

Canadian Cookbooks: Changing Ideas about Cooking and Contamination, 1854–1898

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Abstract. This study looks to Canadian household manuals, bookended by the watershed publications of Catharine Parr Traill in 1854 and Adelaide Hoodless in 1898, to identify what elements of the rapidly evolving sciences around nutrition, germs, and hygiene made their way to Canadian cooks. In doing so, it also sheds light on some of Canada's early cookbooks, which have to date received deserved bibliographical attention but not yet close analytical scrutiny.

Keywords. cookbooks; household science; hygiene; domestic medicine

Résumé. Cette étude examine les manuels d'économie domestique, soit les publications de Catharine Parr Traill en 1854 et d'Adelaide Hoodless en 1898. Nous voulons identifier dans ces manuels, comment les ménages canadiens ont intégré dans leur cuisine les concepts scientifiques en vigueur autour de la nutrition, les germes et l'hygiène. Également, nous présentons quelques-uns des premiers livres de cuisine canadiens connus pour leur popularité, mais qui jusqu'à ce jour n'ont pas fait l'objet d'une minutieuse analyse.

Mots-clés. livres de recettes; sciences ménagères; hygiène; médecine domestique

INTRODUCTION

To explore the impact of emergent scientific knowledge and the way it influenced thinking about food and health in Canada during the latter half of the 19th century, this study looks to a selection of early Canadian cookbooks, paying particularly close attention to two influential texts: Catharine Parr Traill's *The Female Emigrant's Guide* (1855, published

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serially in 1854) and Adelaide Hoodless' *Public School Domestic Science* (1898). While cookbooks are at best only an indicator of what Canadians prepared and consumed, they do provide valuable insights into an author's understanding of the relationship between food—its selection and preparation—and health.

The closing five decades of the 19th century witnessed dramatic social upheaval, devastating outbreaks of contagious disease, breakthrough advances in the new fields of bacteriology and epidemiology, and fierce debates between proponents of multiple- and single- cause theories of disease, as well as between those espousing different strategies for disease prevention and containment. These two books offer a valuable glimpse into the changes of attitude and practice afforded by watershed scientific discoveries, since Traill's *The Female Emigrant's Guide* was published well prior to watershed discoveries in the development of germ theory by Pasteur (1860s), Koch (1870s), and Lister (1890s);¹ and Hoodless' *Public School Domestic Science* was published just as germ theory was well established and its detractors largely silenced. In the intervening years, with the advent of the microscope, scientists began to identify agents of disease that had been previously invisible, the stuff only of hypothesis. Specifically in 1878, Robert Koch discovered "the minute living thing" responsible for the dreaded disease, anthrax. In 1882 he isolated the "germ" responsible for tuberculosis, and two years later, the "causal agent" responsible for cholera.²

However, it is inaccurate to suggest that these two publications bookend the pre-dawn and dusk of germ theory. Rather, while germ theories certainly advanced by quantum leaps during those five decades, their development must be understood to span a far longer period. William Campbell's remarkable database references key insights constituting the historical development of germ theory, from M.T. Varro's supposition of the existence of "invisible animalcules" or insects living in swampy areas (c. 50 B.C.) to Sir Almroth Wright's investigation of bacterial vaccines to cure rather than prevent disease in 1900.³ Further, the shift from widespread and longstanding attribution of the cause and spread of disease to "miasmas" or foul air (Porta), to general recognition of the existence and causal role of specific germs and bacteria in disease by 1900 was not entirely sequential. Even while the new science of bacteriology, armed with technological advances of the microscope, offered visual and clinical evidence of disease-causing agents, detractors of germ theories of disease who pointed to miasma as the cause of disease and proper sanitation as an effective solution still gained an audience. For example, Isabella Beeton clearly endorsed Nightingale's methods and relied on her *Notes on Nursing* in her *Book of Household Management*, first published in 1861.⁴ Florence Nightingale opposed germ theory until her death. However, espousing proper sanitation, diet, and good

ventilation, all perceived by "Sanitarians" to counter the ill effects of miasma, she nevertheless managed to significantly decrease mortality rates. Unbeknownst to her, of course, her nursing methods also served to limit the spread of germs. Looking at the history of epidemiology, Mervyn and Ezra Susser offer an astute analysis of the strengths and weaknesses of the Sanitary Movement. "An irony of the history of public health," they write, "is that, while the sanitarians were mistaken in their causal theory of foul emanations ... the reforms they helped to achieve in drainage, sewage, water supplies, and sanitation generally brought major improvements in health."⁵

Michael Worboys in *Spreading Germs* surveys the many germ theories of disease and germ practices in 19th-century Britain, persuasively emphasizing the plurality of ideas in play.⁶ Those in 1860s' Britain questioned whether "disease agents" were "living or not," whether they could "arise *de novo* or were they always 'ancestral'?" By the 1880s, Worboys finds a "growing consensus that most disease-germs were 'bacteria' [...] ... however, there was never closure on even a single bacterial model for germs or their actions in any branch of the profession."⁷ "In the period 1865–1900," he writes, "medical scientists moved their primary gaze from the results of disease to disease processes, and then to causes, though this sequence is best seen as additive and overlapping, rather than a series of paradigm shifts."⁸

