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IDENTIFYING EXPERIENTIAL PRACTICES AND SCIENCE IN MID-EIGHTEENTH-
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IDENTIFYING EXPERIENTIAL PRACTICES AND SCIENCE IN MID-EIGHTEENTH-
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A DISSERTATION APPROVED FOR THE DEPARTMENT OF HISTORY OF SCIENCE

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Abstract

This dissertation serves as a proof of concept to demonstrate how combining SEO-optimized and open access digitized primary sources, popular historical accounts and traditional historiographical methods may open areas of inquiry within the history of science, technology, and medicine. The dissertation uses digitized copies of cookbooks published in England between 1740 and 1760 to investigate certain areas of daily life and daily knowledge that have been overlooked within the history of science. These texts indicate the presence of scientific and technological knowledge within daily kitchen management and offer an opportunity for historians to look further at how women established scientific and cultural authority within the kitchen. Moreover, the intentional limitation of this dissertation to SEO-optimized and open access digitized primary sources offers insight not only into avenues for further inquiry and opportunities for continued integration of digitized primary sources into formal historical inquiry, but also reveals the disadvantages of such a methodology.

Prologue

It is early October of 2018 and I'm squeezed onto a long communal bench in the kitchen of my childhood home. Around me guests in various states of inebriation chat and meander, short snippets of conversation floating by. In my family, events have always centered around food. My mother was trained in France and Taiwan as a chef and spent years cooking for a small independent coffee shop. Catering for their guests is possibly more important to my parents than who actually shows up. They will spend hours planning the menu, cooking each dish, and arranging, plating, and displaying every item.

As I sit there taking it all in, a conversation catches my attention. "50 eggs" a young man is proclaiming, "the recipe called for 50 eggs." He's probably in his early twenties. Short blonde hair spiked into a fauxhawk and a large silver earring in one ear. He's a stocky build, maybe 6ft tall and definitely over two hundred pounds. He isn't fat but he also isn't muscular. He's sitting next to his tiny, petite mother explaining how every year when he was growing up, she would bake loaves and loaves of lemon bread using a secret family recipe. When his father died his mother stopped baking, but recently she shared the recipe, and he has attempted to take over the mantle.

The historian in me is intrigued. In attempting to gather evidence of the lived experience hinted at within eighteenth-century cooks, I've realized I have made a fatal error. I've been re-creating eighteenth century recipes in my kitchen to get a sense of approximate flavors, cook times, and techniques. I've been reading blogs and accounts of popular culture historians who travel to the original manor houses and cook with the actual instruments. Yet each of us scales the recipes. We don't cook with 50 eggs, we cut it back to two or ten. Why cook so much eighteenth-century food if it is just going to go to waste?

I ask the man what it was like, cooking in this kind of volume. Did he need larger mixing bowls or adapt the way he mixed the batter? Did he have to make smaller batches or use modern mixing machines? The biggest takeaway he had was how physically tiring the process was. He had to hand-mix the bread batter to ensure it was not overmixed and beating 50 eggs by hand in one bowl was apparently the most laborious task he has ever endured. This robust, 6ft giant, crouching awkwardly at a communal bench, proclaimed loudly that his shoulder and forearm were sore for days after.

This story highlights two important themes that are interwoven throughout this historical exploration of the presence of science, medicine, and technology within digitized copies of eighteenth-century recipes. First, the importance of lived experience and popular culture recreations of recipes should not be undervalued. While the historical import of findings based on modern adaptations should certainly be questioned, the ability to work with more popular or less traditional sources of information and seek the holes that written or recorded experience does not document cannot be ignored. The sheer strength that women working within an eighteenth-century kitchen needed has been noted by other historians when discussing the size and weight of many of the caldrons and kettles that they would have needed to haul, full of water, around the kitchen.¹ The laborious process for scrubbing and cleaning cookware would have also required a great deal of scrubbing and increased strength over time.² However, it seems that cooking too would have required physical strength and endurance. While the laborious nature of this twenty-

¹ Olsen discusses the strength needed for using mangles when washing clothes and doing laundry, however the same can be said of all kitchen work including the hauling of water. Olsen, *Daily Life in 18th-Century England, 2nd Edition*, 266.,.

² An eighteenth-century poem talks of the dirt and labor involved in cleaning pots and pans. “Alas! Our Labours never know an end;/ On brass and iron we sour Strength must spend,/ Our tender hands and fingers scratch and tear;/ All this and more, with Patience we must bear./ Colour’d with Dirt and Filth we now appear;/ Your threshing sooty Peas will not come near./ All the Perfections Woman once could boast/ Are quite obscur’d, and altogether lost.” Goodridge, “Stephen Duck, The Thresher’s Labour, and Mary Collier, The Woman’s Labour,” II, 215–222..

first-century experiment in holiday baking certainly needs to be considered within its context, for this twenty-something man has not built up the strength by cooking in this manner every day of the year, his experience forces the historian to consider how to investigate undocumented aspects of eighteenth-century life.

Secondly, this anecdote reveals gaps in historiography that the historian is ill-equipped to handle. The traditional historiography of primary sources and archive research cannot explain what is not recorded. This gap requires an interdisciplinary approach, pulling lessons learned from archivists and librarians working with oral cultures, as well as from popular culture food historians, anachronists, and other pseudo-historical sources. While the accuracy of some sources should certainly be questioned, the questions that arise open avenues of historical inquiry that may not have answers within even the most extensive archive or special collections library. While tracking down and analyzing the physical copies of every related manuscript, cookery book and diary could in and of itself be a life's work, the boundaryless nature of the Internet makes this type of multidisciplinary endeavor far more feasible.

Dedication

“These and many other most serviceable Things I humbly offer to the Publick, hoping they will be candidly received” - William Ellis, *Country Housewife’s Family Companion*, 1750

This dissertation has been a labor of love, if love is a long-distance relationship across different time zones. I am incredibly grateful to the people along the way who have encouraged me to keep going, who have reminded me that this is interesting and important, who have let me talk to them for hours on end about pancakes and pies. This dissertation would not have happened without the enduring support of two people in particular: my chair Dr. Katherine Pandora and the graduate studies coordinator Stella Stuart. While I have received an abundance of moral and intellectual support, I am only where I am today due to the unwavering commitment to deadlines, paperwork, and logistics that these two women facilitated on my behalf. Their virtual wellness checks kept me motivated even life had other plans.

While dissertations, in and of themselves, are an opportunity for scholarly growth and development, this dissertation has also traveled with me across three states and through countless life changes: from new jobs to the adoption of not two but six dogs, to countless surgeries, hospitalizations, and cancer treatments. That is to say, life did not stop for this dissertation, and while there was certainly a period of my life where my dissertation writing was put on hold, the ideas were always there, at the back of my mind, pushing me to finish, emerging every time I tried a new recipe or talked to someone about cooking. In many ways I’m thankful for the fact that my dissertation touched upon daily life, and that my life experience has taken me to what is

considered by the CDC a “food desert” so that I could be reminded so often of the power of food, and the connections it has to culture, politics, and health.³

³ Pike et al., “Peer Reviewed: Examining the Food Retail Choice Context in Urban Food Deserts, Ohio, 2015.”

Identifying Experiential Practices and Science in Mid-Eighteenth-Century British Cookbooks with Open-Access Sourcing

Introduction

This dissertation starts from the premise that in mid-eighteenth-century Britain real scientific and technological work occurred within kitchens, and that these were spaces in which women were engaged in experiential knowledge-making. As such, they also participated in the era's efforts to understand natural phenomena, although these are contexts that have been largely overlooked by historians of science.⁴ My point of entry into these domains is by means of printed cookbooks from these middle decades in order to investigate what kinds of natural knowledge were being put into practice in the kitchens of the middling to upper ranks -- a swath of the populace that ranges from working shopkeepers to landed nobles to the inhabitants of smaller houses -- for it is they, as the intended audiences of these cookbooks, who best represent who had everyday access to this knowledge.⁵ These were people who were neither so poor that they had no choice in what food they ate or how it was cooked, nor so rich and protected that local and national politics and cultural norms did not impact them.

Mid-eighteenth-century kitchens were sites of empirical knowledge production where many phenomena of interest to elite natural philosophers were encountered in practical circumstances, as problems to be solved in the course of everyday food preparation. Although I keep the investigations that were conducted by those communities who inhabited more formal scientific spaces in view, those milieus are not the focus of my research (that is to say neither

⁴ See for example Women, "18th-Century Bluestockings."

⁵ There is some great nuance to be found in the difference between who read the cookbooks and who actually cooked the food, however the knowledge contained in these cookbooks was nevertheless dispersed to this particular group.

as the primary subject, nor in regard to the specifics of how conceptual inquiry and ideas may have traveled from those precincts outward). While it is certainly worth starting historical investigation from within gentlemen's laboratories or meetings attended by members of the Royal Society may have impacted daily knowledge production and exploring what shared contexts or conduits may have facilitated mutual encounters between such embedded forms of elite knowledge and the daily transmission of knowledge emanating from ordinary kitchens is still needed, it is the latter that lies at the heart of this dissertation.

This period between 1740 and 1760 in England is particularly interesting within this context because it represents a period of relative stability in terms of networks, economy, provisioning, and kitchen architecture. While no one British kitchen was exactly the same, by the 1740s certain distinctive elements could be found within the British kitchens that these cookery books catered to. Changes that had started during the late seventeenth and early eighteenth centuries included: bringing kitchens from an external building into the house proper; remodeling the hearth to conserve heat; improvements to canals and roadways which improved the access to ingredients; a shift away from the cottage industry for farming; and a growth in the wealth and capital of the middling and trade ranks which resulted, among other things, in the purchase of luxury items and kitchen technologies such as pots and pans.⁶ Mid-eighteenth-century kitchens embodied the Enlightenment expectation that new knowledge and philosophies would be implemented in homes. Not only was there improved access to ingredients and technologies, but in England the early eighteenth century saw rise to improved circulation of information thanks to public scientific lectures, the growing popularity of

⁶ Wilson, *Consider the Fork: A History of How We Cook and Eat*, 77; McWilliams and McWilliams, *A Revolution in Eating: How the Quest for Food Shaped America*, 208; Olsen, *Daily Life in 18th-Century England*, 174; Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830*, 196.

philosophical coffee houses, the continued access to the public of museums, and the growth of lending libraries.⁷ By the 1740s these forms of public scientific and philosophical forums were well established, opening the home not only to Enlightenment implementation but ensuring that the inhabitants were aware of Enlightenment theories and philosophies.

This dissertation stops at 1760 due to the social, cultural, economic, and technological changes that the early stirrings of the Industrial Revolution would bring. Although not within this scope, the French Revolution and the Napoleonic Wars led to important changes in British and French cultural relations that in turn impacted the new methods of cooking which had been heavily built upon French traditions.⁸ During the nineteenth century, British society and economy had also shifted, with the clear emergence of a middle class and the stabilization of a more capitalist market economy – which had begun in the eighteenth century.⁹ Within homes, the development of canning, and the industrialization of food production also changed the nature of cooking and home economy.¹⁰ While stirrings of these broader changes may still be present between 1740 to 1760, this span of warrants further analysis separate from sweeping century-wide shifts.

In studying the intellectual, social, and cultural contexts of women cooking in mid-eighteenth-century kitchens, it is important to recognize at the outset that seeing the kitchen as a gendered space has never been a static matter. Unlike nineteenth-century England, in the eighteenth century there were no firm cultural expectations that the kitchen was properly “a

⁷ Allan, *A Nation of Readers: The Lending Library in Georgian England*, 7, 106. Ellis “Eighteenth-Century Coffee-House Culture, vol 2,” Gregory and Miller, *Science in Public: Communication, Culture, and Credibility*.

⁸ Wahrman, *Imagining the Middle Class: The Political Representation of Class in Britain, c. 1780-1840*, 26; Mennel, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present*, 130.

⁹ Colley, *Britons: Forging the Nation 1707-1837*, 7-14.

¹⁰ Berg, “Women’s Work and the Industrial Revolution,” 152-159; Wilson, *Consider the Fork: A History of How We Cook and Eat*, 16-17.

woman's place." It was a space that was more or less neutral, with traffic of all kinds -- in terms of gender, class, and geography, for example -- passing back-and-forth across its physical borders. In terms of determining or assigning gender or gender roles to these spaces, much depends on the type of work that men and women did within the kitchen. If women were relegated to the outer edges of the space, assigned to such tasks as de-feathering fowl or washing vegetables, one can regard the kitchen space as male-oriented. If, however, the expectation is that a woman be front and center, presiding over the most significant tasks and managing the tasks of others within the kitchen, the space could be said to be female. Women as authoritative presences was not a foregone outcome; British men could also run and manage a kitchen or publish cookbooks. (It is worth noting that I specify British men here, for the employment of invariably male French chefs during this period was a luxury afforded only to the truly aristocratic members of the Whig elite due to rising anti-French sentiments in England.)¹¹ It is the lack of rigid boundaries in this time period that offered greater leeway for women to inhabit this space as authority figures.¹² In this period of flux, where the kitchen space was ambiguous, where the gender or training of a cook was also a political statement, the entry of women into the kitchen warrants further critical analysis.

The presence of women asserting authority and employing scientific and technical knowledge opens avenues of inquiry for a number of fields. For the history of science, the ways in which theories like thermodynamics were developed, popularized, and established could benefit from looking at how domestic and lay users worked with and understood heat. For the history of technology, the concept of instrumentation can benefit from examining how old and new systems coexisted. For gender studies, especially of the eighteenth century, the

¹¹ Michell, *The Whig World: 1760-1837*, 77.

