts of the Lalonde report, while at the same time the protective or preventative aspects of healthy eating had become an accepted truth within the social and medical discourse. Risk avoidance was present, but there was still a focus on illness prevention rather than risk reduction. The emphasis of a healthy diet was to become a socially responsible citizen who managed their health as a resource rather than their body’s strength or productivity as a resource. This inversion of economics in the construction of a conscientious citizen focused on the cost of ill health, especially chronic illness, as a burden on a society that provided universal health care. The previous emphasis had been the economic benefits that the nation derived from your life and labours and the power you offered to the state as a productive worker or soldier. Optimally, the conscientious citizen was both; they performed well as an economic resource and did not impose their ill health costs upon the provincial economy.

The 1980s economic withdrawal from the social safety net meant drastic cuts to education as well as medicine. The neoliberal risk discourse that would come to prominence in medical discourses over the eighties would be reflected in both nutrition science and education. The quantitative metrics that were applied to education were used to justify massive changes to the curricula based on the truth that progressive education had failed and that education had become too expensive, and too unfocused in Ontario. Wien argued that the student’s relationship to knowledge seeking and skills were judged as irrelevant and the testability of student knowledge and application of skills became a

56 The Canadian Multi-cultural Policy of 1971 defined 4 objectives: To retain cultural identity; to overcome barriers to participation in society; to encourage creative exchanges; and to assist in the acquiring of one of the official languages.
dominant theme in education (Wien & Dudley-Marling, 1998). Actual end points for the students no longer were important, as the only valid knowledge was that which could be reproduced across the province; by 1997 standardized testing was instituted to measure the effects of the common curriculum.

The 1998 Health and Physical Education curriculum was based in the binaries of “the students will…” There was only a pass or fail test or measure for students- the ability to regurgitate appropriate information as defined in the curriculum. Nutrition was not even a word to be used in the classroom before Grade 5, only healthy eating, healthy foods, healthy food choices with an oblique reference to nutrition and dental health in Grade 2. Students were now presented with the eating and activity choices of healthy living that had been simplified down to tick sheets. Enough ticks means healthy living has been achieved regardless of the child’s actual health or wellbeing. Understanding is not even required, for in the 2015 curriculum, the dietary analysis that Rose (1934) set as being appropriate to the development of the Grade 4 or 5 child and their awakening understanding and questioning of the knowledge and authority around them, was moved to the Grade 2 curriculum expectations. Whether most children of this age are developmentally capable of the categorization of foods that this activity requires is apparently unimportant. They are given a pass/fail opportunity to demonstrate their mastery of the information that can be learned by rote. The valid knowledge to be displayed is now absorbed as rote categories, that may or may not have any personal significance, but are deemed essential to the child’s health and wellbeing for the rest of their lives. The classroom materials examined in Chapter 4 confused the purpose and motivation of healthy living goals by promoting them as benefiting the “Royals,” an unknown authority that required the child’s healthy living as obedience for unknown and unrewarded reasons and conflated healthy living with overcoming obstacles. The curriculum goals, and the corporately produced marketing used as classroom materials to support those goals, have made nutrition an unintelligible obligation with no discernable motivation or reward.

As the quote at the beginning of the chapter states, “truth is a thing of this world” (Foucault, 2002c, p. 131), and thus alternative dialogues can exploit the power of
nutritional authority. When the education system apparently withdraws from teaching and the state is content to leave nutritional health as a personal choice, other users of the authority of nutritional truth will rise. Social media messaging is dividing parents into tribes of parenting styles and reinforcing perception bubbles over what constitutes good or even adequate nutrition for a growing child. Celebrity bloggers are more likely to influence a child’s eating choices than the schoolroom, as parents seek information from sources that align with their own beliefs. Kruglanski’s lay epistemic theory on information seeking describes the information seeking and decision-making of most adults in the social media age, where congruence with previously held beliefs and biases is often judged more important than credibility or knowledge/authority (A. Kruglanski, 1989; A. W. Kruglanski, Orehek, Dechesne, & Pierro, 2010).