In other words, disease causation and prevention were topics of keen debate during the period, with the scales tipping towards "the germ theory," as John Waller and others describe the scientific revolution of the latter half of the 19th century, only at the close of the century. Indeed, Waller describes the triumph of germ theory as nothing short of a revolution, and one taking place largely during the closing decades of the century. "When Pasteur and Koch embarked on their scientific careers," he writes, "the germ theory had for centuries been little more than a loose conjecture, dismissed as fanciful by almost the entire medical establishment. In their final years, it was a universally attested fact of medical science. The medical world of 1900 was, in consequence, utterly different to that of 1800."⁹ Certainly the challenge of disease epidemics (smallpox, for example) and infant mortality rendered the topics of disease causation and prevention of vital interest to scientists, public health officials and advocates, as well as those responsible for their own health and the health of their families.

My purpose in this study, however, is not to explore the debates surrounding germ theory but rather to focus on the extent to which these new and hotly debated issues made their way to the public and influenced home food and health practices. In *The Gospel of Germs*, Nancy Tomes explores impacts of emergent knowledge on behaviour, and its translation for and dissemination to a broader, largely American,

public.¹⁰ Extending this line of inquiry, I look specifically to Canadian household manuals in order to identify what emergent knowledge made its way to Canadian cookbook authors during the latter half of the 19th century.

SIGNIFICANCE OF TRAILL'S *GUIDE* AND HOODLESS' DOMESTIC SCIENCE TEXTBOOK

Besides the timing of their publication, there are other justifications for close attention to the domestic manuals by Traill and Hoodless. Most obviously, they were enormously influential. As Elizabeth Driver points out, evidence for the popularity of Traill's *Guide* lay in its multiple editions, its cameo appearance as reading material in Elizabeth Walshe's *Cedar Creek*, and in reproduction of its recipes such as those appearing, unattributed, in an 1858 issue of the *Farmer's Almanac*.¹¹ Although Traill herself did not make much money on the book, its readership was boosted by her unscrupulous agent's bulk sales of the book to the Canadian government for distribution to new emigrants. Details of this distribution are vague but mention of the Reverend Mr. Hope's dealings with Traill appear in letters to and from her sisters, and in Hope's appeal for remuneration for losses relating to the publication to the Legislative Assembly of the Province of Canada.¹² Further, by targeting female settlers and speaking to the particular role they would play in the New World, Traill's guide carves out a unique niche. Generally guides to the New World were more vague about their target audience precisely so as to gain a wider hearing. One example would be that by Francis Evans, who died suddenly of cholera after shipping his manuscript to publishers across the Atlantic.¹³ Traill's own *Guide* would also lose its focus in subsequent editions, as publishers gradually excised mention of Traill's own hand in its construction and added various appendices. The first of these was Henry Hope's 1855 edition, retitled without the author's approval as *The Canadian Settler's Guide*, the title by which the book is commonly known today due to McClelland and Stewart's 1969 reprint in their New Canadian Library series. Fiona Lucas muses that "changing the title must have been a strategic decision made by Hope to reduce its female identity and increase its national identity, thereby augmenting sales."¹⁴

Hoodless' domestic science textbook is important less for the size of audience than for its role as document defining the new discipline of "domestic science" then being introduced into Canadian schools. Other reasons for looking closely at Hoodless' manual include the date of its publication at the turn of the century when consensus had developed around germ theory, and the release of its companion volume the subsequent year, *The Report of Mrs. Hoodless on Domestic Science*. Notably,

her authority as spokesperson for the discipline is established even in the textbook's front matter. She is identified not as Adelaide Hoodless but rather as "Mrs. J. Hoodless, President, School of Domestic Science, Hamilton."¹⁵ Written at the specific request of the Minister of Education, it served as the textbook for the newly formed and very popular training programs for teachers in household science, including the program Hoodless herself founded in Hamilton, Ontario.

What constituted this new discipline? As Hoodless explains in her *Report* issued the following year, domestic science involves manual training and lessons in cookery but "it must not be inferred that cooking in the sense of pleasing the palate, and the ability to prepare new and elaborate dishes, is the ultimate object of such teaching. *On the contrary, it is based upon scientific, hygienic and health principles.*"¹⁶ In addition, Hoodless argues that domestic science functions as a kind of umbrella category, which includes "the true principles of household management as related to health and income."¹⁷ Not surprisingly, given Hoodless' emphasis on the "scientific" nature of the discipline, her textbook sheds light on emergent knowledge in nutrition and hygiene, making reference to methods of milk sterilization¹⁸ and arguing for milk pasteurization,¹⁹ as well as referencing new food products like cottolene and oleomargarine.²⁰ Published post germ theory, for the most part acknowledging its sources, serving as textbook for the new discipline of domestic science, Hoodless' *Guide* consequently provides an excellent snapshot of thinking about the sciences surrounding nutrition and bacteriology at the close of the 19th century in Canada.