¹² Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*, 42-43.

housewife's entry into the kitchen offers an example of women exercising social authority in a period where attempts were made to curtail her political authority. For food history, the ability to look beyond ingredients and display, and toward scientific actors at work within the kitchen can offer insight into what was cooked and when. Daily life may be difficult to source historically, but there is nonetheless much to learn from the domestic and the mundane.

In response to the rise in discussions about equity, access, and online scholarship – the inadequacies of which were brought to the forefront during COVID-19 -- this dissertation is also limited to the use of open, digitized primary sources. Given that open access has become such a hot term in the history of science and in aligned fields such as archival preservation, I think it worth defining what I mean by the term here. Open access most often refers to “freely available, digital, online information,” but I will expand on this definition to characterize that freely available also requires that non-expert users are able to easily find and locate this information through the use of general-use search engines such as Google or Bing.¹³ This definition departs from that of Peter Suber, wherein open access primarily refers to digital information that is “free of charge and free of most copyright and licensing restrictions.”¹⁴ The placement of ‘open access’ information within repositories such as WorldCat or established open-access journals is not enough. Can we truly say that our information is accessible if it is not easily and readily available to the general public – a public who does not necessarily have the same training as expert practitioners in evaluating the quality of open access journals or who may turn first to Google rather than a library catalog? The Digital Humanities Manifesto 2.0, written in 2009, noted that while imperfect, Google has “become the portal to the world’s

¹³ Suber, “Open Access Overview,” <http://legacy.earlham.edu/~peters/fos/overview.htm>.

¹⁴ Suber, “Open Access Overview,” <http://legacy.earlham.edu/~peters/fos/overview.htm>.

(digital) information.”¹⁵ Why, then, is Google not considered a key element when considering the openness of information? In response, this dissertation adopts a digital humanist approach to open access- using sources that are not only free of charge and most copyright restrictions, but also digital primary sources that can easily be found through a search engine query and are therefore open to a more general public.¹⁶

Historiographic Issues and the Dissertation’s Configuration

The historiographic contexts for my research are more interdisciplinary than is conventionally the case within the history of science, where frameworks based on sub-disciplinary specializations remain powerful ways of organizing research questions -- that is, one approaches questions by having been trained as an historian of astronomy, or an historian of biology, or an historian of chemistry and so on. A focus on “the kitchen” renders this sub-disciplinary strategy as one that is ill-fit for the purposes of investigation; it is a strategy that, after all, was never intended to be used to assay everyday knowledge, but instead to study the intellectual products of learned natural philosophers under the rubric of “the scientific revolution” of the sixteenth and seventeenth centuries, and then of the modern world of scientific professionals in the latter half of the nineteenth century forward. How to handle questions of empirical knowledge in the public sphere has been categorized by historians of science as belonging a matter for studies of “popularization” amongst people variously described

¹⁵ “Digital Humanities Manifesto 2.0, http://www.humanitiesblast.com/manifesto/Manifesto_V2.pdf; Presner, “Digital Humanities Manifesto 2.0 Launched,” <http://www.toddpresner.com/?p=7>.

¹⁶ It is worth considering that an improved definition is needed beyond even this allowance for the inclusion of the general public. Accessibility should probably also take into account Web2.0 requirements for screen reader optimization and the experience of information-seekers who need accommodations. The advantage of using a definition that includes search-engine optimized results does mean that at least the initial accessibility barrier has been addressed, thanks to Google’s standards for assistive technology (<https://support.google.com/websearch/answer/181196>). Questions of copyright are also admittedly more complicated since with its relative lack of gatekeeping and regulation, self-publishing on the Internet does not hold to the same standards for copyright and licensing as do the more classically defined open-access sources.

as “the laity” or “amateurs,” “craftsmen,” or “enthusiasts.” Much of this work has been expected to keep within disciplinary frameworks, although with the modifier of “popular culture” and “popularization” added on.¹⁷

It is the case that so-called pseudo-sciences such as alchemy and astrology have been rehabilitated as legitimate topics of study for medieval and early modern histories of science -- due, in large part, as a response to the rise of the new cultural history in the 1980s. But these were special cases. For later periods, what the relationship of studies of popular science ought to be, vis-a-vis history of science as a discipline, is typically seen as commencing most visibly with the publication of Roger Cooter and Stephen Pumfrey’s 1994 article in *History of Science*, entitled “Separate Spheres and Public Places: Reflections on the History of Science Popularization and Science in Popular Culture.”¹⁸ Although studies of popular science in the years since then developed in productive directions, whether or not they should be considered as peripheral to the history of science or as central to it is still an unresolved issue. In an article entitled “Exploring Natural Knowledge: Science and the Popular,” for the volume on the eighteenth century in the 2003 Cambridge History of Science series, authors Mary Fissell and Roger Cooter argue that “it is no easy matter . . . to address ‘science’ and the processes of its ‘popularization’ . . . In almost every respect the terms are anachronistic and misleading.”¹⁹ Highlighting examples from the areas of agriculture, medicine, and botany, Fissell and Cooter contend that “all three of these natural knowledges flourished in the eighteenth century, but they

¹⁷ See, for example, Morris, *Polymer Pioneers: A Popular History of the Science and Technology of Large Molecules* (1990).

¹⁸ Cooter and Pumfrey, “Separate Spheres and Public Places: Reflections on the History of Science Popularization and Science in Popular Culture,” 237–67.

¹⁹ Fissell and Cooter, “Exploring Natural Knowledge: Science and the Popular,” 130.

have seldom been studied by historians of science. Indeed, historians of science have often failed to notice them because they do not conform to conventional ideas of what ‘science’ is.”²⁰ This dissertation therefore falls squarely within still-ongoing debates within the history of science discipline as to what qualifies as “science.”

That such definitional issues remain matters of contention -- even as a body of important studies accumulated in the following decades -- can be seen in the articles that make up the Special Focus section edited by Jonathan Topham on “Historicizing Popular Science” that appeared in 2009 in *Isis*, the flagship journal of the History of Science Society, review articles such as “Amateurs” by Katherine Pandora in 2016’s *A Companion to Modern Science* edited by Bernard Lightman, and Clifford Conner’s book *A People’s History of Science: Miners, Midwives, and Low Mechanicks* (2005).²¹ Pandora argues that “as a more detailed sense of what science within popular culture looked like was developed case by case, two possible outcomes were foregrounded: that these new histories would be read supplementally as evidence of how those ‘outside’ of professional science ‘responded’ to events generated by those on the ‘inside,’ or, alternatively, that they could result in decentering of the standard narrative.”²² She concludes that the result remains an open question. In Topham’s Introduction to the *Isis* Focus section, he attests that studies of popular science “have not only proliferated in recent decades; they have also become increasingly sophisticated in their historiographies.”²³ He observes that “for many within the history of science, however, [such studies] have continued to appear marginal rather than fundamental to the discipline.”²⁴ In his Introduction to the *Companion*, Lightman

²⁰ Fissell and Cooter, 139.

²¹ Topham, “Introduction,” 310-318, and Pandora, “Amateurs,” 139-152.

²² Pandora, “Amateurs,” 143.

²³ Topham, “Introduction,” 310.

²⁴ Topham, 310-311.

foregrounds “the gradual adoption of a new historiographic approach” concerned with scientific practices across a wide array of sites, quite different in their aims from the “big picture histories of science focusing on the theoretical progress made by great heroes such as Galileo and Newton” that had long defined the discipline.²⁵ Lightman states that in the process of developing this new historiography researchers have “integrated modes of scholarship from other fields into their work,” particularly in regard to cultural studies, women’s studies, visual studies, and science and literature.²⁶ A major consequence of these explorations is that “a whole new cast of characters has been added to the story, most of them outside the intellectual elite.”²⁷ However, when the volume was reviewed in *Isis* the next year by John L. Heilbron, a pre-eminent senior historian of science, characterized the historiographic turn described by Lightman as “drivel” of a sort that was powered by “incantations” such as “science is practice.”²⁸ He selected the chapter on “Domestic Space” by Donald Opitz for particular opprobrium, remarking that the content “peers into bedrooms, kitchen sinks, and home studies and remarks that gentlemanliness, emotional support at home, and the work of wives and menials might signify” as history of science.²⁹ Heilbron casts any call for “deeper analysis of scientific households, especially the interplay between family dynamics, gender, and scientists’ careers” as being irrelevant, as “these aspects of the lives of scientists would not seem to differentiate them from more ordinary mortals like lawyers and gentlemanly historians.”³⁰ This negative sentiment and lack of discipline-wide recognition is also echoed in the surprisingly underwhelming long-term reception of Conner’s book. As a call to action with multiple examples of how “ordinary

²⁵ Lightman, *A Companion to the History of Science*, 1.

²⁶ Lightman.

²⁷ Lightman.

²⁸ Heilbron, “A Choice of Companions,” 662.

²⁹ Heilbron, 662.

³⁰ Heilbron, 662.

people” have participated in and shaped the history of science, Conner’s argument was well received yet inexplicably has yet to truly revolutionize how history of science is practiced.³¹

Where then do systemic everyday knowledge-making practices such as cooking fit within these disciplinary dynamics within the history of science? They are certainly not understood as constituting sciences in their own right. This is not to say that cooking practices cannot be seen as scientific when viewed from particular vantage points. There are, after all, aspects of cooking that can undeniably count as scientific: the chemistry of ingredient reactions, for example, or the thermodynamics of baking, or the natural philosophy and etymology of ingredient names and origins. But this is not the same as treating the act of cooking as science or treating those doing the cooking as scientific figures. What, then, makes a set of practices scientific? Is there some critical mass that is reached when enough scientific sub-elements combine for activities to be designated as scientific in fact? Must some group of people, at some given time, have formally conceived of such activities as explicitly scientific for it to validate attention from historians of science as legitimately falling within its disciplinary domain? It is the case that the act of cooking has been, at many points in history, culturally constructed as scientific; and yet, within the history of science, cooking as a focus of inquiry still retains an ambiguous status. Even within the history of medicine, where recipes have been welcomed and accepted as meaningful sources of medical knowledge, it is much more common for recipes for tinctures and cure-alls to be the focus, rather than those for food such as pancakes.

With the foregoing as background, all of this is to say that everyday knowledge practices constructed from multiple, mixed, and sometimes disparate scientific and technical components have proven to be difficult to conceptualize within the standard narrative of the

³¹ Conner, *A People’s History of Science: Miners, Midwives, and Low Mechanics*.

growth of the scientific enterprise. Research topics that fall outside of the traditional parameters of the history of science discipline by necessity draw on diverse scholarly perspectives, even as they are informed by mainstream intellectual histories of science. Unlike the study of the history of atomic theory or of genetics, studying the epistemological, empirical, and practice-based dimension of cooking as history of science proper requires a more interdisciplinary approach in order to make the relevance of such cooking practices more visible.

In setting up cooking as a science, and not just a daily practice that had some scientific elements, we must be careful to look at the kitchen practice as a whole (the ‘Art’ of cookery as Hannah Glasse calls it) and not just the processes of distillation or boiling. As mentioned above, there has been a tendency to separate science from popular culture, wherein the scientific process is unidirectional in that scientists discover, and the popular culture passively absorbs a diluted version of this knowledge.³² To analyze the daily practices and everyday science and technologies found within an eighteenth-century kitchen, one must investigate the actual boundaries that were in place, without imposing more modern “boundary-keeping mechanisms” of authorized scientific practices, settings, and spaces.³³ Thanks to observational sciences such as botany, natural history and paleontology, attention to the amateur and addressing popular or public science has, since the late 1990s, slowly become part of the history of science.³⁴ Deborah Harkness’ *The Jewel House: Elizabethan London and the Scientific Revolution*, represents this new history of science emphasis where discussion of the scientific revolution is expanded to include compilers of recipe books, artists, and craftsmen.³⁵ By examining the knowledge produced by popular or amateur communities, we have a chance to better capture how science

³² Pandora and Rader, “Science in the Everyday World: Why Perspectives from the History of Science Matter”, 352.

³³ Pandora, “Amateurs”, 144.

³⁴ Pandora, 145-6.

³⁵ Harkness, *The Jewel House: Elizabethan London and the Scientific Revolution*, 247.

was actually practiced.³⁶ In expanding the understanding of science to include everyday and amateur applications, it is not enough to simply note the presence of scientific theories, as many non-historians of science tend to do. Instead, cooks, housewives, cookbook authors, and publishers must be viewed as part of the larger scientific process “moving in and out of communities of discourse, critiquing, questioning, and negotiating matters of intellectual meaning.”³⁷

The kitchens and cooking practices that are the focus of this dissertation are those that existed in Britain in the decades surrounding the mid-eighteenth century. This period of the 1740s through the 1760s is one in which a greater mobility of resources, people, goods, publications, art forms, and ideas contributed to shifts, for example, in social dynamics, forms of knowledge-seeking and the transit of knowledge, political ideology, religious sensibilities, modes of literary expression, print circulation, economic risks and rewards, and in Britain’s increasingly powerful imperial presence as a global military power. This is a time and place that has generally been passed over by historians of science, as it has seemed to be lacking in the kind of tangible and vaunted scientific “breakthroughs” that have been customarily used to generate periodizations. Nonetheless, as a period when a considerable amount of cultural experimentation was enhanced by transformative crosscurrents, it is one that well-merits being given more sustained attention by historians of science. Indeed, these conditions present a fresh opportunity to examine the place of women within scientific culture, precisely because the period’s flux resulted in a loosening of knowledge structures such that women could enact new modes of thought and action that had a bearing on the development and circulation of natural knowledge.

³⁶ Pandora and Rader, “Science in the Everyday World: Why Perspectives from the History of Science Matter”, 353.

³⁷ Pandora, “Amateurs”, 151.