The generation educated with the healthy living pedagogy favoured since 1995 have few skills to judge the validity of popular nutritional messages. They have been taught the acceptance of passes for truth fallacies. The acceptance of alternative nutrition discourses that fit into their adult cognitive biases is more likely when they have little understanding of what role nutrition plays in health. The reliance on Eating Well with Canada’s Food Guide and watered-down, confusing versions that invoke authority through their association with Health Canada, is teaching acceptance of convoluted, unclear, and incomplete nutritional messages. Our current CFG is criticized for the undue influence of food marketing groups in the determination of food choices and portion numbers. These classroom materials, produced by the Dairy Farmers of Canada, add their own layers of oversimplification and generalization, as well as a bias towards dairy products. The use in the classroom of nutritional knowledge/government authority to create truth and then to represent this truth with documents that confuse, carry marketing biases and contain multiple fallacies of oversimplification, reinforces the tacit knowledge that nutritional science truths are incomprehensible, and socializes the child into an inability to distinguish pseudo-science from science.
5.2 Identity & Modes of Subjectification

Valerie Harwood defines *modes of subjectification* as the role of the subject and how they work on themselves in the vital practices of life: “the distinction lies in the emphasis placed on the subject as *active* in its own constitution (it is not merely acted upon)” (Harwood, 2009, p. 24). Coveney describes modern subjectivities as arising from both the relationship we have with power that normalizes and objectifies us, but also with our own practices of self-regulation through which we actively constitute ourselves (Coveney, 2006). The desired result of most nutrition education is the uptake of new self-regulating behaviours, new identities as the application of *healthier* eating practices redefines the person. Foucault suggests that the patterns for these identities are “proposed, suggested and imposed on [the individual] by his culture, his society and his social group” (Foucault, 1988b). Identity is then to be considered as a pattern or template that is available within social discourses, constructs of a specific time and culture. These identities can be seen to change from the beginnings of modern nutritional science to now, especially when analysing the indoctrination of children into these patterns in the Grade Four lessons on dietary self-examination.

In early nutrition governmentality, the British were the first state to recognize the potential of nutrition education to create a new mode of subjectification that would appease the growing social fracture over the urban poor. Fitz Roy saw the biopedagogies of nutrition, hygiene and temperance as essential to creating a British urban population that were responsible for their own health, and in doing so would escape the burden of ill health and incapacity engendered by their environment. His committee identified the nutrition education of the urban poor as a way to protect the resources of Britain, to create knowledge and ability within citizens to protect their own health, and the health of their children. They then made that responsibility for health into an individual’s responsibility whilst the state took responsibility for partial funding of school lunches and altered curriculum in the newly formed state-funded education. The teaching of nutrition

[^57]: Without involving the government in regulation of pay rates, food supply or sanitary conditions.
had, up to that point been a curiosity of biology courses or an adjunct to domestic knowledge, needed in the servant class and by those who managed the servants. The shift to consider nutrition education a necessity for the modern citizen at every economic level was a profound shift that exploited new knowledge and the power of the government over individual diet. The nation’s regulation of an individual’s diet to produce healthy strong citizens that would contribute to the strength of the nation, rather than use the nation’s resources as incapacitated poor, was seen as a worthwhile public health project at the turn of the 20th century. The perception that there was biopower in the management of diets set in motion a need for further authority or knowledge of nutrition, and the creation of new identities formed in relation to the knowledge.

I believe it is important to note here that the social discourse of the early 20th century contained many contentious identities for the urban poor. Francis Galton’s eugenics discourse disparaged the poor as weak, feeble, lazy and immoral. Seabohn Rowntree saw the poor as underpaid, abused and under a burden of unhygienic conditions. The poor houses and prisons were under scrutiny and the British discourses created the truths of deserving and undeserving poor (Coveney, 2006). The undeserving poor were ignorant, backwards and immoral, choosing poverty and rejecting progress, whilst the deserving poor, being moral and enlightened, were worthy of privileges and would use education to improve their lot in life. Nutrition education in this discourse had the power to create healthy strong individuals, the power to create new identities as economically sound and prospering families: no longer the abject poor, but claiming an identity of moral and economic superiority by living above the poverty line.