TRAILL AND HOODLESS

As well, the women behind the two books under close scrutiny here were significant figures in the Canadian landscape. Traill, *née* Strickland, was born in England in 1802, immigrating to Upper Canada in 1832 after the death of her father reduced the fortunes of her family. With only one exception, she and all other children in the Strickland clan, both those in England and the three emigrants to Upper Canada, took to writing as a source of income. Indeed Catharine points readers to her brother's "Twenty-seven years' residence in Canada West"²¹ in her own *Guide*, and includes sections of Major Strickland's text as, for example, "Descriptions of a New Settlement."²² Traill was also very close to her sister, the writer Susanna Moodie. She mentions Susanna's recipe for "dandylion-root coffee" in her *Guide*²³ and also alludes to Moodie's narrative sketches of life in early Canada in *Roughing It in the Bush*.²⁴ Traill lived until 1899, her lifetime essentially spanning the 19th century, most of it spent in the New World.

When a commemorative stamp of Adelaide Hoodless was offered in her honour in 1993, Brian Henley wrote, "[w]ith the passing of Adelaide Hoodless, not only Hamilton but all of Canada lost one of the most influential women of her time."²⁵ Over the years, her name has been honoured by schools and a museum, and she is remembered as having been "actively involved in the foundation of a number of initiatives" including the National Council of Women, the Victorian Order of Nurses, and the Women's Institutes.²⁶

Despite, and possibly as a result of their significant influence, Catharine Parr Traill and Adelaide Hoodless both received pretty harsh treatment by the jury of public opinion both in their own day and in the decades and century since. Consequently, the two texts under scrutiny here fell under a critical shadow, Traill's through benign neglect, and Hoodless' through direct attack.

Although Traill's work is known to literary scholars and to botanists, her *Female Emigrant's Guide*, published serially in 1854 and as a book in 1855, was initially given short shrift. Only very recently has it been understood as an original and significant contribution. A work of 316 pages in its first edition, the book provides a wide range of recipes for preparation of foods available in Upper Canada, in addition to descriptions of local food practices, advice on gardening, and general remarks for the wife of emigrants explaining the experience and practical implications of a transition to the New World. It is the second of Traill's books detailing the emigrant experience. In her preface she explains that, after 20 additional years of experience as a settler, her new *Guide* serves as complement and possibly corrective to her earlier *Letters from the Backwoods of Canada*.²⁷ Tellingly, literary scholar Michael Peterman gives Traill's *Guide* only two sentences in his otherwise substantial entry on Traill in *The Dictionary of Canadian Biography*, describing it as "a cobbling together of narrative sequences, quoted extracts, recipes, and practical advice, [that] capitalized on her established reputation as an adviser to emigrant women."²⁸ In many ways, he is right, since the book falls short of the literary flair evident in the works of her sister, Susanna Moodie, especially *Roughing it in the Bush*.²⁹ But then again, it was not *intended* to be a literary masterpiece. Rather, it is arguably the first influential English-language cookbook written by a Canadian and about food practices and practical realities of the New World.

More specifically, there were three earlier English-language cookbooks bearing a Canadian imprint. The first, *The Cook not Mad; or Rational Cookery*³⁰ was, as Elizabeth Driver points out, an "edition of an American work" and "not revised in any way for Upper Canadian homes."³¹ Another English-language cookbook, appearing in 1840, was *The Frugal Housewife's Manual* by "A.B. of Grimsby," a short book that seems not to have a direct relationship to British cookbooks bearing

similar titles but still draws from British and American sources.³² A third, *The Skilful Housewife's Guide*, published simultaneously in a number of cities including Montreal and Toronto (1848), also draws heavily from an American source, *The Skilful Housewife's Book* by Mrs L.G. Abell.³³

By contrast to these three earlier derivative cookbooks, in her *Guide*, Traill buttresses the knowledge hard won from first-hand experience as a British emigrant with the wisdom of her own friends and neighbours in Upper Canada. In her preface, she explains that "as even the materials differ, and the method of preparing food varies greatly between the colony and the Mother-country, I have given in this little book the most approved recipes for cooking certain dishes, the usual mode of manufacturing maple-sugar, soap, candles, bread and other articles of household expenditure."³⁴ Both due to its provenance and its wide distribution then, *The Female Emigrant's Guide* deserves attention as a valuable source of information about perspectives on food and health in 1854-5 Canada. As well, for my purposes here, it is valuable precisely *because* it is a compilation of household knowledge, and therefore provides contemporary audiences with access to typical food practices in households of the period.

Adelaide Hoodless influenced foodways not through her publications, but through her activism. She was a strident voice in support of "manual training" in the school curriculum, which for girls meant "domestic science" as she described it in the title of her 1898 manual and later as "household science" in her 1905 publication.³⁵ Ironically, she is now remembered best as the founder of the Women's Institutes, the driving force for the creation of a museum in her honour coming from Institute members. Writes Linda Ambrose, "Adelaide Hoodless's role in the founding of the organization has been told and retold by Institute members so many times that it has grown into well-known and well-loved folklore. She is highly venerated among women around the world; Women's Institute members from across the globe make pilgrimages to her birthplace near St. George in Brant County."³⁶