The underpinnings of this dissertation have been shaped as well by other issues related to how historians of science have seen the eighteenth century in addition to an expansion of what is meant by “science.” The chief one is the shift from defining science as the pursuits of trained men in scientific spaces to the incorporation of women, both within more recognizably scientific domains, as well as those engaged in more public pursuits that come into view when the discipline expands what is meant by scientific knowledge. While the history of science as a discipline has attempted to include and recover the women written out of the western, male narrative, the women included are often outliers: women who had uncommon training or connections; women of wealth and privilege; women who were married or otherwise related to the “great” scientific minds of the Enlightenment era. Although exploration of the nature of women’s lives in the past and engagement with gender as an analytical category has become well-established as an essential component across scholarly fields of research, for the history of science, especially eighteenth-century history of science, many challenges still exist in mainstreaming these topics and theoretical perspectives.

Although the more complete discussion of the historiography of women and gender within the history occurs in Chapter 1, I offer the following example from the work of literary scholar Declan Kavanagh as evidence of the kind of opportunities that exist for bringing new perspectives to bear on topics within the history of science. Kavanagh posits that a renegotiation of the nature of gendered social interactions and concepts of the public, social, and private occurred in British culture in this period, which he characterizes as “the effeminate years.”³⁸ The mid-eighteenth century therefore represents a period in which there was a dramatic shift in discourses of masculinity and effeminacy,⁴ with anti-effeminate sentiment

³⁸ Kavanagh, *Effeminate Years: Literature, Politics, and Aesthetics in Mid-Eighteenth-Century Britain*, xii.

shaping male interpersonal relationships, the impact of which was to “debar certain kinds of male and female agency within the public sphere.”³⁹ How might such sentiments have an impact on women? One major possibility is that it was a factor in women taking on more public roles, and that is, in fact one of the main arguments advanced in this dissertation: that British women in this time period can be seen taking on more public roles, both in the management of kitchens and in the publication of cookery books.

Precisely which cookbooks were selected as sources for this study is the outcome of several different factors: temporality, specifically those published in the 1740-1760 period; nationality, the cookbooks have been limited to British authors and not English translations of popular French cookbooks or regional Scottish cookbooks; theme, or more specifically general cookbooks that were not limited to confectionary for example; and general audience, namely focusing on cookbooks intended for the consumption of the middling to upper ranks and not cookbooks focused only on feast day banquets. Beyond these historiographic considerations, the decision of which cookbooks to utilize for my dissertation research derives from a methodological commitment that requires extended explanation, provided below: I limited the options to only those volumes that were available as open access sources, and were digitized in a manner that avocational historians could also access. Such books, then must be: first editions, since second or later editions may contain additional material deriving from much earlier sources; searchable by means of keywords (run through at least a basic image-to-text converter such as the freely available Google Chrome PDF viewer); and Search Engine Optimized (SEO) and therefore discoverable through a basic browser search (this ruled out a number of items that were cataloged beautifully within institutional holdings, but would only have been available to a

³⁹ Kavanagh, xv.

more knowledgeable or academic searcher since they lacked search engine optimization). It is important to note at the outset that while we often think of digitization as a single, unchanging process, there are in fact varying degrees of quality when it comes to digital records, many of which are not easily identified. Indeed, this dissertation was researched and written during a period in which a shift between early digitization efforts and more recent standardized practices of digitization introduced additional complexities, some of which will be addressed in Chapter 2.

Methodological Issues and the Dissertation's Configuration

The decision to develop a research strategy for this dissertation based on digitized open access sources does not stem from a lack of access to or familiarity with physical primary sources, but rather from a commitment to recognizing that vibrant modes of historical inquiry are developing outside of the academy and to meet them on their own terms. At the same time, I am interested in gaining a better foundation for assessing what hybrid historical practices could result from bringing academic history into conversation with what can be seen as digital public humanities. My use of primary sources that have been not only digitized, but must also be truly 'open access' and therefore available to the general public without an institutional subscription to an archive or database, is designed to represent the ideals espoused in the *Digital Humanities Manifesto 2.0* – that of openness, collaboration, participation, “disciplinary cross-fertilization, and the democratization of knowledge.”⁴⁰ In many ways, this dissertation is as much about

⁴⁰ *Debates in the Digital Humanities*, chapter 3.

methods of inquiry as it is about exploration of everyday, vernacular, and experiential knowledge-making in mid-eighteenth-century British kitchens.

The results of my search to identify volumes that met the criteria laid out above, yielded at least twenty titles, yet not all of these cookbooks were relevant to the study of eighteenth-century British cooking.⁴¹ Eight of the cookbooks published during this period were French titles.⁴² While French cooking and food certainly had a notable impact upon British cuisine during the eighteenth century, for this dissertation I have elected to set aside these titles. Books by Menon, Massialot, and La Chapelle have been subject to study in French food histories and reveal very little additional information about the British context, other than that French food

⁴¹Moxon, Elizabeth *English housewifery* Leeds 1741

Eales, Mary. *The compleat confectioner...candyng and preserving... added A Curious Collection of Receipts*. London: 1742

La Chapelle, Vincent. *Le Cuisinier Moderne* 1742

Menon. *La Nouvelle Cuisine*. Paris: 1742 [The professed cook 1769 trans by Clermont]

Smith, Eliza. *The Compleat Housewife: Or, Accomplished Gentlewoman's Companion* Williamsburg: 1743

Ellis, William. *The Modern Husbandman*. London: 1744 v3

Glasse, Hannah, *The Art of Cookery made Plain and Easy*, 1747.

Carter, Charles. *The London and country cook*. London: 1749

Briand, M. *Dictionnaire des alimens, vins et liqueurs...* Paris: 1750 v3

Ellis, William. *The Country Housewife's Family Companion*. 1750

Smith, Eliza. *The Compleat Housewife: Or, Accomplished gentlewoman's Companion* 14th ed London: 1750

Fisher, Mrs. *The Prudent Housewife* 1750

Massialot, Francois. *La Cuisiniere Bourgeoise Suivi De L'Office*. 1752

Menon. *La Cuisiniere Bourgeoise*. 1753

Menon. *Soupers de la cour*. 1755

Menon. *La cuisinière bourgeoise*. 1756

Glasse, Hannah. *The Art of Cookery*. London: 1758

Cleland, Elizabeth. *Recipes from, A New and Easy Method of Cookery*, 1759

Verral, William. *A complete system of cookery*. London: 1759

Harrison, Sarah. *The House-keeper's Pocket-book*. London: 1760 7th

Menon. *La cuisinière bourgeoise*. Bruxelles: 1760

⁴² These twenty titles do not, by any means, represent all available eighteenth-century cookbooks online. This list represents books that show up within the first two pages of search results for general queries. Any historian can tell you that to refine this search, secondary sources can be consulted, from which a list of titles can be used to cross-index or run additional searches. This foundational searching technique, however, is not representative of amateur information seeking and therefore has been omitted. It is also worth observing that this search was conducted in the earlier days of this dissertation (circa 2015) and more results would likely populate today thanks to improvements in search engine optimization techniques, accessibility, and awareness.

and techniques were still popular, even if there were some growing anti-French sentiments.⁴³

What remains, then are the following fourteen titles:

- Moxon, Elizabeth, 1741. *English housewifery* Leeds
- Eales, Mary. 1742. *The compleat confectioner... candying and preserving... added A Curious Collection of Receipts*. London: 1742
- Smith, Eliza. 1742. *The Compleat Housewife: Or, Accomplished Gentlewoman's Companion* Williamsburg
- Ellis, William. 1744. *The Modern Husbandman* London v3
- Glasse, Hannah. 1747. *The Art of Cookery made Plain and Easy*
- Carter, Charles. 1749. *The London and Country Cook*. London
- Lambert, Edward. 1764. *The art of confectionary* London
- Fisher, Mrs. 1750. *The Prudent Housewife*.
- Ellis, William. 1750. *The Country Housewife's Family Companion*
- Smith, Eliza. 1750. *The Compleat Housewife: Or Accomplished gentlewoman's Companion* 14th ed. London
- Glasse, Hannah. 1758. *The Art of Cookery* 2nd ed. London
- Cleland, Elizabeth. 1759. *Recipes from, A New and Easy Method of Cookery*
- Verral, William. 1759. *A complete system of Cookery* London
- Harrison, Sarah. 1760. *The house-keeper's pocket-book* London 7th

Ten of these fourteen remaining titles are published by women, which is fairly remarkable given that all the French chefs we removed were men. While women cookbook authors were certainly not new or novel, the high percentage of female authors during this period, whose cookbooks survived centuries of collections' weeding practices until they were digitized, is still notable.⁴⁴

For a number of reasons, this dissertation draws most heavily from two of these digitized texts: Ellis's *The Country Housewife's Family Companion* (1750) and Glasse's *The Art of Cookery made Plain and Easy* (1747). First, both texts look at general cooking and cover a

⁴³ See Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*.

⁴⁴ These cookbooks have not been differentiated in terms of copyright, however, since this dissertation looks at open accessibility, further analysis of the copyright of such texts and the provenance of the ownership rights and proceeds is certainly warranted. An initial investigation of women-authored cookbooks published between 1745 and 1800 (admittedly outside the time period of this dissertation) can be found in Underwood, "Eighteenth-Century Women's Cookbooks: Authors and Copyright."

range of housewife responsibilities, unlike Eales and Lambert's focus on confectionary or Ellis' earlier text on husbandry. Both are also first editions during this period. It is worth debating whether later editions would still be representative of the period because plagiarism was rampant in recipe books. Cleland, Moxon, Fisher, and Glasse often copy the same recipes verbatim, yet the first edition texts represented themselves as new even if several of their recipes were stolen. While Cleland, Moxon, Glasse and even Fisher contain many of the same recipes, I have elected to use Glasse to represent these books for two reasons: first, Glasse's introduction and occasional notes provide better insight into her middling-ranked, somewhat urban audience, and second, (though less historically significant) the Glasse text is one of the better digitized and offers more reliable OCR (optical character recognition) searches. Of the remaining authors, Ellis provides the best insight into country cooking and mentions food for farmers and serving staff. While I do not use them alone, these two cookbooks with their more diverse intended audiences work well to demonstrate the viability of this dissertation's rationale for using digitized primary sources to reveal opportunities for inquiry within the history of cooking as a history of science domain. Indeed, had I chosen two very similar texts, one might be able to argue that the proof of concept works only for a very specific genre or audience.

William Ellis (c. 1680-1758) is most often characterized as a "Hertfordshire farmer," however, it is more likely given his publications, travel, and access to people of rank at other country estates that he was an upper-to-middling-ranked farm owner.⁴⁵ Ellis is known for his publications on agricultural improvement and on brewing — two established scientific disciplines closely related to the scientific aspects of cooking that this dissertation investigates.⁴⁶

⁴⁵ See, for example Sumner, *Brewing Science, Technology and Print, 1700-1880*, 26. The difference is that Ellis as a gentleman of some rank would have had the necessary access to understand the difference between the daily fare of laboring workers and that of the primary audience of the cookbooks this dissertation explores.

⁴⁶ Sumner, *Brewing Science, Technology and Print, 1700-1880*, 26.

As a cookbook author, Ellis has a tendency to share personal anecdotes and stories connected to origin of the recipes, along with general warnings, advice, and theories. Ellis traveled the countryside observing the wives of gentlemen and farmers alike as they managed their kitchens and inserting himself into their sphere of authority to ask questions, listen to gossip and request recipes -- the result of which can be seen in his text.

The copy of *The Country Housewife's Family Companion* used by this dissertation can be found here: <https://books.google.com/books?id=e-g4AQAAMAAJ>. It was digitized by the New York Public Library on April 19, 2013. While the images used in this digitized version have not been color corrected (they are very orange) the OCR is nevertheless exceedingly accurate.⁴⁷ This text also meets the aforementioned definition of open access – all pages are viewable by the public, it is search engine optimized (a benefit of it being hosted by Google Books), and it is possible to download a black and white PDF of the entire digitized text, complete with the frontispiece and decorative images at the beginning and end of select sections, as well as the blank front and end pages of text that was digitized.

The book is organized in two parts, each called The Country Family's Profitable Director. Part I covers, in order, wheat or flour-based items such as bread, pancakes and puddings; meat preservation and butchery; the use of cheese and eggs (which includes recipes for cakes); fat and offal-based products, including bacon and blood pudding; livestock management for improved meat yield; assorted medicines and remedies; general instructions for

⁴⁷ I initially used the Google search functionality to run a search for the term "Butter" to see whether the search results would span the length of the digitized text (given that butter is a very common term and should be used throughout). I also ran a search for the term "Taylor" which is only mentioned three times in the text – the results for which were also accurate. While I later conducted further tests to verify the accuracy, these tests were enough to quickly identify whether there were any glaring OCR or access issues for this particular digitized text. I also compared the search results with another digitized edition of this text from the British library the results of which were identical (that edition can be found here: <https://books.google.com/books?id=euRhAAAACAAJ>).

the husbandry of poultry and dairy; and a brief section on how to prevent theft. These sections are not titled as such, but I have pulled general themes from an uncategorized variety of headings and sub-headings that Ellis uses. Part II covers, in order, a continued discussion of wheat and bread, this time including oats and rice; a section on pies and pasties; vegetable dishes and the preservation of vegetables and fruits; another section on home remedies, this time organized by ailment; an advertisement for Ellis' agricultural services; a second section on butter, cheese, and dairy; a section for assorted recipes not included in the loosely defined categories above; and a short section on brewing that includes a brief rant on how brewers should stop adding yeast to strong beer and ale. The all-encompassing nature of Ellis' cookbook is representative of this period, although many other texts have clearly defined thematic chapters, Ellis' text is more evocative of manuscript commonplace books.⁴⁸

Hannah Glasse (1708-1770) was born in London and came from a wealthy landowning family from Northumbria.⁴⁹ Glasse married an Irish soldier, John Glasse, which may speak to her interest and inclusion of a chapter for "Captains of Ships."⁵⁰ Glasse and her husband held positions in the household of the fourth Earl of Donegall, which may also be where she developed an understanding of French contemporary food.⁵¹ When her husband died in 1747, Glasse took up work as a dressmaker.⁵² After months of bankruptcy, in 1754 Glasse was forced to auction the copyright for *The Art of Cookery*.⁵³ After spending some time in debtors' prison,

⁴⁸ DiMeo and Pennel observe that seventeenth and eighteenth-century recipe collections tend to include the following features that are also seen in Ellis's text: "recipes with titles separated from the main body of the text in some ways; 'author' or donor names attached to some recipes;... Many books also feature structuring devices to distinguish between types of recipe, from separating 'medicinal' and culinary recipes ... to chapter-like groupings of differing dishes and preparations" (DiMeo and Pennel, *Reading and Writing Recipe Books, 1550-1800*, 9).