The use of nutritional power and truth to create new identities, new modes of subjectification grew in scope with the development of nutrition science. What was judged as the relatively complete understanding of human nutritional needs, the etiology of deficiency diseases, and the technology to accurately measure the nutritional components within foods, were all developed by the 1940s. This body of knowledge led to increased interest in the government of healthy eating, or the effective use of nutritional knowledge in developing a well-nourished, stronger population. The strength
of the nation’s citizenry was essential in order for any state to recover from the Depression and to meet its wartime needs.

The development of food rules/guides and dissemination of proper eating patterns contributed to healthier eating patterns across the population. The advances in nutrition made through the understanding of vitamins and other essential nutrients made nutrition science effective in preventing deficiencies. Food guides moved the newer, more complete knowledge down the anatomo-power axis, making individual eating choices into an area of governmentality. Canada created a tool to promote and disseminate governmental goals and objectives at the site of the individual’s eating choices. Canada as a nation determined the nutritional truths and codified them as *Canada’s Official Food Rules* and then ordered the loyal citizen to “Do your part in the Canadian Nutrition Program” (Nutrition Division, 1942). The introduction of the *Food Rules* as a re-education process to correct the misinformation of the early nutrition knowledge could be utilized at any of the sites of self-discipline technology transmission - family, schools, and the military - to form these norms of the patriotic and healthy eater as an identity.

The nutrition textbooks pick up this discourse and challenge the reader to pick their identity. Rose in 1934 asks children to decide if they are the smart eater who exploits the new knowledge of nutrition science or the picky eater who refuses to optimize their health because of personal preferences. The metaphorical language comes into play here also, as children are asked “what happens when the automobile runs out of gas, or the boat out of coal?” (Rose, 1934, p. 10). Proper nutrition was the smart choice, the modern choice that demonstrated not only knowledge, but also economic and social power. Nutrition became a choice that led to strength, health and beauty; it must be practiced day in and day out, in each and every eating choice. Rose held out her concept of the modern enlightened child, who embraced scientific progress and their own disciplined ability to enter into the process of knowledge creation. Nutrition knowledge and the improvement of the child’s diet became a way to actively increase their personal achievements in order to be the best citizen. This ideal child could test knowledge, and through verification, accept the authority of this new knowledge into their life: they could respond to the moral
imperative by eating a healthier diet. Virtue was in knowledge and in the active response to that power/authority within one’s eating decisions.

Likewise Amidon et al. in 1946 challenged the reader to “take the truth straight from the shoulder…” as they must be the sort that wants the truth and when something is wrong, they will “…do things over and do them right” (1946, p. 28). The moral strength of the self-examining, self-disciplined citizen is extolled. Amidon et al. created an artificial binary in their text that individuals must either accept or reject nutritional authority. They utilized the good, passive, obedient citizen who reaps good health and beauty, and the poor misguided soul who resists nutritional authority: deluded, unhealthy and immoral. Amidon et al. also introduced a gendered slant to this discourse with the male as the enlightened priest of modern science and objective knowledge, and the female as misguided and frivolous, prone to mistakenly identifying with her preferences over the safety and strength to be found in obedience to nutritional authority. There was also a new subjectivity developed as the child became part of the knowledge translation efforts of the government. The child did not use this knowledge only for self-benefit, but also took an active role in the dissemination of this knowledge. The child was given power within the elite ownership of nutritional knowledge, power that can be shared with adults, with siblings and further develop the self-disciplinary technologies of the family.\textsuperscript{58} This power then called both child and mother into leadership, to guide the misguided, mis-educated who did not know the truths of the \textit{Food Rules} and the Newer Nutrition. There was both knowledge and power to be had in obedience and application of nutritional self-disciplinary technologies, not only to maximize one’s own potential but to have power over others.