The legacy Hoodless intended to carve out for herself lay in influencing foodways through redirecting the thrust of women's education, both by introducing domestic science to the school classroom and by training teachers in the new curriculum. Her daughter describes her mother's drive and its source thus: "The death of our baby brother at eighteen months of age was the dominant factor in all her work. It was found out too late that the milk being fed the child was unfit for consumption and mother always felt that she should have known. It was her great longing to save others from the pain she suffered that drove her on to try to bring within the reach of all the education necessary to prevent such tragedies."³⁷ Indeed Hoodless can be credited with opening the first school of domestic science in Canada in 1894.³⁸ She was

herself untrained either in science or the field that emerged from her advocacy, therefore it is not surprising that the textbook she authored in 1898, *Public School Domestic Science*, came under considerable scrutiny. It blends, as Terry Crowley notes, a mix of “up-to-date information on topics such as the science of nutrition” with a surprisingly moralistic and “old fashioned”³⁹ drive to instil the values of what Hoodless describes in her preface as “fundamental principles of correct living.”⁴⁰ More curiously, it seems to blend different authorial and editorial hands. Crowley suspects the presence of a ghost writer in the form of Mary Urie Watson, who was principal of the Hamilton school, founded by Hoodless, and the first “Lady Principal” of the Macdonald Institute, then linked to the Ontario Agricultural College. Hoodless herself actually describes Watson as “joint editor” in draft versions of the revised text.⁴¹

To further challenge the originality and possibly the authority of Hoodless’ text one needs only to point at the extensive referencing of other texts and authorities of her day, among them Dr. Gilman Thompson (of *Practical Dietetics*), Professor Kinne, Miss Watson, Miss Talbot, Lincoln’s *The Boston Cook Book*, Ellen Richards’ *Chemistry of Cooking and Cleaning*, and publications of the U.S. Experiment Stations under Professor Atwater’s stewardship.⁴² Yet, while these observations provide valid criticism of Hoodless’ ownership of and authority over the text, they further justify my own selection of this particular text for scrutiny since they suggest it functions as a site of collaborative thinking about the relation of food preparation to the emerging science of nutrition, hygiene, and health at a time when domestic and household science were crystalizing as disciplinary fields in Canada.

CLEANLY WAYS TO PREVENT CONTAMINATION

At first glance, both works urge preventative measures in order to sustain health and forestall disease, and both suggest these measures have to do with “cleanliness.” While both women use the same term, however, there is a telling difference in its connotations. For Traill, cleanliness is as much a function of propriety as health. Emigrants “should have both their clothes and their persons quite clean before embarking,” she explains.⁴³ Being “clean” here seems a symbolic gesture as well as a practical one. Similarly, when making dough, she tells readers to “rub the damp flour in your hands, which must, of course, be *delicately* clean.”⁴⁴ They should be clean for practical reasons, but that they must be “delicately” clean suggests additional nuance.

For Traill, cleanliness extends beyond humankind and becomes a signpost of food safety. Of black squirrels she writes: “Nothing can be more cleanly than the habits of these little creatures; their food consisting entirely of grain, or fruits, or vegetables.”⁴⁵ After all, she is trying

to convince new emigrants to avail themselves of readily available food supplies. "The bear," she explains "is certainly a more cleanly feeder than the hog,"⁴⁶ and, as such, can be understood as a valuable source of food.

In Traill's work there are instructions for what constitutes hygienic food practice, in the sense of keeping food free of contamination. However, Traill never uses the word "hygiene" itself even though the term was used by 1811 to mean the relationship of diet to health.⁴⁷ For example, she explains that meat should be packed in "clean" salt.⁴⁸ The edges of pots containing maple sap "should be rubbed with clean lard to prevent the sap boiling over."⁴⁹ She advises to pare apples in "clean" water,⁵⁰ spread them on "clean" boards to dry⁵¹ and store them in a "clean" wooden or stone vessel.⁵²

Most tellingly, however, when referring to dairy products, Traill has an intuitive and practical sense of the importance of cleanliness. She writes, "The thorough extracting of the milky particles, and the working of the salt well through the mass cannot be too much insisted on. Attention to cleanliness, coolness in summer, and a moderate temperature in winter, are the three most important matters for securing good marketable butter."⁵³ However, cleanliness for milk seems largely to do with appearance and smell, and Traill dwells very little on its care and properties beyond mentioning the advantage of a cellar for those who would enjoy "sweet wholesome milk."⁵⁴ That said, milk is an essential ingredient for desserts and baking, and key to preparation methods. She writes, "When baked, take your bread out of the pan, wet the crust of your loaves over with clean water or milk, and wrap them in a clean cloth, setting them up on one side against a shelf till cold. This plan keeps the bread from becoming hard and dry."⁵⁵