⁴⁹ Robb-Smith, "Glasse [née Allgood], Hannah (bap. 1708, d. 1770)".

⁵⁰ On her husband see Robb-Smith, "Glasse [née Allgood], Hannah (bap. 1708, d. 1770)". For the chapter on Ship's captains, see Glasse, *The Art of Cookery made Plain and Easy*, 121.

⁵¹ Robb-Smith, "Glasse [née Allgood], Hannah (bap. 1708, d. 1770)".

⁵² Robb-Smith.

⁵³ Stead, "Quizzing Glasse, or Hannah Scrutinized," 350.

Glasse later published two additional cookery books, neither of which saw the same success as her first book.⁵⁴

While later editions of Glasse's *The Art of Cookery Made Plain and Easy* are available on Google Books and are OCR optimized, the original 1747 edition is harder to find.⁵⁵ At the beginning of my dissertation research, I used a PDF version of the 1747 edition that is available on the Library of Congress website and highly search engine optimized. This original PDF, however, was not OCR optimized and therefore a PDF search operation would not yield any results.⁵⁶ I initially converted this version to text using Google Drive's free PDF to Google Doc converter, however, this method – while free- was very labor intensive because it removes all the original text formatting. While page numbers were transcribed, I often need to compare the text file with the PDF. In the later stages of my research when it was apparent that I would need to conduct further analysis, I searched *Internet Archive* for a 1747 edition of the text. *Internet Archive* is a self-proclaimed “non-profit library” where both avocational historians and academic institutions, such as the Wellcome Library, can upload their versions of digitized texts.⁵⁷ While items indexed on this website are admittedly not as search engine optimized as Google Books, this repository offers significantly improved metadata including provenance, OCR method, camera type and notes about any missing pages or information. The version used for data mining within this dissertation was digitized by the Getty Research Institute, using a Sony Alpha - A6300 camera, processed using ABBYY FineReader 11.0, and uploaded on August 1, 2019. Its

With her rights waived, the fact that *The Art of Cookery* was re-printed in so many editions cannot be attributed to Glasse's sole acumen.

⁵⁴ Robb-Smith, "Glasse [née Allgood], Hannah (bap. 1708, d. 1770)".

⁵⁵ Thanks to the popularity of this cookbook in the American colonies, many of the digitized versions are of the American edition.

⁵⁶ The Library of Congress edition can be found here: <https://www.loc.gov/item/05005034/>.

⁵⁷ Internet Archive, “About the Internet Archive,” <https://archive.org/about/>.

permalink can be found here: <https://archive.org/details/artofcookerymade00glas/>. The PDF export offers excellent OCR search functionality; however, results are slower to process than Google Books.⁵⁸

Glasse's book is neatly organized into thematic chapters and offers a table of contents at the beginning of the book, even before the reader encounters her introduction. There has been popular misconception that Glasse's cookbook was the only one that catered to a more general female and middling-ranked audience, partly due to her unprecedented success -- *The Art of Cookery Made Plain and Easy* remained in print for almost a century, with over twenty published editions.⁵⁹ Cleland, Moxon, Smith and Fisher not only plagiarized and borrowed recipes from one another, but they also presented a similar style and format of cookery book. Indeed, while I have opted to use Glasse's text because of its audience-defining introduction, this dissertation could just as easily have used any of the female-authored books catering to middling-to-upper ranked households published during this period. Glasse's chapters are as follows: techniques that include roasting, boiling and dressing; made-dishes- this is the largest chapter; a short chapter on French sauces under the guise that it will show "how expensive a French Cook's sauce is"; side dishes or smaller dishes; sauces for fish; soups and broths; puddings; pies; fast-cooking dishes; general home remedies; for captains of ships; sausages; preserving meat; pickling; cakes; cheesecakes and jellies; an interesting chapter in which wine and bread are combined; making preserves and syrups; an assorted chapter on preservation of specific ingredients; distilling; seasonal market recommendations; and, of course, "a certain cure

⁵⁸ Once more I used the search term "Butter" to run an initial analysis, along with the term "Captain," which is only used three times in Glasse's cookbook.

⁵⁹ See a discussion in *Food52* that compares Hannah Glasse to an historical Julia Child and suggests that Glasse was "the first that spoke to those cooking at home" (Farris, "The First Famous Home Cook Turns 310 Today," <https://food52.com/blog/21992-hannah-glasse-is-today-google-doodle>).

for the bite of a mad dog.”⁶⁰ Like Ellis, Glasse’s recipes extend beyond the ‘made dishes’ to include cooking and preservation techniques as well as information relative to a woman’s management of the household such as market information or home remedies. The 1747 edition of this book does not contain a frontispiece.

There are drawbacks, of course, to having a smaller rather than larger number of primary sources. While literary studies may be able to compare the prose of two distinct texts, as historians we tend to look for an abundance of evidence.⁶¹ Cooking, as a field in which the evidence is quite literally ingested and destroyed, is already a more difficult historical scientific subject to study than astronomy or alchemy, where the technologies, notes and observations have been meticulously recorded and preserved. As a proof of concept, focusing upon these two texts works well enough to highlight disciplinary opportunities, but further research will be needed to make any substantive claims about the authority of mid-eighteenth-century women in driving, disseminating, and experimenting with the natural world within the domestic space.

The digital emphasis of this dissertation was initially an outgrowth of my master’s work in Library and Information Studies. The existence of digital collections, archives, and repositories; of digitized records and cataloging; the use of digital exhibits to share information to broader audiences; and the epistemological, ethical, political, and intellectual issues that arise have long been accepted as essential by librarians and archivists and is now part of their core

⁶⁰ Glasse, *The Art of Cookery made Plain and Easy*, 1-2.

⁶¹ I think it important to note that, while certain periods of history and certain narratives are certainly privileged with a wealth of documentation, now more than ever there is a moral and professional imperative upon historians to record marginalized and under-represented narratives. And it is often in such cases that the historian is presented with a limited set of data- a handful of primary sources or generalized descriptions of practices that are not specific enough to either re-create or be representative. It is my hope that a mixed disciplinary approach that combines amateur knowledge, digitized materials, and traditional historical inquiry might create more opportunities to tell these neglected narratives.

curriculum.⁶² This emphasis upon the digital is not the purview solely of Library and Information Studies. By 2019, 36 percent of undergraduate students had at least one distance education course, which would require the use of online educational content.⁶³ Even earlier in 2016, a survey of University of Central Florida students demonstrated that 40% of required textbooks were also offered in a digital format.⁶⁴ With the next generation of digital natives already entering higher education and with an increase in the number of online course and textbook offerings, the reality is that digital scholarship and digital research are methodologies that the next generation of researchers and historians will already have in their arsenal. Whether they are used in manners deemed appropriate by the higher echelons of academia will depend entirely on the training and guidance we offer now.

With the emergence of the COVID-19 virus and the subsequent lockdowns and quarantines that shut down or heavily restricted archival access, the methodological emphasis of this dissertation has taken on new significance. The very real possibility that access to physical primary sources might be further regulated and restricted in the near future makes investigating the advantages and disadvantages of working primarily or solely with digitized primary sources far more relevant to historiographical inquiry than even it had been previously.

A second dimension of working with this particular set of digital open access primary sources is that this dissertation will also draw heavily upon avocational historians'

⁶² Required textbooks for my program of studies back in 2010, for example, included *American Archival Studies: Readings in Theory and Practice* which contained an entire section on electronic records, *Fundamentals of Information Studies: Understanding Information and Its Environment* which extensively covered the impact of modern information technologies and its impact on information culture, economics and regulation, and *Organizing Knowledge: An Introduction to Managing Access to Information* even in 2000 offered an entire section on the teaching and research in the digital environment (*American Archival Studies*, 549-606; *Fundamentals of Information Studies* 202-211; *Organizing Knowledge*, 305-334).

⁶³ National Center for Education Statistics, "Fast Facts: Distance Learning," <https://nces.ed.gov/fastfacts/display.asp?id=80>.

⁶⁴ DeNoyelles and Raible, "Exploring the Use of E-Textbooks in Higher Education: A Multiyear Study," <https://er.educause.edu/articles/2017/10/exploring-the-use-of-e-textbooks-in-higher-education-a-multiyear-study>.

interpretations of these open access cookbooks, thus incorporating information from a participatory public who not only contribute to these digitization efforts, but who also consume and interact with them, often to a very sophisticated degree. These complementary materials will also come into play in efforts to check, verify, and work around the disadvantages that stem from working purely with digitized primary sources. While some historiographically problematic approaches are certainly present within this avocational community, I will examine how their insights are not only helpful but must be considered given that our shared broader audiences are also consuming this body of public information which historians of science are unable to regulate. Separate, yet included within this category, is also work found within the field of food studies -- an established field that offers its own community and methodology. Work for more popular audiences within food studies has been included within this category because, while scholars within this field have worked tirelessly to legitimize this profession, its status has yet to be truly recognized by historians of science.⁶⁵ These digital public history ventures often offer useful ways to gain insight into the everyday world of lived experience and experiential knowledge production. Amateur, avocational, and external (to the history of science) professional knowledge can open up avenues of inquiry -- even if it is not perhaps equipped with the rigor to actually provide answers -- and privileges “multimodal processes.”⁶⁶ For example, the YouTube certified channel “Townsend” recreates eighteenth-century recipes in what is estimated to be historically accurate settings.⁶⁷ Their videos offer compelling details, not only in terms of historical information and cooking processes, but they offer visual

⁶⁵ Evidence of this can be seen even within the *Osiris* special edition “Food Matters” where the editors explain that historians of science “are well positioned to question the epistemological foundations of [food science] approaches” implicitly suggesting that while there is “common ground” between the history of food and the history of science, historians of food are not well positioned to answer these questions.

⁶⁶ Cebalo, “Amateur Historians in the Age of Internet: A Look at YouTube”, 2.

⁶⁷ “Plum Pudding 18th Century Cooking with Jas Townsend and Son S4E6.”

representations that far surpass actually historical frontispieces and paintings. In sum, these videos feel real and make it difficult for a general audience to determine what is historically accurate, what is a modern substitution for an historical counterpart, and what is an entirely modern fiction made to fill the gaps of historical knowledge. With 1.72 million subscribers and a website where they sell their ‘historical’ clothing and bottles, the Townsends channel has a vested interest in maintaining and growing its audience, producing weekly content, and selling its products. So, while the “Townsends” may have gained legitimate expertise in the twelve years that they have been making YouTube cooking videos and can likely point to the areas in the cookbooks where they had to experiment or invent techniques to fill in the gaps, they will also not be the most transparent of collaborators.

This is not to say that the study of history should become one giant *Wikipedia* entry, but rather the point is that popularized initiatives beyond the history of science can bridge gaps between primary sources and lived experience in creative ways. In turn, academic historians can complement these efforts with academic expertise that can, in turn, provide critical contextual knowledge and introduce analytical pathways that can elucidate important dimensions of the past that are difficult to see otherwise. Furthermore, with the popularity of cooking blogs and videos, accounts from avocational historians often represent how the public consumes history.⁶⁸ Rather than approaching avocational historians as the historical equivalents of hostile witnesses to be exposed to professional cross-examination, we may find instead that thinking of them and ourselves as members of an expansive community of historical researchers can redefine what it means to do history in the twenty-first century.

⁶⁸Cebalo, “Amateur Historians in the Age of Internet: A Look at YouTube”, 2.

The mid-eighteenth-century British kitchen opens many questions. What can we, as historians, truly say about the lived, daily experience of middling-ranked British women, what they ate and how it was made? In some ways, the answer is very little. We cannot go back in time to document their every meal. We cannot peek into the kitchen to see who was at work there, nor can we get a sense of the food consumed and the bodies consuming it, for both have evolved and been socially constructed through the centuries.

In thinking about traditional ways of doing history, the most important piece is often the physical primary source. Yet for daily practices and daily fare, diary entries mentioning food and a series of published cookbooks do not create an entire picture. The ultimate physical primary source, the food itself, was quite literally destroyed as it was eaten. Yet food was not simply a combination of ingredients. Food served as “a medium of relations *between* individuals.” Food holds symbolic and cultural meaning, and food management created networks and tied the process of preparation, provisioning, and production to daily tasks. Food was the connection to the larger world, to markets and trade networks, just as much as it offered potential cultural currency when served at formal dinners. With these hidden depths, the study of food necessitates that the historian be open to more multidisciplinary approaches, not only to ascertain what was eaten, but also how it was made and the significance of making one food over another, of who ate the food and why.