In \textit{Keeping Healthy}, Fodor et al. had, by the 1970s created a text congruent with the dominant youth discourse that placed value in the examined life, in self-knowledge and in authenticity to the perceived self-identity. Authenticity and openness to the validity of the Other as living an equal but different life were valued in this brief progressive-

\textsuperscript{58} Family self-discipline was often invoked through the role of mother.
influenced period. For all that the writers emphasize openness and exploration of the unknown or different as important, there is also an emphasis on compliance and docility. Self-limitations and non-compliance with nutritional authority are constructed as dangerous to one’s health and place in society, as is an over-reliance on the status quo. Coveney’s empirical-transcendental doublet has emerged in a new form; obedience to empirical science is possibly heightened from the previous period of 1942-60. However there is an expectation that science may take us in new directions and beyond previous limits. Putting one’s trust in the possibilities of science means moving out of one’s comfort zone and exploring a different world than one’s parents grew up in. Likewise the transcendental has also changed from a patriotism that is to be displayed to others in one’s word and actions, into a journey of self-discovery and liberation. The self-examination reveals one’s authentic identity and the child’s obligation is now to be true to that self, while remaining in obedience to empirical authority. The child’s subjectivity can now be seen as a political strategy; they become a promoter of multi-cultural diversity and equality, self-reliant and yet docile and obedient to government norms.

There is however, throughout the text, the horror of those who fail to eat adequately, of those who reject the amazing variety of foods and fall into nutritional inadequacies and ill health, of those who are rude, ill mannered and destined for terrible unnamed fates. The reject or accept binary of Amidon et al. is replaced by the myriad paths to failure facing the child who fails to delight in good food, or who disregards nutritional authority. Caution is needed as part of the child’s identity, yet the rewards of this exploration tempered by nutritional obedience are worth the effort. Disease prevention and avoidance is implicit in the definition of the healthy eater and the identity of the good citizen.

Another pattern emerged with Lalonde’s calls for preventative medicine and the citizen as a smart consumer, savvy to marketplace manipulations, and prudent in all healthcare matters. This concern for a healthy lifestyle that was constructed as the obligation of the responsible citizen would combine with the concern over the rising population of overweight Canadians as the analysis of the 1970 Nutrition Canada survey continued. The role of nutrition education in preventing deficiencies was shifted abruptly into
consumer education aimed at the prevention of overweight and obese states and the co-morbidities associated with higher BMIs. The identification or social construction\(^{59}\) of the overweight child as at high risk of being an obese adult, and all the subsequent health risks they would carry as a result of lack of early interventions, created new subjectivities.

Galton’s 19\(^{th}\) century description of the underweight, malnourished poor as immoral, lazy wretches was now applied to the obese child as once again the immorality of body shape was dominant over the social causes of obesity. The body shape that a century earlier had been identified as jolly and prosperous was now stigmatized as risky and unhealthy (Levenstein, 1988). In the schools, the healthy, fit body was being promoted in health class, in biology, in home economics, in the nurse’s office and on the playground. The obese child was a battle site, where evidence of the nutritional education’s success or failure was written (Greenhalgh, 2012), but as education underwent severe cuts in the weakened economy of the 1990s, the battle was abandoned to the self-disciplinary functions of the family and community. The overweight or obese child might be seen as a moral failure or evidence of a lack of familial discipline, but there was little recognition of the social determinates of the problem.

By the 1990s, the obligations of the state to educate were no longer tied to the power to improve population health and nutrition through childhood education. The education system was seen as a costly, but unavoidable expense by the state. The purpose of education was now to create adults capable of employment or further education; the emotional, physical or social health of the children of Ontario was considered of far lower importance to the political discourse of balanced budgets. The success of nutritional education was reduced to an ability to respond with selected information as defined in the curriculum. Actual use of nutritional advice was immaterial to the stated goals of Ontario curriculum. The child was judged by a binary of pass/fail and considered educated to adequate levels or ignorant of nutrition knowledge with the

\(^{59}\) Take your pick.
evidence of their bodily health as an indicator of moral failure in light of adequate education.

The marketing materials that are offered as a classroom exercise emphasize this pass/fail binary. The ability or inspiration to make small, better choices, or to understand the value of nutrition to how they think, feel and act are immaterial to an Ontario child who has completed the tick sheet activity of dietary self-analysis. “Good” is a completed tick sheet that requires no understanding or actual compliance. Confusion over nutrition and the incomprehensibility of dietary self-analysis may be accepted as truth.