Although bacteriologists would identify the particular elements of tainted milk only later in the century, Traill is not alone in the earlier 19th-century writers to suspect the dangers of tainted milk and take necessary precautions. As Campbell's Germ Theory Calendar reveals, various observations of the link between tainted milk and illness emerged throughout the 19th century (milk and tuberculosis, Klencke 1843; milk and typhoid, Murchison 1873; milk and Scarlet Fever, Klein & Power 1885).⁵⁶ By the time Hoodless writes her manual in 1898, a *fastidious insistence* upon cleanliness is the primary consideration for the domestic scientist, and particularly emphasized when Hoodless writes about working with milk. What distinguishes Hoodless' descriptions from those of Traill, however, is the new terminology of germs and hygiene. "Personal cleanliness must be insisted upon," explains Hoodless very early on in her 1898 textbook,⁵⁷ almost echoing Traill's suggestions. But she goes on to add, "Milk absorbs germs from the air and from unclean vessels very readily."⁵⁸ In addition to the terminology of germ theory, Hoodless adds the specifics of temperature measurement. "Milk

to be thoroughly sterilized and germ free must be heated to the boiling point (212° F.)," she writes. "This may be done by putting the milk into perfectly clean bottles and placing in a rack, in a kettle of boiling water, remaining until it reaches the necessary degree of heat. The bottle should be closely covered *immediately* after with absorbent cotton or cotton batting in order to prevent other germs getting into the milk."⁵⁹

Hoodless was not alone to focus attention on milk as a potential source of disease of course. More generally, growing concerns about the safety of milk prompted heated public debates on the subject of pasteurization and eventually regulatory controls. The severity of warnings about treatment of milk, as well as greater refinement of terminology, is apparent in the language of cookbooks published after 1900. For example, in a multi-page section devoted to infant food preparation from 1907, Mrs. George Macbeth writes, "N.B. - *Strict asepsis* must be maintained in the preparation and handling of the food. This is a matter of no small importance, and one which, I am sorry to say, is only too often overlooked."⁶⁰ The tonal shift is only partly to do with emergent bacteriological information. It was also prompted by statistical evidence of the sheer extent of milk-borne diseases gathered by practitioners of the new field of epidemiology, which emerged in mid-19th century in complement to the Sanitary Movement. When in 1893 the province of Quebec established a systematic way of gathering statistics on infant mortality, for example, including ways to slice the information according to linguistic and cultural groups,⁶¹ the results were shocking and cause for national alarm. Hoodless was of course personally affected by the tragedy of losing her infant son, but many other mothers suffered the same loss. So Hoodless' close attention to milk can be understood as being prompted by widespread concerns of her day in addition to personal experience. In Ontario, Hoodless pushed for reform as did, in turn, the Women's Institutes she helped to found, prompting milk pasteurization stipulations of the Public Health Act in 1938, and the Milk Act of 1965.⁶² By 1923, when the premier English-language textbook of the next generation of home economists was published in the form of Nellie Lyle Pattinson's *Canadian Cook Book*, the writer felt no need to provide any rationale whatsoever for why one might need recipes for pasteurized, albuminized, or peptonized milk.⁶³

More generally in her textbook on home economics, Hoodless' prescriptions incorporate the new language of germ theory. "Borax is an effectual cleanser, *disinfectant* and bleacher (emphasis mine),"⁶⁴ she writes. "Dish cloths and dish towels must be kept clean as a matter of health ... the greasy dish cloth furnishes a most favorable field for the growth of *germs*."⁶⁵ In turn, food preparation methods seem designed with health and hygiene in mind rather than the pleasure of the palate. "The chemical changes, produced by cooking food properly, aid

digestion, besides destroying any germs which may be contained in the food. Nearly all foods—except fruit—require cooking.”⁶⁶ She further explains, “The object in cooking meat is to soften and loosen the tissue, which renders it more easily digested. Another object is to sterilize or kill any germs which may exist and to make it more palatable.”⁶⁷

With the rise of bacteriology in the 1880s, replacing speculation with “facts, practical demonstrations and precise models,”⁶⁸ came the faint beginnings of the increasing medicalization of health care that would move the home caregiver from the front lines to the sidelines of medical treatment by the early decades of the 20th century. As Nancy Tomes relates, women often found themselves moved outside the circle of primary care and found work disseminating emergent knowledge to the public in a new specialty known as “health education,” a field pioneered by home economy advocates as much as by those in health care.⁶⁹ However, during the period in which both Traill and Hoodless published their works, mother and her knowledge were squarely the first line of defense against disease in the family, so much so that Hoodless was rightly convinced that her intervention in education would have material consequences on the standard of health and wellbeing of Canadian families.

For my comparison between Canadians Traill and Hoodless, however, the key question is not so much what knowledge emerged in the intervening years as what aspects of that emergent knowledge reached them? Clearly the word “germ” did reach Hoodless and, after the death of her infant son from tainted milk in 1889, one can only imagine her urgent yet bittersweet curiosity about access to emergent scientific knowledge. Hoodless had no scientific training, but she travelled frequently and networked, ostensibly taking advantage of her role as founder of the Women’s Institutes. Although there is no formal bibliography included in her textbook, Hoodless does provide a trail of readings in order to substantiate and contextualize her observations. In addition to three primary sources that I will discuss at greater length—the annual reports of Professor Ohlin’s Experimental Stations, *The Chemistry of Cooking and Cleaning* by Ellen H. Richards, and *The Boston Cook Book (with Normal Instruction)* by Mrs. M.J. Lincoln—Hoodless draws excerpts from Gilman Thompson’s *Practical Dietetics*, acknowledges information about infant feeding from “Miss Scovil, Superintendent of Newport Hospital and one of the associate editors of the *Ladies Home Journal*,”⁷⁰ as well as “practical hints and schedule for school work” from Miss (Urie) Watson.⁷¹ She also notes only the author’s last name to reference information from “Church” and “Dr Meigs.”⁷² If Traill compiles best practices from neighbours, later in the century Hoodless leverages the resources of a wider network that includes professionally trained scientists and educators.