Historical investigation into daily life and processes is so interesting in part because it is so difficult to document by traditional standards. With no TikTok or Instagram daily posts, daily life is an elusive entity, one that needs to be informed and built by looking at many different sources. What makes food such an interesting focal point is the fact that it engages with boundaries and connections, with how “‘nature’, ‘culture’, ‘knowledge’ and ‘power’ have been

generated through the manipulation of the material world, epistemic communities and bodily practices.”⁶⁹ In this vast web of connections and actors, the historian can draw upon a mix of sources to provide hints to what was made in the kitchen and why women’s presence there, day in and day out, held such potential power. Indeed, the daily upkeep of the kitchen was not just for cooking. It was never about a one-off meal. The management of the kitchen included “ingredient selection, food processing, preservation and storage and cookery and baking skill.”⁷⁰ In looking at the science of cooking, therefore, the historian must delve deeper into all of these areas.

There is a danger, that is especially evident in avocational historians’ recreations of eighteenth-century cooking, whereby we are tempted to think that modern categories of meaning or of taste should apply to the past. Even if historians could come across a century-old pie preserved perfectly and somehow unspoiled, the very subjective nature of taste would make it difficult for us to ascertain how it would have tasted to an eighteenth-century person. Beyond the fact that eating something that old would probably make the historian incredibly sick, even a scientific analysis of the ingredients would come up short in its ability to capture the taste, meaning, and cooking-method of that pie. As Spary and Zilberstein point out too “forms of old and new knowledge coexist rather than being mutually exclusive, so much is lost in pitting alleged vernacular against expert food knowledge in domains as varied as dietetics, gastronomy, agronomy, biotechnology, chemistry, economics, genetics, physiology, population theory, nutrition, psychology, or thermodynamics.”⁷¹ And while theories of, for example, modern nutrition may be helpful in understanding the potential dehydration of a seventeenth-century

⁶⁹ Spary and Zilberstein, “On the Virtues of Historical Entomophagy,” 20.

⁷⁰ Spary and Zilberstein, 20.

⁷¹ Spary and Zilberstein, 17.

populace that consumed beer and coffee as their primary beverages, it remains problematic because without a control group one cannot make any substantiated claims about the impact of seventeenth-century British beverage choices.

Foods with ties to modern antecedents “breach boundaries” in a way that with careful analysis could prove insightful or could become disastrously problematic.⁷² In looking at the pancake, for example, how do we divulge ourselves of modern assumptions about pancakes, pancake preparation, and pancake cooking techniques? And to what degree should we pull upon our knowledge of pancakes to serve as a technological or cultural contrast to the past? Is the clever flip and shake that Hannah Glasse describes in *The Art of Cookery* (1750) the same as flipping a pancake up in the air and catching it in a pan, which Hollywood tells us is the standard way to flip pancakes despite the sale of many types of spatulas?

This dissertation seeks to navigate an alternative approach. One that recognizes anachronistic or modern biases when it comes to food similarities, but that still uses avocational or popular histories to help place cooking within its scientific and cultural contexts. Arguably a seventeenth-century pancake is different from an eighteenth-century one, even when the recipe appears to be the same. It is the social and cultural context, the technological and scientific, the very reasons why pancakes are being cooked and what they symbolize that differentiates them.

The history of mid-eighteenth century cooking not only illuminates the gaps that lived experience open in historical records, it incorporates three more difficult to source areas of inquiry: black boxed, oral, and experiential forms of knowledge. “Blackboxing” draws heavily upon the philosophy of Bruno Latour to describe the process by which knowledge (especially scientific or technical) is “made invisibly by its own success;” it is the process by which we stop

⁷² Spary and Zilberstein, 12.

to ask why something works and simply accept it.⁷³ Within an eighteenth-century kitchen, working with heat had not been entirely black boxed. The working of an oven, the understanding of heat, was still a topic of scientific inquiry. However, there were other related kitchen practices that had already been assimilated. The art of whisking or of flipping a pancake came with no explanation; they were considered daily practices beyond written explanation. Part of the very problematic aspect of looking at daily life is the degree to which so much does not necessitate formal written commentary. The housewife, for example, might have told her kitchen staff how to flip a pancake, or they may have gained this knowledge through observation and experience. To truly understand the lived experience, the historian must seek to find ways to capture the unwritten knowledge passed along with recipes, the knowledge gained from working within a kitchen, the general construction of theories of how the world works gleaned from experience, popular culture, and other sources available to the eighteenth-century housewife.

A final and significant point. The history of science, medicine, and technology has worked tirelessly, if perhaps to little avail, to counter the narrative of a progressive, forward moving trajectory of progress and improvement in its fields of inquiry and cooking is no exception. There is no singular or comprehensive shift to be found within the eighteenth century from a lesser form of cooking to a more 'scientific' practice. Of course, if we accept both forms of cooking as equally scientific this becomes less problematic. To be clear, there is no linear trajectory from salt preservation to the future of refrigeration. The development of new technologies and sciences are seldom in direct response to some unrecognized need in the field they improve or replace. As new knowledge was produced or technologies were invented, they were not immediately adopted, nor were they necessarily for the better. The lived experience

⁷³ Latour, Pandora's Hope: Essays on the Reality of Science Studies, 304.

helps to contextualize the actual shifts and fluctuations in this process of historical change, but to benefit from it, we must divest ourselves of the much grander narrative of progress. I can tell you that if my oven broke today and I needed to cook food on a fire, there is an excellent chance that the end product would be unevenly charred and entirely inedible. This is not because I claim to be an excellent modern cook, but simply the fact that I, as a product of my times, am so used to relying on preheating ovens and regulated temperatures, that I would not know the first place to start. My state-of-the-art cookware would likely not hold up to an open flame, and although I have read many hundreds of recipes with instructions for visual ways of measuring heat, I am unpracticed and inexperienced when it comes to measuring temperature based on observation alone. This is all to say that modern cooking is not necessarily better than its former counterparts, only that the context in which I am cooking has over time been honed and shaped to cater to the type of cooking I am engaging in.

Brief Chapter Overview

Chapter 1: Historiography

Chapter 1 places this dissertation within its larger historiographical context. Although this dissertation caters primarily to historians of science, the methodology is also very much indebted to work done in the history of technology, food history and gender history. While eighteenth-century food history and eighteenth-century food studies have become accepted academic disciplines, the formal intersection of the history of eighteenth-century science, medicine and technology with these newer fields is less established. This means that there are fewer secondary texts to draw upon that point to sources approved for an historical inquiry into the everyday practices of eighteenth-century kitchens, and little guidance on incorporating newer

methodologies in the history of science and technology into a better-established food history narrative.

The idea of treating cooking as a science worthy of historical inquiry has gained significant ground in recent years. The 2020 special edition of *Osiris*, titled “Food Matters” and edited by E.C. Spary and Anya Zilberstein, sets the stage for productive conversations on the role of historical cooking and food within the history of science as a discipline.⁷⁴ This dissertation also draws heavily upon the work of historians of science Elaine Leong and E.C. Spary, whose work most closely intersects with the history of food and science within mid-eighteenth-century British kitchens.⁷⁵ While there is still much ground to cover, historians of science could benefit greatly from further expanding their conceptions of a scientific community to encompass cooking and the everyday, experiential, technological, and context-specific knowledge making it entails.

Chapter 2: Digitization, Popularization and Historical Inquiry

Chapter 2 ventures into some of the alternative sources that historians can use to analyze gaps in traditional sources. This chapter introduces digital resources, notes the advantages and disadvantages of working with digitized primary sources, and offers an alternative method of scholarship to supplement traditional archival study. While we often think of digitization as a single, unchanging process, there are in fact varying degrees of quality when it comes to digital records, many of which are not easily defined. The truth is, there are already avocational and

⁷⁴ Spary and Zilberstein, “On the Virtues of Historical Entomophagy,” 1.

⁷⁵ Spary, *Eating the Enlightenment: Food and the Sciences in Paris*; Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*; Leong, “Collecting Knowledge for the Family: Recipes, Gender and Practical Knowledge in the Early Modern English Household,” 81-103.

para-professional historians publishing and working with digitized primary sources at an increasingly visible rate. The question remains whether historians of science will embrace and improve this process or whether they will continue in the tried and tested tradition.

The digitized and online popular culture sphere is, of course, already populated by a vibrant multi-media culture. As historians of science seek to enter this arena, they will need to not only consider the implications of working with or delivering digital content, but also the ways in which they can partner with existing avocational authorities. This chapter organizes popularized external contributions to the study of eighteenth-century food history into four categories: Austenites, spectacle foodies, food reenactors and paraprofessionals. These four categories help to classify some of the existing spaces for popular interest in this subject, while highlighting opportunities and potential pitfalls.

Chapter 3: The Digital Cookbook as an Historical Source

Chapter 3 explores the digitized cookbooks and their value as historical primary sources for the history of science. Unlike English literature or formal philosophical or scientific treatises, cookbooks do not often receive the same kind of historical inquiry and analysis as other contemporary texts. This chapter sets the stage for why digitized cookbooks can offer valuable insight into eighteenth-century daily life, female authorship, and the transmission of scientific ideas. This broad chapter also warns of the dangers of working with cookbooks in general: from plagiarism to the divide between what was actually cooked and what a recipe calls for.

Mid-eighteenth-century cookbooks offer insight into the daily lives and experiential knowledge making of their readers in ways that their seventeenth-century predecessors could

not. While historians cannot speak to how, exactly, these cookbooks were used, their more generalized audience and treatment of daily fare opens up the kitchen space to historical inquiry. This chapter explores the challenges presented by working with this genre and offers some suggestions in the realm of data mining that can help with their analysis. While data mining is a distinct advantage of working with digitized, open access texts, it also means that historians must face many of the drawbacks of digital access outlined in Chapter 2.

Chapter 4: Interpreting Taste: The Everyday Science of Flavor

Chapter 4 offers potential ways for historians to combine references to fill some of the gaps left by primary resources when attempting to understand concepts like daily life, daily technology use, and the spread of information. This chapter closely examines the concept of taste as it pertains not only to the science of cooking, but to understanding history, cuisine, and biological or culturally constructed senses. This chapter seeks to open opportunities to investigate taste both in its philosophical and scientific sense, as well as the ways it was impacted by the presence of competing kitchen technologies.

While the British sense of taste was impacted by the political economy of the domestication of foreign trade and the appropriation of other regions' cuisines, it was also culturally and biologically constructed.⁷⁶ As the British adapted their plagiarized or colonized recipes to the Isle's climate, they would have quickly noticed differences in cook times and

⁷⁶ Mennell argues that food preference is culturally constructed, shaped at least to a degree by the social contexts in which one lives (Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to Present*, 6).

flavor. This chapter explores the anthropology of diet that housewives used to evaluate the place of new tastes and flavors within their kitchen system. Housewives developed kitchen literacies through their experiential daily activities, adapting recipes to the seasons, market availability, social norms, and dietary preferences. In this chapter, as in others of this dissertation, my objective is to evaluate where cookery texts can provide access to points of intersection, demonstrating areas worthy of future investigation.

Chapter 5: The Kitchen Infrastructure: Hearths, Heat, Housewives

Chapter 5 establishes the kitchen as a physical historical space and works within historiographies of cultural histories and instrumentation to propose areas of future inquiry. The first part of this chapter examines at the ways in which knowledge and external actors entered the kitchen space, and questions to what degree it was truly domestic. The second part of the chapter works more with the history of technology to analyze how architecture and the constraints of kitchen instruments may have impacted daily routines and kitchen practices.

Managing the kitchen efficiently offered an arena of potential influence for an ambitious housewife but could just as easily trip up another. A woman's ability to use ingredients efficiently, substitute cheaper ingredients as needed, and re-use ingredients by transforming them into a completely different dish allowed her to spend money elsewhere. Not only did it provide her financial capital and purchasing power, but it also expanded her arena of influence beyond the kitchen spaces to the world of trade, traders, politics, and agriculture. Women managing mid-eighteenth-century kitchens needed to develop a context specific knowledge of the newly domesticated kitchen technologies and draw upon scientific theories of heat, transformation, and preservation. This chapter investigates what the underlying expectations the authors of these

cookbooks held about their audiences and the spaces in which they would be cooking. These assumptions provide historians of science with evidence of the dynamics of everyday knowledge and the contexts of its use, bringing into view the permeable boundaries of the mid-eighteenth-century kitchen as grounds for further investigation into kitchen empiricism and the circulation of more elite knowledge.

Chapter 6: Everyday Science and Technology: Experiential Knowledge-making in the Kitchen

Chapter 6 finishes by examining how an analysis of domestic practices may shed some light on the transmission of scientific ideas into popular, even domestic culture. Though I do not claim to be able to trace the transmission of ideas, this chapter explores the presence of black boxed knowledge and domestic literacy of heat and of air that is required to make sense of certain kitchen practices. This chapter delves into the difficulty in determining what an eighteenth-century kitchen practice truly was, and to what degree domestic literacies encompassed contemporary formalized scientific knowledge and theories.

The fluidity of the kitchen domain during the eighteenth century allowed kitchen expertise to pass into public domains, and for scientific, medical, and technological theories to likewise permeate kitchen practices. As ideas and ingredients entered the kitchen space, the housewife was responsible for processing the information that came with them and regulating their integration into kitchen practices. The kitchen system of the 1750s was dependent upon and distinguished by a number of factors: the competing presence of old and new technologies; the mix of experience and natural philosophical theory that dictated how and when certain ingredients were cooked; the evolving ties of the kitchen space to the public spheres and its

partial entry into a market economy; and, in England, the entry of women into this quasi-scientific, technical space that could grant authority and shape family fortunes.