At the same time, concerns about adequate nutrition are so deep in our culture that anyone who identifies as overweight or obese usually identifies as needing to improve their diet. The new identities formed as a paleo or as a clean eater or embracing one’s obesity as fluffy mark a shift in power to determine identity. The social groups that Foucault defined as sources of identity are strengthened as people embrace these identities; resulting in the further diminishment of nutritional education’s influence.

If we accept that knowledge/power is productive (a basic Foucauldian argument), the benefit to the individual of following nutritional norms should manifest as greater health and longevity. This only works if citizens see state established norms as useful or acknowledge them as true and actively work on themselves using this knowledge. This diachronic study reveals the changing nature of the truths of nutrition, the state’s government of the population through nutrition, and even the changing identities children have been asked to embrace. Healthy eating education seeks to modify the basic relationship of the individual to the very source of life and health, to the food they eat, and the myriad choices they make each day regarding food. The introduction of the Food Rules and the dietary self-analysis created a new self-disciplinary tool that met the needs of the time and society that created it. It is important to understand this event in

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60 After the Boynton cartoon cat who is fluffy, not fat.
relationship to the historical, mutable nature of both nutrition science, and the identities and subjectivities created over the last century and a quarter. Garland’s “troublesome associations and linkages” remain in who is using the power of nutritional education and for what ends, as well as issues of inclusivity and relevance.
Chapter 6

6 Discussion

6.1 A Genealogy of Nutrition Education

Modern nutrition science introduced new knowledge and authority in the ordering of what was described as a healthy diet. This resulted in three historical periods of nutrition education that this study has described: the scientific New Nutrition and Newer Nutrition of the prologue; the stronger governmentality that introduced the *Food Rules* and the related procedure of dietary analysis; and the decreased government of dietary goals. The shifts in the specialized discourse threads of education, nutrition, and public health policy have produced differing truths that can be discerned in the policy documents and classroom materials over the last seven decades. By undertaking a genealogical study of the many policy and classroom documents of these periods, and a Foucauldian critical discourse analysis of selected classroom materials, it is possible to see the role of the *Food Rules* and *Canada’s Food Guide* as a historical construction, or as a discursive event. This new way of ordering a healthy diet met the Canadian need to prevent deficient diets, based on early understandings of both biology and food items’ measured nutritive values, as discerned by the technologies of the 1930s and early 40s.

The positivist nutrition discourse of the early 20th century was confident in the modern, efficient Western society’s ability to produce a healthy, productive population. Canada set about the definition and teaching of a healthy dietary practices to children as knowledge of nutrition expanded. This nutrition discourse was implemented in part through provincial curricula and classroom texts such as Hoodless’ 1897 text *Public School Domestic Science*. The clear goal was to educate girls to produce a new, healthier generation that would be responsible for family-based surveillance.

The inter-war period was a period of rapid scientific development and radical changes to the understanding of nutrition. The problematization of malnutrition, the very search for
what was essential to human diet, led to a global burst of research\textsuperscript{61} as a chemical understanding of the diet became possible. The belief in science as a method of discovering the healthy human diet was increased with the discovery of each new nutrient and the elimination of previously untreatable deficiency diseases. This foment of empirical science resulted in numerous adjustments to the ideal diet that was being described to the public. The problems of knowledge translation were immense for a science that was portrayed as highly relevant to the individual’s ultimate health and well-being, yet was incomprehensible to the general public outside the lab. Levenstein documented the rapid commercialization of vitamin and nutrient knowledge as marketing for foods and supplements created an information rich environment, which included the dissemination of much out-dated and even fraudulent information (Levenstein, 1988, 1993).