Of the three primary sources acknowledged, all were American, and perhaps the most widely known and available for contemporary audiences included the annual reports of Professor Wilbur Olin Atwater, whose Experiment Stations on human nutrition were federally funded as of 1887. Two of Atwater's tables are included in *Public School Domestic Science* itself, outlining the constitutional elements of a variety of food products (protein, fats, carbohydrates, mineral matters), as compared with their "fuel value" measured as calories, and their cost (presumably in 1898, though no specific date for Atwater's report is provided).⁷³ These charts signal Hoodless' focus on the interrelationship of food, health, and household economy—three constituent elements of "domestic science" as she describes it in her book's title that would later be known as "home economics."

Before turning to the second foundational source for Hoodless' text, and while a history of home economics in Canada is beyond the scope of this paper, some brief mention of shifting terminology in relation to the field is required here because Hoodless uses multiple terms during her lifetime to describe a field of study she herself helped to establish in Canada. In an article outlining the history of Home Economics in Canada, Ruby Salomon uses the term "home economics" but refers to the earliest courses in the field as cooking courses being given by Miss Corson in Montreal in 1887, and later as courses in sewing, cooking, and "manual training" more generally.⁷⁴ Terry Crowley identifies a similar slippage of terminology in Hoodless' own writing. Earlier on she used both phrases "manual training" and "domestic science" interchangeably,⁷⁵ he explains, only much later in her life adopting the term "home economics,"⁷⁶ presumably so as to remain central to the field as it came to maturity and consensus emerged on the name. However, Hoodless' success at remaining central to and retaining authority over the field of home economics was muted. Although she was made honorary vice-president of the Canadian Household Economics Association in 1900, Crowley notes that, significantly, her name disappeared from the organization's masthead in subsequent years.⁷⁷

Although a book rather than a series of experimental reports, *The Chemistry of Cooking and Cleaning* by Ellen H. Richards (Prof. of Sanitary Science, Boston Institute of Technology)⁷⁸ is very clearly a chemistry manual rather than a collection of recipes. In the preface, Richards explains that "the number of patent compounds thrown upon the market under fanciful and taking names is a witness to the apathy of housekeepers. It is time they should bestir themselves for their own protection."⁷⁹ To remedy the situation, Richards explains the chemical constituents of many household standbys (such as soap, salt, baking powder) and thereby demystifies their use. Despite the relatively late publication date of 1881 in terms of the timeline of the disciplinary

development of bacteriology, there is remarkably little discussion of germs as constituent to disease. Richards focuses instead on the details and agents of disease prevention. "It is surely a problem of the greatest interest to every housekeeper, how to keep her household and its belongings in a state of cleanliness that shall be a state of perfect health; for a large portion of disease is a direct result of uncleanly ways. [The toleration of impure air in close rooms is one of the most common, as well as one of the most easily remedied of these uncleanly ways.]"⁸⁰ However, with her training in chemistry, Richards provides a comprehensive and detailed account of the different cleaning agents available to housewives and their particular strengths and weaknesses, in addition to simplifying them to their basic elements. She notes, for example, that housekeeping is concerned only with three alkalies and their compounds, and "with these alone": Sodium, hydrate of Ammonium, and hydrates of Potassium.⁸¹

The third source Hoodless references in detail is an 1884 book, *The Boston Cook Book (with Normal Instruction)*, by Mrs Lincoln, who was Principal of the Boston Cooking School until 1885. Readers today are likely more familiar with the famous *Boston Cookbook* written by Fannie Farmer, first published in 1896. Interestingly, Farmer's book—even in its 1918 edition—does *not* mention germs specifically, although it does engage with emergent scientific knowledge relating to the chemical composition of food and of the body. The 1918 version notes: "Vitamines, growth-promoting substances, are essential especially for children. They are found in milk, butter, egg yolks, green leaves, etc."⁸² In making such a statement, Farmer is remarkably up to date. Only in 1898 did Frederic Hopkins assert that "accessory food factors" were necessary for the health of the human body,⁸³ and it would only be in 1929 that he and Christiaan Eijkman (who realized that unpolished rice prevented the onset of beriberi) were awarded the Nobel Prize for their discovery of several vitamins.⁸⁴

But the volume to which Hoodless refers, Mrs. Lincoln's *Boston Cook Book*, makes several valuable contributions to the genre. As Janice Bluestein Longone observes in her Introduction to the 1996 reprint, this was the only cookbook selected by the prestigious Grolier Club in 1946 for its exhibition of 100 books printed before 1900 that significantly influenced American "life and culture." Of Mrs. Lincoln's book, the committee explained that "while it instantly became the standard kitchen companion, it had still greater effect in shaping the course of early work in domestic science in grade and normal schools."⁸⁵ What were the particular contributions of this volume to the genre? One answer lies in the fine balance between clarity and comprehensiveness of information. Eleven pages provide clarity on preparation of excellent stock for soup, for example, providing rationales for including roasted meats or bones