While in truth kitchens differed as much as the wide and varied British rank system during this period, a new method of cookery was still espoused, adopted (to varying degrees) and disseminated. It is therefore important to make a distinction between the overall kitchen operating theories and the theories acknowledged by any given housewife or put into practice on any given day. Although the housewife herself may be ignorant of the reason why she did certain things, the theory behind the new methodologies presented in the cookbooks would still have impacted her way of approaching the kitchen's operations. Occasional accounts may or may not be representative and should be evaluated upon the degree to which they can inform historians of the larger context of lived experience. What is under analysis are two areas: instructions as given, and the absence of instructions for some practices found in eighteenth-century cookbooks.

Conclusion

I conclude by briefly examining the significance of looking at the everyday experience of a group of people, rather than the extraordinary lives of the singular elite. While generalizations about group experience will never encompass each individual instance, looking at opportunities to practice science available to British middling-ranked women holds far greater power to counter the narrative of history of science as the ideas and actions of great men than does the history of one remarkable scientifically minded woman. As historians of science, we must be mindful not only of the narrative we set but also how well we are answering the increasing interest in popular history and historical fiction. These popularized

narratives do not hold the same compunctions about primary sources as classically trained historians do as they fill the gaps between lived experience and formal sources of historical documentation. We live in a time where people put on historically accurate suits of armor and fight in an MMA ring, and yet we as historians are loath to filter the viable historical insights from these modern-day avocational activities from the admittedly a-historical context. The proof of concept that this dissertation offers does not require such an interesting, but seemingly quiet span of history to work, but the very fact that it can unearth so many questions about what we take for granted in a period that is relatively un-noteworthy perhaps demonstrates its value.

Victorian Cooking: Measurement, Markets, and Morals

Although not within this dissertation's purview, it is helpful to briefly contextualize this dissertation by exploring the legacy of the experiential knowledge that women gained in the mid-eighteenth century. Although nineteenth-century recipes do not differ markedly from eighteenth-century ones, nor does the *batterie-de-cuisine* change much from 1760-1850, there were a number of shifts during the last half of the eighteenth century that changed the nature of cooking and women's roles in the kitchen. Indeed, due to a number of changes -- including improved instrumentation, the Industrial Revolution, and cultural and political changes --- this culinary avenue for authority and experience was transformed into a means to circumscribe women's activities.

The most prominent change was the solidification of the more permeable boundaries between public and private life. As the private sphere came to be understood as encompassing all areas of domestic life, from sleeping quarters to the kitchen, it also took on more rigid prescribed

associations with gender and class.⁷⁷ While the demarcation of separate spheres in the nineteenth century was never as solidified as the rhetoric to that effect that circulated, it was still far more robust than the more vaguely referenced concepts of public and private in relation to the domestic domain during the eighteenth century. As Bryden observes, “nineteenth-century domestic discourse prescribed what should happen in the home and, in particular, what the housewife and mother should do within it.”⁷⁸ With greater public regulation and judgment over her activities --and with new expectations that a woman’s place was within the kitchen --cooking no longer offered housewives the more public kind of authority that the eighteenth-century kitchen literacies fostered.

If it were simply a matter of solidifying boundaries between the private and public, however, I do not believe there would have been such a distinct change in women’s work within the kitchen; indeed, women have throughout history been able to bend and break social boundaries imposed upon them by the rhetoric of public discourse. The very nature of cooking, however, shifted during the early-nineteenth century, from an interactive, scientific activity to one that anyone could follow. Three significant changes occurred during the nineteenth century: there was an increased focus within the sciences and aligned fields upon measurement and precision, the industrial revolution brought new factory jobs and a capitalist economy, and a new moral imperative emerged that placed women squarely within the confines of the home.

The increased emphasis on measurement and precision changed the nature of scientific inquiry from an experiential endeavor to a formal system of processes designed to meet

⁷⁷ Bryden, *Domestic Space: Reading the Nineteenth-century Interior*, 3. Although the complex and nuanced system of rank had survived through the eighteenth century, by the nineteenth century the concept of a middle class has been widely accepted by historians (Earle, *The Making of the English Middle Class: Business, Society, and Family Life in London, 1660-1730*, 3).

⁷⁸ Bryden, *Domestic Space: Reading the Nineteenth-century Interior*, 3.

standards of objectivity and reproducibility.⁷⁹ During the nineteenth century, a primary imperative across the scientific disciplines on precision and quantification was inescapable – where much of natural philosophy in the eighteenth century was qualitative and descriptive, this was decreasingly the case in the nineteenth century. In the life sciences, German scientist Hermann Von Helmholtz is known for his advances in experimentation and quantification, particularly thermometric calibration to improve data, while chemists in England attempted to quantify the products of combustion to the “last decimal place.”⁸⁰ Particularly relevant for cooking, by the end of the eighteenth century, Antonie Lavoisier and Pierre-Simon Laplace had organized the fragmented studies of heat into a framework that would develop into the field of thermodynamics.⁸¹ With the study of heat professionalized and better-regulated, women’s knowledge making was less similar to the investigations of academics than it had been in the previous century.

Not only did precision measurement impact the sciences, it also changed the way cooking was conducted. The concept of standardized measurement, when applied to cooking, meant that housewives were no longer expected to make a subjective cognitive judgment about whether, for example, they had added enough liquid to the pancake batter. Due to the invention and sale of measuring cups and spoons in the late-nineteenth century, cooking became an objective, standardized process for which no experience was needed, and no substitutions were expected.⁸² While housewives were still expected to master kitchen technologies, including the use of new

⁷⁹ The very term “objectivity” was given its current meaning during the nineteenth century (Hessenbruch, *Reader’s Guide to the History of Science*, 526.) See also Cahan, *Hermann Von Helmholtz and the Foundations of Nineteenth-Century Science*, 95.

⁸⁰ Cahan, *Hermann Von Helmholtz and the Foundations of Nineteenth-Century Science*, 61, 97; Nye, *From Chemical Philosophy to Theoretical Chemistry: Dynamics of Matter and Dynamics of Disciplines, 1800-1950*, 53.

⁸¹ Nye, *From Chemical Philosophy to Theoretical Chemistry: Dynamics of Matter and Dynamics of Disciplines, 1800-1950*, 78.

⁸² Quinzio, *Dessert: A Tale of Happy Endings*, 136; Smith, *Eating History: Thirty Turning Points in the Making of American Cuisine*, 137.

nineteenth-century inventions such as wire whisks and rubber spatulas, her role as a user was more clearly defined and scripted.⁸³

The advancing stages of industrial capital and of a political economy based on free trade ideology in England also impacted the status and significance of kitchen work. Although the Industrial Revolution offered many middle-class British women the opportunity to take up trades and professions, these same freedoms further contributed to the lowered status of cooking.⁸⁴ Many of the activities related to family economy that the eighteenth-century housewife had practiced directly were outsourced. Cold storage, the invention of a commercial canning process, and the industrialization of milling to produce ready-to-sell flour -- all these tasks were removed from the private, domestic domain and tasked to a lower-class workforce.⁸⁵ The housewife's network grew smaller as the domestic literacies she had developed working within the more mix of subsistence farming and market economy of the eighteenth century were no longer needed and any external connections she had made were of diminished importance. The housewife's relationships with tradesmen and grocers, for example, lost their value once the complex system of capital and credit by which the housewife had previously purchased goods was replaced by hard currency. The kitchen domain was shrinking, and with it the opportunities for women to assert authority within this space.⁸⁶

⁸³ Smith, *The Oxford Companion to American Food and Drink*.

⁸⁴ Young, *From Spinster to Career Woman: Middle-Class Women and Work in Victorian England*, 3-4.

⁸⁵ Peas were among the first ingredients canned. For a concise history of the canning of peas, see Bitting, *The Canning of Peas: Based on Factory Inspection and Experimental Data*, 5. Interestingly, canning was initially still expensive, however as the costs of production were reduced and cold storage allowed for perishable supplies to last longer, it slowly gained in popular use (Corbett, *Canned Foods: Fruits and Vegetables*, 3.) On the industrialization of flour see Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*, 47.

⁸⁶ Although reproducibility ostensibly shrank the kitchen domain, it is important to also consider that greater pressure was exerted upon women in the nineteenth century to follow the recipe correctly or even to make more complicated dishes such as decorative jellies. I wish to emphasize that while opportunities for authority shrank, expectations and workload did not. In fact, as Cowan argues, the time-saving technologies such as measuring cups or store-bought ingredients led to more and not less work for women (Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*, 43).

Could nineteenth-century women could have simply left the kitchen and allowed it to become a male space once again? The idealized gendered expectations of women's roles of nineteenth-century England made it difficult to conceive of the private kitchen as a masculine environment – it was suitable for the display and enactment of prescriptive feminine work “the regulation of the household, both morally and economically.”⁸⁷ Women were placed squarely in charge of the moral growth and education of their children, a set of activities that required their constant presence at home.⁸⁸ At the same time women's minds were seen as less capable than those of men's, and confidence in their ability to generate mastery of activities requiring intellectual application receded.⁸⁹ Nineteenth-century concepts for a women's duties allowed her only a “moral and spiritual” influence that she could wield within the domestic sphere.⁹⁰ While her husband could venture into the “brutally competitive world of commerce,” she was expected to remain apart from these demands.⁹¹ Nineteenth-century domestic ideology did not promote the idea that women were equal partners in terms of decision making authority, and they were certainly not expected to shoulder the responsibilities of managing expenses and making decisions under their own leeway that might impact the household's standing in major ways. Although the concept of separate spheres offers rhetorical and not physical boundaries, the coupling of increasingly clear rhetorical boundaries between the public and private, and the new morality that advocated that women's daily lives should be focused on a constricted domestic sphere transformed cooking from an activity that women had chosen to shoulder to one that they were expected to complete. Nineteenth-century cookbooks and manuals for housewives reflected

⁸⁷ Boardman, “The Ideology of Domesticity: The Regulation of the Household Economy in Victorian Women's Magazines,” 150.

⁸⁸ Michell, *Victorian Britain: An Encyclopedia*, 864.

⁸⁹ King, *The Victorian Woman Question in Contemporary Feminist Fiction*, 14.

⁹⁰ Michell, *Victorian Britain: An Encyclopedia*, 864.

⁹¹ Michell, 864.

many of these cultural and economic developments – the science and art of cookery had been replaced by kitchen tasks of lesser urgency, weight, and cognitive import.⁹²

⁹² An excellent example comes from Isabella Beeton's Mrs, *Beeton's Book of Household Management* (1861) which also includes a chapter on the management of children – a task more appropriate for Victorian women's energies (Beeton, Mrs. *Beeton's Book of Household Management*).

Chapter 1: Historiography

There are five scholarly literatures that are particularly relevant to this dissertation. The most-encompassing relates to the setting, which is eighteenth-century British history; this literature is threaded throughout the chapters. In this chapter I highlight the four remaining thematic areas that are the most relevant contexts for this dissertation: history of science; history of technology; food history; and feminist and gender studies. While the historiographic assets of these four areas provide a firm footing for this research project, it is the case that, for the British context, the history of science is less-well-developed for the eighteenth century than it is for the early modern period or the nineteenth and twentieth centuries. As a consequence, in this overview chapter (as in the content chapters), I generally highlight indications of where these four separate thematic literatures intersect and overlap, as it is these instances that help to identify where analysis might be most fruitfully directed. This is a somewhat different literature review process than one that is instead organized around one clearly dominant historiographic field and one or more that play supporting roles.

History of Science

From within the history of science discipline there is a somewhat limited terrain to scan in relation to food historiography. What particularly shines are treatments of established categories such as nutritional science, industrial chemistry, and dietetics -- topics that are, however, primarily situated in the nineteenth and twentieth centuries. For earlier eras, the literature is more scattered, lacking a critical mass of studies that build on each other. There is no definitional reason that food as a topic should be seen as falling outside of the field's parameters as there are numerous scientific aspects to the production, preparation, and consumption of food.

For example, food preparation -- the dimension most relevant to my dissertation research -- includes preservation, cooking itself involves physico-chemical transformations, and nutrition involves medical and philosophical concepts, as do bodily processes such as digestion. All of the above aspects are also inherently related to animal husbandry, botany, and early efforts to manipulate livestock attributes and the characteristics of various plant crops.

The steady growth of interest in food topics in other historical fields highlights the relative scarcity of work by historians of science, a circumstance that E.C. Spary and Anya Zilberstein pointedly query in *Food Matters: Critical Histories of Food and the Sciences* (volume 35 of the History of Science Society's annual thematic volume, *Osiris*): "Why *not* study food? Why hasn't food, or the knowledge and practices that surround its production, preparation, distribution, and ingestion, mattered much to historians of science, medicine, and technology?"⁹³ This despite food having "long been an object of serious study across the humanities and social sciences, especially in anthropology and sociology," and that within the field of history more generally, food history has risen from "a position of disciplinary marginalization [and] has lately begun to mature into a robust subfield."⁹⁴ In contrast, they report that "leading journals in [history of science] have together published a mere handful of articles concerning the food sciences, and these have mostly been on dietetics, physiology, and metabolism," and all that is available to is "a 2012 forum in *Studies in History and Philosophy of Science* (co-edited by Spary and Barbara Orland) and a recent special issue devoted to "Food as Medicine, Medicine as Food" in the *Journal of the History of Medicine and Allied Sciences*.⁹⁵

⁹³ Spary and Zilberstein, "On the Virtues of Historical Entomophagy," 1.

⁹⁴ Spary and Zilberstein, 2.

⁹⁵ Spary and Zilberstein, 3.