By the 1930s, the fear of the damage caused to population strength by the scourge of “hidden hunger,” as micronutrient deficiencies were popularly described, was exacerbated by the economic problems of the Depression and subsequent food rationing of WWII. The inter-war period saw the development of a special discourse that was taken up in education, heavily based on the discovery of vitamins, and the newly discovered deficiency diseases (Ostry, 2006). The advent of World War II emphasized the need for healthy citizens within the restrictions of rationing and other food shortages. The problematization of micronutrient deficiencies led to what I argue is best described as a Foucauldian discursive event: the formation of the Food Rules as a new form of ordering the healthy diet into categories based on micronutrient composition. Canada’s Official Food Rules of 1942 codified and established norms for Canadians to aspire to, to guide “food selection to promote the nutritional health of Canadians” (Government of Canada, Health Canada, Health Products and Food Branch, 2002, p. 3). Yet there was

\textsuperscript{61} Vitamin B\textsubscript{1} thiamine was described in Japan by Takaki; isolated to grains by Eijkman in the Dutch Indies; further isolated and named a vital amine by Polish researcher Funke; Jansen and Donath the Dutch chemists isolated and crystalized it; and the chemical structure was fully described and synthesized by an American, Williams.
evidence that the *Food Rules* were already influenced by the Ministry of Agriculture’s insistence of the primacy of meat and dairy as health protective foods.

The Ontario government issued a new curriculum in 1950, mandating nutrition education at all levels of education, and replacing the earlier Program of Studies’ suggestions. The Grade 4 dietary self-analysis was taught as a rational, objective, quantifiable procedure; it formed a new discursive practice made possible by the new ordering of knowledge embodied within the *Food Rules*. Coveney’s argument that all modern nutrition pedagogy is a practical application of the empirico-transcendental doublet is echoed in early childhood nutrition educators Amidon et al.’s definition of the *well-informed and enlightened* citizen. That their description of the effects of proper nutritional education maps directly to the Foucauldian term is evidence that Coveney’s doublet is tied intrinsically to childhood nutrition education practices.

The education practices of this period became gendered, with an emphasis on male and female attitudes to eating choices. Misguided and inappropriate eating choices were portrayed as a dangerous, both to one’s health and one’s standing as a loyal citizen. The role of the child in correcting the inappropriate behaviour of both themselves and their families were made clear. Government nutritional guidance demonstrated the correct, healthy diet; following it brought health, strength and moral integrity. Choosing a diet other than the white middle-class diet, based on culture, personal preferences or convenience was to risk one’s social standing, as conformity was valued.

Canada’s economic recovery of the 1950s led to the prosperity of the 1960s and new social attitudes both in food and education. Broad social changes were experienced as women entered the workplace and the patterns of family feeding altered (McGrath & Johnson, 1968). It became more profitable for a consumer-based economy to inspire desire and encourage consumption than to merely satisfy needs. The varying social discourses led to an alternate whole-food discourse. This whole-foods discourse has evolved and remains active to this day.

The education discourse of the early to mid-70s reflected both the new consumer freedoms being discovered, and the expanded multicultural make-up of Canada. The
nutrition education discourse sought to incorporate the various immigrant groups, and changing feeding patterns, as the food supply underwent massive changes. In addition, analysis of the 1972 Canadian Health Survey showed that deficiency disease was mainly an indigenous problem, and therefore of federal jurisdiction. Provincial governments were more concerned at the rising incidence rate of overweight citizens that the survey had identified. Coveney’s empirico-transcendental doublet re-emerges in Federal policy amidst economic concerns over rising healthcare costs. Lalonde (1974) defined the citizen’s moral obligations to the state in his suggestion that the individual’s preventative care will reduce chronic care budgets and allow provision of expanded services and facilities where needed. The Nutrition Canada survey also identified healthy eating practices as an issue the “wiser” (Sabry et al., 1974, p. 118) and “well informed” (p. 121) consumer must grapple with, as it was their responsibility to protect their health from marketplace influences and the changing social/work environment.62

The late 1970s saw the erosion of government involvement in education combine with increased social emphasis on the individual’s preventative healthcare. Crawford (1980) described a discourse of personal self-surveillance and the attendant responsibility for one’s health as healthism. Subsequently, this discourse of health consciousness was, in turn, replaced by a rising risk intolerance, defined as biomedicalization by Nikolas Rose (2001). He described a social obligation to purchase and/or consume the latest health advances to avoid any risk of illness (Rose, 1994; 2001). Yet the changing discourse at the end of the century was not restricted to the increased burden on the individual. Swinburn was defining the obesogenic environment (1999), Popkin was documenting the global nutrition transition to Western diets and the attendant rise in obesity across the world (1998), while the WHO’s World Health Report (1997) identified the role of obesity in non-communicable disease and the significant burden that it placed on lower income countries.