(to retain “osmazome,” which has distinctive flavour) as well as raw, lean meat (to include alkaline and acid salts), and bone marrow (the “best form of fat”).⁸⁶ However, what distinguishes Lincoln’s recipes from those of her contemporaries are the very precise measurements, which set a standard for cookbooks to follow. One example might be her recipe for Rice Griddle Cakes: 1 cup sweet milk, 1 cup warm boiled rice or fine hominy, 1/2 teaspoon salt, 2 eggs, yolks and whites beaten separately, 1 tablespoonful melted butter, Flour enough to make a thin batter.⁸⁷ By contrast, a recipe for the same dish published two years earlier, seems much less precise. “For a small quantity, say one quart bowl full, take one egg, two-thirds of rice (cooked) to one-third flour; one teaspoon soda, two teaspoons cream tartar, or three teaspoons baking powder; sweet milk enough to make it the right consistancy (sic).”⁸⁸ Hoodless is not alone to think that Lincoln succeeded in achieving her ambitious goal of compiling, as she puts it in her preface, “a book which shall be not only a collection of receipts, given briefly for the experienced house-keeper, and with sufficient clearness for the beginner, but which shall also embody enough of physiology, and of the chemistry and philosophy of food, to make every principle intelligible to a child and interesting to the mature mind; which shall serve equally well for the cook in the kitchen, the pupil in the school-room, and the teacher in the normal class.”⁸⁹ That Hoodless herself devotes three full pages in her domestic science manual to detailing accuracy of measurements—(“accurate measurement is necessary to insure success in cooking”), conversion tables (“2 level teaspoonfuls sugar = 1 ounce”), proportion tables (“1 qt. of liquid to 3 qts. of flour for bread”), and cooking times—signals the extent of her debt to Mrs. Lincoln and the instructional methodologies of The Boston Cooking School.⁹⁰

In other words, Hoodless and her textbook on domestic science lay at the cusp of a rapidly changing world. As Terry Crowley and Cheryl Macdonald have pointed out, Hoodless increasingly felt sidelined during her own lifetime by the domestic science students and teachers whose own professional status her advocacy had enabled. Looking through Hoodless’ papers in the Guelph archives, however, one begins to suspect that Hoodless may have seen herself neither as a scientist nor as a professional educator, but rather as a facilitator. Her unpublished notes indicate Hoodless’ significant respect for philanthropists, including Empress Friedrich in Germany, the Princess of Wales in Britain, and the wife of German gun manufacturer Frau Krupp. However, she reserves her highest praise for the astute Boston philanthropist Mary Porter Tileston Hemenway, who died in 1894.⁹¹ All these women dedicated their energies to funding and facilitating the institutionalization of manual training for girls and boys, rather than to becoming directly involved in the education itself. Hoodless was well established as wife

of a furniture manufacturer, but in stature and financial stability very far removed from those others she sought to emulate. What she lacked in fortune, though, she attempted to make up in fortitude—sometimes, as Terry Crowley notes with reference to the two nervous breakdowns she suffered—at her peril. I would qualify the harsh criticism and suggest that Hoodless' critics fail to judge Hoodless according to her own standards and ambitions as a philanthropist who was, at times, very short of money. She is also to be credited for the remarkable speed at which this amateur domestic scientist managed to incorporate the emergent knowledge of her day into her communications.

As for Traill, there was much to her common-sense approach to disease prevention. In the *Female Emigrant's Guide*, one finds no cough remedies at all—while they are the mainstay of manuscripts of her day and even those in subsequent decades. For example, the ever-popular *Home Cook Book*, first published in 1877, offers a “Cough Mixture” that includes active ingredients of gum arabic and paregoric elixir.⁹² The *B.Y.P.U. Cook Book* of 1899 offers a remedy with active ingredients of comfrey root, elecampane, and “pressed slippery elm bark.”⁹³ Instead of remedies, Traill provides many wise ounces of prevention. “Many years ago,” she writes, “it was a rare thing to hear of colds, coughs, or influenzas,—now it is very common, and I believe, with many medical men, that the stoves have to answer for these disorders. People heat their rooms like ovens, and go out into the sharp, frosty air; they return again from the keen frosty air into heated rooms; their tender organs of respiration are not fitted to stand such reverses, and pulmonary disease and colds in the head are the result, which not unfrequently end in consumption.”⁹⁴