Spary and Zilberstein find the fact of history of science's distance from these developments perplexing given that for some time there have been major efforts to move beyond the standard narrative and to take seriously other forms of scientific knowledge and how they are produced, circulate, and are acted upon. This is the body of work I discussed in the Introduction, overviews of which can be found in the texts I reference there from Topham, Lightman, and Pandora. Spary and Zilberstein posit that among the obstacles are a default attitude that "women's work" lacks significance, and that such contingent historical events as the "deliberate move by professional women scientists in Europe and North America at the turn of the twentieth century to establish the new discipline of 'domestic science' (or home economics, as it was later known) as an avowedly feminine domain of expertise served only to reinforce cultural and historiographical prejudice about the relatively peripheral place of food in the history of science."⁹⁶ That the science of food preparation is now becoming a field in its own right speaks to the significance of developing an interdisciplinary approach to examining primary texts that are fragmentary in the sense that what is assumed to be common knowledge is elusive, implicit and left unsaid and the practices that are to be enacted have large components that are comprehended through the enactment of tacit knowledge.

In setting out "to establish the significance of the history of food as a growth area within the history of science, technology, and medicine" the special edition of *Osiris* certainly opens the conversation in promising ways, and I hope that this dissertation can be a contribution to the developments that are emerging.⁹⁷ The reality is that that historians of science face a two-fold challenge, in that attention to how to adapt methodologies that will better allow us to tackle

⁹⁶ Spary and Zilberstein, 15.

⁹⁷ Spary and Zilberstein, 18.

questions of the science found within diet and food preparation are needed, and that there is much ground to make up in learning how also to catch up to the other disciplines and have our voices heard. I turn to a further discussion of these matters in the later section in this chapter.

There are, of course, notable exceptions to this generalization. Elaine Leong and E.C. Spary have both dedicated their research to the history of science as it intersects with food and diet. Yet neither of these historians or science focus on mid-eighteenth-century England: Leong's research focuses on England but in the early modern period, and Spary's research is in the long eighteenth century, although primarily in France, thus leaving mid-eighteenth-century British kitchens relatively under-analyzed by historians of science. Nonetheless, Leong's work is foundational and a much-needed precursor to any study that seeks to look at recipes, knowledge making, and the intersection of gender with established spheres of academic or philosophical authority in England. Spary, on the other hand, contributes more to the discussion of food as a distinct category within the history of science. Her work looks at provisioning, early industrial foods, and diet culture within the eighteenth century. While there are not many dedicated books within the history of science discipline on this subject, the combined efforts of the scholars I discuss in this chapter help to create a working foundation to tackle questions of women, authority, and science within mid-eighteenth-century kitchens and to identify opportunities for future scholarship.

There is much work that can be done to build on already-extant studies from historians of science that focus on various conceptual advances that have connections to the role of food in the making of natural knowledge and kitchen practices, even if those connections currently lie dormant. Here I am thinking particularly of specialist examinations of the history of chemistry and the history of physics. The bulk of this work lies in the nineteenth and twentieth centuries,

but the eighteenth century has received attention as well -- albeit with the impetus coming from an interest in precursors to the development of the laws of thermodynamics, the discovery of electromagnetism, the emergence of atomism and so forth. Investigations concerning heat were of importance both in chemistry and in physics; in fact, when grappling with the nature of matter one cannot separate physics from chemistry in this period. There are a number of general overviews of eighteenth-century, and specifically British, histories of chemistry, physics and heat.⁹⁸ The history of chemistry in particular has seen a rise in a number of more nuanced cultural and social narratives including discussions of embodiment, materiality and identity.⁹⁹

A now classic study of Enlightenment science and public culture is itself also a study of eighteenth-century chemistry -- Jan Golinski's *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*.¹⁰⁰ Golinski sets the stage for the establishment of chemistry as a gentlemanly science, tracking the careers of great men (Joseph Priestly, Antoine Lavoisier, Humphry Davy) and great discoveries such (such as experiments with nitrous oxide) as they intersect with accepted public spheres. Published in 1992, Golinski's work was an early contribution to new ways of thinking about the making of science by paying close attention to its social and political contexts, but his definition of science remains firmly rooted in the academy, and a patriarchal framework of focusing on canonical great ideas and great men. While moving

⁹⁸ General histories of heat see Von Baeyer, *Warmth Disperses and Time Passes: The History of Heat*; Fenby, "Chemical Reactivity and Heat in the Eighteenth Century"; Van Driel and Roberts, "Circulating Salts: Chemical Governance and the Bifurcation of 'Nature' and 'Society'." For England and France specifically see Thébaud-Sorger, "3 Capturing the Invisible: Heat, Steam and Gases in France and Great Britain, 1750-1800"; Simon, "Pharmacy and Chemistry in the Eighteenth Century: What Lessons for the History of Science?"

⁹⁹ Principe, *New Narratives in Eighteenth-Century Chemistry: Contributions from the First Francis Bacon Workshop, 21-23 April 2005, California Institute of Technology, Pasadena, California*. For specific histories related to embodiment or materiality see Roberts, "Exploring Global History through the Lens of History of Chemistry: Materials, Identities and Governance"; Dolan, "Embodied Skills and Travelling Savants."

¹⁰⁰ Golinski, "Paul A. Elliott, Enlightenment, Modernity and Science: Geographies of Scientific Culture and Improvement in Georgian"; Golinski, "Science in the Enlightenment, Revisited"; Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*.

away from histories of great men is a necessity if the discipline makes good on continuing to produce research that challenges how to characterize “science” and who to include within that sphere, such work nonetheless is helpful in tracing out the contours of how natural philosophies of the elite were constituted. In addition to Golinski, I also have drawn upon biographical accounts focusing on individuals and groups such as James Watt and Joseph Black and the Lunar Society, to attain an understanding of the more famous theories of heat, phlogistons, and gas as well as the intersections of formal scientific inquiry, popular culture, and the kitchen.¹⁰¹

Another area of research that has often been prompted by the history of chemistry is that of agriculture, particularly agricultural improvement movements. This is an area that possesses the potential of helping to track the presence of scientific ideas within mid-eighteenth-century kitchens. For example, one of the individuals who figures prominently in this dissertation is William Ellis. Ellis was not only a purveyor of recipes and observations about kitchen practices as a cookbook author -- he was also a noted agriculturist. Histories of plant-based topics, whether in relation to crops, foodstuffs, and agriculture more generally also carries over to a growth of interest in botany as a field of study.¹⁰² A number of authors also look at the relationship between women and gender in botany and agriculture in the eighteenth century.¹⁰³ Women certainly had

¹⁰¹ Miller, *James Watt, Chemist: Understanding the Origins of the Steam Age*; Donovan, “James Hutton, Joseph Black and the Chemical Theory of Heat”; Black, “XIII. The Supposed Effect of Boiling upon Water, in Disposing It to Freeze More Readily, Ascertained by Experiments. By Joseph Black, MD Professor of Chemistry at Edinburgh, in a Letter to Sir John Pringle, Bart. FR S”; Perrin, “A Reluctant Catalyst: Joseph Black and the Edinburgh Reception of Lavoisier’s Chemistry”; Uglow, *The Lunar Men: The Inventors of the Modern World 1730-1810*; Uglow, *The Lunar Men: Five Friends Whose Curiosity Changed the World*.

¹⁰² Jones, “Making Chemistry the ‘science’ of Agriculture, C. 1760--1840”; Holmes, “Melancholy Consequences: Britain’s Long Relationship with Agricultural Chemicals Since the Mid-Eighteenth Century”; Greenough, “Spirited Husbandry: The Literature and Science of Agricultural Improvement in Eighteenth-Century Britain”; Stewart, “Chemical Affinity in Eighteenth-Century Scottish Physiology and Agriculture.” For the intersection of agriculture and beekeeping see Ebert, “Hive Society: The Popularization of Science and Beekeeping in the British Isles, 1609 - 1913”; Ebert, “Nectar for the Taking: The Popularization of Scientific Bee Culture in England, 1609–1809.”

¹⁰³ Shteir, *Cultivating Women, Cultivating Science: Flora’s Daughters and Botany in England, 1760-1860*; McDonagh, *Elite Women and the Agricultural Landscape, 1700–1830*.

access to agricultural knowledge, and a number of upper-ranked ladies turned to botany as a suitable pastime. Knowing that these areas of scientific emphasis were already open to women in various forms indicates that for them to be directly involved similarly in managing kitchen practices is not as much of a reach as it might have seemed otherwise.

Although this dissertation does not touch upon medicine or the transmission of medical ideas, the work of historians of medicine in establishing printed and manuscript recipes as a source of knowledge is of great importance. Medicine in cookbooks was still very much present in the eighteenth century, even as medical practices became professionalized.¹⁰⁴ Research that has been done on medical recipes which are found in various forms in cookbooks, recipe books, and family books -- texts and manuscripts containing household knowledge -- are important background to this dissertation. While the focus of my research is on culinary recipes rather than medicinal recipe and domestic healthcare, the latter comprise a rich and complex history that demonstrates what attention to domestic settings and household practices can yield when historians probe these forms of oral and written knowledge. Recipe books have only begun to be an accepted source of inquiry within the history of medicine since the 1990s.¹⁰⁵ Yet the focus on “non-professional practitioners and the circulation of popular medical advice” helps to establish cookbooks as sources of popular academic information and opens the conversation to the inclusion of daily life and epistemologies.¹⁰⁶ Where this dissertation looks at the knowledge expected of the readers of cookbooks, Catherine DiMeo and Sara Pennell further open the

¹⁰⁴ Fissell, “Introduction: Women, Health, and Healing in Early Modern Europe”; Green, *Making Women’s Medicine Masculine: The Rise of Male Authority in Pre-Modern Gynaecology*; Lindemann, “Medicine and Society in Early Modern Europe”; Park, *Secrets of Women: Gender, Generation, and the Origins of Human Dissection*; Osborn, *The Role of Domestic Knowledge in an Era of Professionalism: Eighteenth-Century Manuscript Medical Recipe Collections*.

¹⁰⁵ DiMeo and Pennell, *Reading and Writing Recipe Books, 1550-1800*, 3.

¹⁰⁶ DiMeo and Pennell, 3.

discussion to consider the role of the publishers and printers in the circulation of these ideas.¹⁰⁷ Future research that reviews the role of publishers in targeting audiences, the rationales for reprints, the setting of prices, and commissioning frontispieces all offer opportunities to further explore the social construction of scientific and technological knowledge in mid-eighteenth century England.

There are a number of works that look at the role of women reading and distilling medicine in eighteenth-century England that could certainly be brought into future conversations about female expertise and knowledge.¹⁰⁸ This dissertation draws more on theories of disease to explain the technologies and sciences developed for preservation. While medicine is never far off, discussions of disease can be found in the work of Elizabeth Pennell, Suman Seth, and Jonathan Andrews.¹⁰⁹ There are also some interesting intersections of gender and disease to be found in Kathleen Doig and Felicia Sturzer.¹¹⁰ The discussion of disease also touches on public health, such as it was during the eighteenth century. Since efforts to develop structures for public health really came to the fore in the nineteenth century, this dissertation pulls from urban improvement histories which tend to mention health and disease more than any dedicated histories to public health itself.¹¹¹

¹⁰⁷ DiMeo and Pennell, 5.

¹⁰⁸ Leong, “‘Herbals She Peruseth’: Reading Medicine in Early Modern England” and “Making Medicines in the Early Modern Household”; Allen, “Hobby and Craft: Distilling Household Medicine in Eighteenth-Century England”; Crellin, “Domestic Medicine Chests: Microcosms of 18th and 19th Century Medical Practice”; Smith, “The Relative Duties of a Man: Domestic Medicine in England and France, Ca. 1685–1740”; DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*. See also Fissel, *Patients, Power and the Poor in Eighteenth Century Bristol* for a discussion of authority.

¹⁰⁹ Seth, *Difference and Disease: Medicine, Race, and the Eighteenth-Century British Empire*; Andrews, “History of Medicine: Health, Medicine and Disease in the Eighteenth Century”; Pennell, “‘A Matter of so Great Importance to My Health’: Alimentary Knowledge in Practice.”

¹¹⁰ Doig and Sturzer, *Women, Gender and Disease in Eighteenth-Century England and France*.

¹¹¹ Ashenburg, *The Dirt on Clean: An Unsanitized History*; Buer, “The 18th Century Doctor and the British Pioneers of Public Health”; Driver, “Moral Geographies: Social Science and the Urban Environment in Mid-Nineteenth

Within history of science, active research agendas that draw heavily from the sociology of knowledge and historical and cultural geography have established a substantive presence within the discipline since the 1990s, and studies that focus on science in public often converge with these place-based investigations. “Place” in science also connects to the concept of public and private spheres. Although Steven Shapin introduced the research question of science being conducted in the “private” spaces of households in his influential article “The House of Experiment in Seventeenth-Century England” in 1988, momentum in grappling with the complex ways that activities within these apparent spheres mixed and overlapped has become more sustained within the last decade or so.¹¹² For the history of science in eighteenth-century England there are a number of excellent overviews that not only provide contextual narrative but that also reflect newer historiographies that integrate diverse approaches and that have theoretical grounding in social constructionism.¹¹³ David Livingstone’s *Putting Science in Its Place: Geographies of Scientific Knowledge*, for example, not only emphasizes the physicality of scientific practice, but also looks at the geographic and cultural constraints that impact how knowledge is circulated.¹¹⁴

Public science and the science of spectacle helps not only to establish a sense of how women might have had access to scientific ideas, but also is present in the very act of publishing

Century England”; Barker, ““Smoke Cities’: Northern Industrial Towns in Late Georgian England”; Junior Research Fellow in History Rosemary Sweet and Sweet, *The Writing of Urban Histories in Eighteenth-Century England*.