62 This environment that was, by the terms of the report, outside the control of the individual, and that twenty years later would be described as obesogenic by Swinburn.
Nutrition education in the early 1970s created the obligation for the child to know and understand their own, their family’s, and their culture’s food preferences. Within this environment of possibly contradictory influences, they were to define and choose a healthy diet for themselves. Self-knowledge and congruent behaviour were important, yet the child was to remain obedient and docile. A new identity as a multi-cultural citizen is promoted through the acceptance of other cultures’ foods and the curriculum was used to promote the state’s multi-cultural strategy.

The entry into the new millennium brought new knowledge and attendant authority over overweight and obese populations and shifted the nutrition/diet discourse into a specialized childhood obesity discourse. Hacking (1999) warned that the obesity crisis had become both a social construct and a biomedical construct; the altered discourse created embodied obese subjectivities.

The medicalization of obesity justified the greater surveillance of these subjects, and greater interventions to treat the complications of obesity and reduce the risks. Research was intensified and created new knowledge and new authority over obese bodies (Greenhalgh, 2012). The empowerment of Guyatt’s evidence-based medicine led to a prioritized medical truth over other truths used to define norms of healthy diet and exercise for Canadians.

The Ontario Healthy Eating curriculum in 2015 is based on evidence-based, best practices and is the most detail-oriented and specific health curriculum offered in the history of Ontario. It is also probably the least used in the classroom (Ontario Federation of Agriculture, 2017). Unsupported classroom nutrition education practices vary from non-existent to reliant on commercial marketing tools as educational materials. These materials are biased, incomplete and non-inclusive. Written to accomplish commercial goals, they exhibit racist, gendered, stereotypically middle-class values. Poor pedagogical practices make the information confusing, and encourage disconnection or outright fabrication in the performance of dietary analysis, inculcating unhealthy attitudes and expectations. Recent research on attitudes to food in Ontario revealed distrust and
refusal to recognize the authority of government nutrition information within Ontario young adult population (Ontario Federation of Agriculture, 2017).

Recent policy initiatives from federal, provincial and corporate interests all point to the need to find new approaches to food. The increased use of crisis dialogues may be indicative of changing social attitudes and a growing interest in new government practices such as policy and regulatory change. The changing social/consumer attitudes and new knowledge/authorities found in social media combine to form another discourse of nutrition with possible consequences for the health education discourse.

6.2 The Food Rules as a Re-ordering of Nutritional Knowledge

The strength of describing the development of the Food Rules as a discursive event is that in doing so, we situate the nutritional truths of the guide and of the practice of dietary self-analysis into the discourses of a specific time and place in the Western understanding of health and nutrition. Foucault argues that this apparatus or dispositif is always limited; it has a beginning and an end. It defines what can be said to be true or false within this regime of truth, and certain knowledge is prioritized and used to create authority. O’Farrell describes this process as: “[k]nowledge is primarily a way of organizing and ordering the social and physical environment to make it manageable” (2005, p. 66). The Food Rules were extensively used in Canadian nutrition education as a tool of population health to prioritize the Newer Nutrition knowledge over the mistruths, obsolete knowledge and outright fraud of the period.

Once we consider the genealogical nature of the Food Rules, it is possible to question if the ordering of a healthy diet on the micronutrients still needs to be prioritized in our current understanding of what makes a healthy diet. Is it time to consider a knowledge translation strategy that is not based on deficiency prevention? Do we need to quantify the number and food group servings of a diet, and is the dietary self-analysis a reasonable

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63 and the myriad other food guides developed by other countries at the same time
“ask” of today’s Everyman who seldom cooks or prepares their own food? Is the emphasis on nutrients important for the individual, or is a discussion of satiety and satiation signals of the body\textsuperscript{64} more relevant? Is it time to accept that the Food Guide’s origins in a food supply that no longer resembles the current marketplace of multicultural, ready-to-eat replacement meals, makes the CFG difficult to use? Or possibly that the feeding practices and eating choices the CFG promotes are no longer relevant or useful to most Canadians?