Traill here demonizes the stove for its ability to overheat interior space, and claims to align herself with “many medical men” in this opinion. Certainly the cry for good ventilation was also prompted in part by an intuitive sense that contagion could be carried in the air. In a handwritten medical receipt book dating from as early as 1847, for example, one can find intricate procedures for “fumigating” spaces contaminated by illness.⁹⁵ But faith in good ventilation as prevention and cure was closely linked to germ theories emerging much later in the century, so Traill's insights seem full of foresight. Nancy Tomes traces the emergence of disease prevention as a staple in popular journals and circulars in the last decades of the 19th century as writers struggled to translate emergent knowledge into practical application.⁹⁶ Nowhere is evidence for good ventilation as key restorative more clear, however, than in the history of tuberculosis treatment. As Peter Warren explains, despite lingering suspicions of multiple causes for tuberculosis, by mid-19th century, sanatoria were built focusing on three curative elements: good diet, rest or exercise depending upon the phase of disease, and above all, good ventilation.⁹⁷ Indeed, so critical was exposure to fresh air

that sanatoria were purpose-designed to enable easy year-round access to balconies.⁹⁸ But new treatments for tuberculosis loomed large in the public imagination of the 19th century for other reasons as well. Most obviously, tuberculosis was a persistent threat, so its transformation from incurable to curable disease in the later 19th century and thanks to the virtues of ventilation, was hugely powerful. As well, because public health reformers sought to educate the public about TB, its prevention and containment, there were a number of exhibitions designed to reach a broad audience. Valerie Minnett writes about one such exhibition in Montreal in 1908. Tellingly, the exhibition's design suggests that despite identification of the specific agent of disease, poor living conditions and societal ills were still assumed to be causal. In particular, the exhibition focused on the need for light and fresh air as preventative and restorative.⁹⁹

While Traill was not alone to suspect the stove as one cause of disease, others would focus less on the dangers of an overheated room than on the virtue of adequate ventilation and concern for the stove as one potential source of dirt and contamination. In the decades following Traill's publication, advocates of the Sanitation Movement looked to stoves and plumbing—as areas where interior space was rendered vulnerable to foreign elements—as a potential source of concern. So it is not surprising that a firm conviction that sanitation and ventilation were key to health is evident in the pages Hoodless devotes to the topic later in the century. A section of her textbook entitled “Suggestions for Young Housekeepers” occupies two full pages, and includes instructions intended to neutralize germs in the house: to “have special cloths for kitchen use,” “rinse the tea-kettle every morning before using,” “see that a kettleful of boiling water is poured down the sink pipes every day,” “see that the water which has stood in the pipes overnight is drawn before filling the tea-kettle for breakfast,” “burn all refuse, both for convenience and as a sanitary measure,” frequently scald a refuse pail and add a “solution of carbolic acid, chloride of lime or other disinfectant.”¹⁰⁰ In addition to these detailed instructions, Hoodless provides a page and a half of instruction in the proper methods of dish washing, before devoting two and a half additional pages to “Ventilation and Sanitation.”¹⁰¹ In many ways, this last is closely aligned with the general thrust of Traill's comments, but the sheer comprehensiveness of information results from an overwhelming consensus emerging in the latter half of the 19th century that Nancy Tomes describes as the “gospel” of germs. By the 1870s, Tomes explains, “believing in the germ theory was often likened to a religious conversion.”¹⁰²

Closely related to Traill's concerted drive to thwart the invasion of disease into the home were her admonitions about the dangers of drink,

where alcohol was positioned as a dangerous intruder into the human body. Although Traill offers recipes for beer, her warnings about the evils of whiskey are dire.¹⁰³ If Traill makes the case against the extremes of alcohol on the grounds of inefficiency and substandard housekeeping and husbandry, then Hoodless makes the same case on the basis of nutritional science. "Alcohol in every form should be absolutely excluded," writes Hoodless in the section devoted to children's diets.¹⁰⁴ With regard to adults, she notes, "The use of alcohol is wholly unnecessary for the health of the human organism," going on to reference *Public School Physiology and Temperance* as the source of her information.¹⁰⁵

CONCLUSION

Traill's concern about the evils of drink is an extreme articulation of the more general and pervasive concerns about food contamination evident throughout the manuals by Traill and Hoodless, as well as other texts written in the latter decades of the 19th century explored for this study.¹⁰⁶ Valerie Curtis suggests hypotheses relating to disease spread rapidly because they aligned with existing beliefs and even human instinct. She argues persuasively that "hygiene behaviour and disgust pre-date culture" and, further, that "purification ritual, miasma, contagion, zymotic¹⁰⁷ and germ theories of disease are ideas that spread through society because they are intuitively attractive, because they are supported by evidence either from direct experience or from authoritative report and because they are consistent with existing beliefs."¹⁰⁸ Early Canadian cookbooks were certainly constructed around details of how to pickle, preserve, dry, and salt food in order to preserve it from contamination. Traill's guide, for instance, offers multiple descriptions of drying and preserving fruit. But as we have seen, during the latter half of the 19th century, and specifically in household manuals by Traill and Hoodless, the greatest fears and most detailed attention were reserved not for foodstuffs but rather for liquid- and air-borne contamination. Certainly Traill's farsighted emphasis on good ventilation anticipated the evidence-based prescriptions of Hoodless, and was wholly aligned with new thinking about the virtues of ventilation evident in significant shifts in the treatment of tuberculosis during the era of purpose-built sanatoria. As well, Traill's focus on clean practices in the handling of milk and in the home more generally anticipated the heightened focus and evidence-based practices included in Hoodless' textbook and eventually taught in the Domestic Science classrooms across 20th-century Canada.

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