6.3 A Pedagogy for the Future

The current Ontario curriculum for Healthy Eating defines 21 separate learning objectives in the elementary curriculum alone. Some of these objectives are disadvantageously placed in terms of child developmental skills. There are few resources and little teacher training for the Healthy Living curriculum in Ontario. Emphasis is placed on the ability to demonstrate possession of a finite type of nutrition knowledge rather than building a relationship to the practices of healthy living. This approach does little to motivate changes in diet, and is not likely to inspire changes in Harwood’s “vital practices of life” (2009, p. 24).

The work of Belasco on motivation in food choice posits that identity and convenience are the modern drivers more often than responsibility (Belasco, 2008). He locates responsibility over identity and convenience in a triangle that roughly corresponds to Maslow’s hierarchy of needs. Belasco argues that until the needs of convenience or identity are

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{Belasco_Culinary_Triangle.png}
\caption{Belasco’s Culinary Triangle, \textit{Food} (Belasco, 2008, p. 7)}
\end{figure}

\textsuperscript{64} Both are complex endocrine cascades and physical sensations that signal the brain, Satiation is the feeling of fullness from the stomach that signals the brain to end the meal, satiety is the feeling of fullness in the intestines that suppress hunger.
satisfied, issues of responsibility cannot exert as strong an influence over food choice. For example, a mother will feed her children convenient fast food on the way to a sports practice, even though she would far rather feed them a meal of whole foods, high in vegetables and low in manufactured fats. Likewise, the identity found in family and cultural celebratory feasting norms will privilege choices to consume the rich and sweet foods not in the day-to-day diet. This theory of feeding/eating decision-making calls into question the traditional use of Coveney’s empirico-transcendental doublet as a tool for changing eating behaviours, for only citizens with abundant resources will be motivated through appeals to responsible action based in knowledge.

A self-surveillance technology that breaks from the use of the empirico-transcendent doublet could employ identity and convenience. I argue that the ordering of the healthy diet through the nutrient-based categories of the Food Guide is obsolete in a society that has little deficiency disease. The development of a new ordering of the healthy diet could bring forth a new, more inclusive form of pedagogy, rather than the quantification, and pass-fail binaries that have come to be associated with the pedagogies of the Food Guide. It might be time to consider the limits of the dietary self-assessment as a self-disciplinary technology and develop new ways of building variety and dietary resilience as self-disciplinary projects.

The example of Martin Seligman and the Positive Psychology (or happiness psychology) is worth considering. Seligman proposed a psychiatric research program that, instead of focusing on defining and curing pathologies, would instead research the foundations and creation of happiness within the individual. He inspired and led the creation of a new science of happiness that is based in positive emotions, engagement, positive relationships, meaningfulness, and accomplishment. I wonder what a pedagogy of nutrition that was explicitly based on these principals would accomplish? Would building resilience and embracing small improvements in diet, rather than Food Guide tick sheets or scoring, improve the healthy eating practices of children? Would a nutrition education that embraced engagement justify the reinstatement of cooking and gardening lessons within the elementary classroom? Can the essentials of metabolic and
nutritional adequacies be covered within intermediate biology classes, rather than be covered at the primary level health?

Foucault argued that only in history can we see the ruptures that re-order how it is possible to think, talk and govern; what is considered truth and what is discarded as outdated thinking (2002c). It is possible that the slow transitions in the definition of health that are being forwarded in microbiomic health and genomic medicine could combine with an integrated food policy and other federal, provincial and corporate interests to place the health of Canadians above financial interests of food producers, and cause such a rupture. The willingness to consider the Food Guide’s quantitative approach and the dietary self-assessment based on it, as out-dated practices from our past will allow room for new pedagogies, and new definitions of healthy eating practices to develop.

65 This increased governmentality is being expressed in Canada through the proposed 2018 food guide and the commissioning of a Federal comprehensive food policy.
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