¹¹² Shapin, “The House of Experiment in Seventeenth-Century England,” 378; Opitz, Bergwik, and Van Tiggelen, *Domesticity in the Making of Modern Science*, 2; Cooter and Pumfrey, “Separate Spheres and Public Places: Reflections on the History of Science Popularization and Science in Popular Culture”; Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*.

¹¹³ Hankins and Hankins, *Science and the Enlightenment*; Lightman, *A Companion to the History of Science*; Former Professor of the Social History of Medicine Wellcome Trust Centre for the History of Medicine Roy Porter et al., *The Cambridge History of Science: Volume 4, Eighteenth-Century Science*; Outram, *The Enlightenment*. For more modern approaches see Chang, “Beyond Case-Studies: History as Philosophy”; Daston, “The History of Science and the History of Knowledge”; Klein and Lefèvre, *Materials in Eighteenth-Century Science: A Historical Ontology*; Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge*.

¹¹⁴ Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge*, 183-184.

cookbooks. Indeed, “performing” science and various dimensions of putting science on display have been addressed by a number of scholars. One of the most well-known examples of this are electrical experiments, often conducted in public settings (with both men and women in attendance), as when an electrical shock would be sent through a long line of participants holding hands. Such studies have been another dimension of extending discussions of gender within the history of science.¹¹⁵ There has also been a growing shift in looking at science and gender outside of traditional spaces such as universities or laboratories with work from Trevor Levere, and essays from the special issue of *Centaurus* “Beyond the Academy: Histories of Gender and Knowledge,” including an article by Elaine Leong on recipes, gender and practical knowledge.¹¹⁶ In the seventeenth century, for example, Elaine Leong notes that although it has traditionally been portrayed as a female endeavor, household recipe books were in fact a collective, family-based epistemological activity.¹¹⁷ Although Leong focuses on medical recipes, the publication of female authored cookery books a century later should serve as an entry point to inquire as to what changes had occurred to prompt women to gain greater public and professional recognition for something that may have previously served as a family-based epistemology?¹¹⁸ Another notable work that bridges the gap between public and private is Ursula Klein and E. C. Spary’s

¹¹⁵ Bensaude-Vincent and Blondel, *Science and Spectacle in the European Enlightenment*; Blondel, “Science and Spectacle in the European Enlightenment”; Milbourne, “Revisions of Nature: Spectacle, Gender, and Public Science Rhetoric in Eighteenth-Century Great Britain.”

¹¹⁶ Levere, *Discussing Chemistry and Steam: The minutes of a Coffee House Philosophical Society, 1780-1787*; Von Oertzen, Rentetzi, and Watkins, “Finding Science in Surprising Places: Gender and the Geography of Scientific Knowledge. Introduction to ‘Beyond the Academy: Histories of Gender and Knowledge.’”

¹¹⁷ Leong, “Collecting Knowledge for the Family: Recipes, Gender and Practical Knowledge in the Early Modern English Household,” 81-103.

¹¹⁸ It is also worth mentioning that Leong is the co-founder and the co-editor of *The Recipes Project*, an open access community that is designed to bring together “interdisciplinary research on recipes across broad temporal and geographic spans (The Recipes Project: Food, Magic Art, Science, and Medicine, <https://recipes.hypotheses.org/about>.) This additional interest highlights the need for interdisciplinary approaches to truly understand the complex insights that recipes and cooking offer when it comes to understanding everyday knowledge practices and knowledge transfer.

Materials and Expertise in Early Modern Europe: Between Market and Laboratory (2010).¹¹⁹

The construction of formal scientific expertise within these and other spaces, whether they were truly private or not, helps to illuminate the construction of expertise within mid-eighteenth-century kitchens. In cookbooks was still very much present in the eighteenth century, even as medical practices became professionalized.¹²⁰

Where prior generations of historians of science up to the 1990s were relatively sanguine about assuming the “placelessness” of scientific ideas -- that is, once their “truth-value” as objective knowledge had been demonstrated and established -- this “view from nowhere” was challenged by these later place-based and sociologically-informed studies. Once place became of greater theoretical significance, the presence of so-called “amateurs” gained greater visibility when historians of science examined the past. The parameters of this dissertation align with this more recent attention to the contributions of persons outside of the academy, both in a modern historiographical context and as actors within the eighteenth-century domestic space. For the latter, the distinction comes from the fact that the housewives, staff, cooks, authors, and publishers were not formally trained in the pursuit of scientific knowledge as it has come to be classified. That is not to say that they had no training or exposure to scientific techniques, but rather that they have not been counted among ‘scientific’ professions. Yet as Katherine Pandora demonstrates, amateurs in the early modern and enlightenment eras “provided patronage and publicity and were able to serve as contemporary conduits for mainstreaming ideas, forms of

¹¹⁹ Klein and Spary, *Materials and Expertise in Early Modern Europe: Between Market and Laboratory*.

¹²⁰ Fissell, “Introduction: Women, Health, and Healing in Early Modern Europe”; Green, *Making Women’s Medicine Masculine: The Rise of Male Authority in Pre-Modern Gynaecology*; Lindemann, “Medicine and Society in Early Modern Europe”; Park, *Secrets of Women: Gender, Generation, and the Origins of Human Dissection*; Osborn, *The Role of Domestic Knowledge in an Era of Professionalism: Eighteenth-Century Manuscript Medical Recipe Collections*.

discourse, and behavioral patterns among wider social groupings.”¹²¹ Pandora notes that although the historiography of science has seen some moving away from “notable names and famous discoveries,” the perception of amateur activity as peripheral still remains pervasive.¹²²

As a case in point as to where the future of cooking as a field within history of science might be headed, this dissertation is greatly indebted to the exemplary work of Elaine Leong in her *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England* (2018) and in other texts. Although Leong’s research has been conducted within the context of early modern England and does not directly map onto the time period, I am focused on of several generations later, *Recipes and Everyday Knowledge* provides a model foundation both as an historiographic exemplar as well as providing suggestive comparative starting points to inform research on practices current several generations later in the eighteenth century. Leong’s source materials for *Recipes and Everyday Knowledge* ranges from surviving collections of recipe books to exchanges of letters, and personal writing in order to explore the “recipe fever” that gripped early modern British polite society in this era.¹²³ Leong’s extensive work in documenting how manuscript and printed recipe collections were used and annotated in similar ways shows that not only did cooking allow households to produce food, but this was intertwined with how they “investigated and used natural materials and production techniques, how they understood and looked after their bodies in sickness and health, and how they positioned themselves within their natural environment.”¹²⁴ This is the framework that structures this dissertation, where I engage in close readings of selected eighteenth-century cookbooks with the

¹²¹ Pandora, “Amateurs,” 140.

¹²² Pandora, “Amateurs,” 142.

¹²³ Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*, 2.

¹²⁴ Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*, 3.

objective of providing insight into the question of how men and women interacted with and understood the scientific, technological, social, gendered and economic aspects of their world within the everyday context of the kitchen.

In a subsequent contribution to an edited collection, Leong's chapter "Papering the Household: Paper, Recipes and Everyday Technologies in Early Modern England," sets the stage for a discussion of everyday technologies within the kitchen, for which she includes medicine and food production.¹²⁵ In this piece, Leong illustrates two key methodologies with an impact to food history of science. First, Leong models an answer to the question of how to encapsulate the daily lived experience of groups of people when access to cookery books or the documentation of work practices was limited to primarily those of higher social ranks. Leong's method is to examine shared practices, viewing kitchen work and household work as a team activity where knowledge was shared, made, re-made and transmitted.¹²⁶ Second, by situating paper as an everyday technology of note due to its suitability for repurposing: paper was used to test temperature for bakers and remove moisture for stored cakes, and paper was also used to filter medicines or preserve ointments, Leong demonstrates how technologies that were repurposed beyond their intended use can still be evaluated. This kind of repurposing of equipment is indeed a feature of eighteenth-century kitchens, as I discuss in later chapters. While history of science, as a discipline, may have been slow to recognize the promise of food studies, Leong has established that households and kitchens are ideal spaces for investigating the production and implementation of knowledge from the ground up.¹²⁷ Cooking presents an interesting counterpoint, for if we recognize it as a scientific pursuit, the fact that women in the seventeenth

¹²⁵ Leong, "Papering the Household: Paper, Recipes and Everyday Technologies in Early Modern England," 33-34.

¹²⁶ Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*, 9.

¹²⁷ Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*, 8-9.

century were sharing recipes and women in the eighteenth century were publishing cookbooks implies that this domestic field had a far more fluctuating boundary when it came to the public and private.¹²⁸

History and the Sociology of Technology (HST)

In answer to the relative neglect the history of science has shown particularly to the intersections of everyday knowledge making, food science, and the mid-eighteenth century, the social history of technology offers a more robust historiography. History of technology tends to follow similar methodologies as the history of science that examine technologies as a product of their cultural, social, and political context rather than taking them at face value. As such this allied field can, and has already, helped the history of science take a more critical approach to cooking as a field of inquiry. It is worth noting, however, that this dissertation seeks to create future opportunities for research not just into the technology to be found in mid-eighteenth-century cooking, but also the science.

Within the history of technology, food production has become an accepted area of inquiry. Ruth Cowan's *More Work for Mother* investigates the impact of "time-saving" domestic technologies, including kitchen technologies, on the workload and expectations of nineteenth and early-twentieth-century women.¹²⁹ In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, discussions of campfires and microwaves

¹²⁸ This is supported by sources of informal education that were available for women, not just books claiming female audiences, but also in the formal and informal education of women and children. See Opitz, "Domestic Space," 257. See also Page and Smith, *Women, Literature, and the Domesticated Landscape: England's Disciples of Flora, 1780-1870*.

¹²⁹ Cowan and Others, *More Work for Mother*.

are included, along with the architecture and layout of modern kitchens.¹³⁰ There are also a number of incredibly insightful gendered studies of kitchen technologies and kitchen space however they survey the twentieth century.¹³¹ These narratives connect the spaces and technologies within the kitchen to larger cultural trends and show how users in turn changed the technologies, sometimes as much as it changed them. While much can be gleaned from the history of technology, the studies of kitchen technology often do not delve as far back as the eighteenth century -- perhaps due to a lack of traditional primary resources, as well the difficulty in adapting and determining the context-specific use of technologies with long shelf lives such as the frying pan or the mixing spoon.

These histories of technology nevertheless offer insight into how to evaluate users and non-users, how to capture the expanding web of actors that influence technological use and changes, and how to address these complex, sometimes physical actions within a formal historical framework. While not directly related to food, histories of technology that address related to the heating of domestic spaces and the intersection of technology and physics help to illuminate technological needs of the era.¹³² That said, the histories of technology that have truly shaped this dissertation come from gendered discussions of how technology can shape identity or act as a source of change or power.¹³³ The feminist narratives help to illuminate the potential

¹³⁰ Cozzens et al., “The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology.”

¹³¹ Jerram, “Kitchen Sink Dramas: Women, Modernity and Space in Weimar Germany”; Llewellyn, “Designed by Women and Designing Women: Gender, Planning, and the Geographies of the Kitchen in Britain 1917-1946.”

¹³² Egerton, “William Strutt and the Application of Convection to the Heating of Buildings”; Hunt, *Pursuing Power and Light: Technology and Physics from James Watt to Albert Einstein*.

¹³³ Lerman, “Categories of Difference, Categories of Power: Bringing Gender and Race to the History of Technology”; Lerman, Mohun, and Oldenziel, “Versatile Tools: Gender Analysis and the History of Technology”; Edwards et al., “Gender and Technology: A Reader”; Parr, “Ruth Schwartz Cowan, More Work for Mother”; Stanley, *Mothers and Daughters of Invention: Notes for a Revised History of Technology*; Wagner, “Connecting Communities of Practice”; Wajcman, *Feminism Confronts Technology*; Faulkner, “The Technology Question in Feminism”; Faulkner, “Feminism, Science and Technology: Irreconcilable Streams?”

power available to women as they stepped into more active, technologically-demanding roles in the kitchen system.

Two important themes derived from the history of technology that this dissertation relies upon are the construction of users and the dynamics of competing systems. “Users” are not just the people who actually deployed the kitchen technologies (such as servants or the cooks) but can also extend to intended users; those who use the technology counter to how it was constructed; and non-users whose lack of interaction with a technology could stem from social or cultural values (such as vegetarian who might be unfamiliar with the tools of butchery or an aristocratic lady who preferred shopping over household economy) or from access (those too poor or too rich to enter a multi-instrument kitchen.)¹³⁴ This larger view of users opens the discussion to the women and actors who influenced the cooking process, even if they did not directly stir a spoon. This second more nuanced view of technology also extends to the lifespan of the technology and the concept of competing systems. Historians of technology have long rejected the linear view of progress in which a new technology replaces the old and is automatically better.¹³⁵ The existence of competing systems allows for a more realistic inquiry into the advantages and disadvantages of the new system as well as a more nuanced discussion of the actors and events that led to the eventual transition toward one system over another.

This dissertation also relies heavily upon the concept of tacit knowledge, skill, and know-how that historians of technology have embraced. Historians of technology push the scope of tacit knowledge to include non-explicit knowledge to be found in practices, experiments, and

¹³⁴ Oudshoorn and Pinch, *How Users Matter: The Co-Construction of Users and Technology*; Schwartz Cowan, “The” Consumption Junction.”

¹³⁵ Edgerton, *The Shock of the Old: Technology and Global History since 1900*; Lerman, Mohun, and Oldenziel, “The Shoulders We Stand on and the View from Here: Historiography and Directions for Research.”

technologies.¹³⁶ In shifting the focus of knowledge production from theory to practice, incorporation of everyday know-how gains increased prominence – as Michael Polanyi states, “we can know more than we can tell.”¹³⁷ Tacit knowledge does not just encompass unspoken or black boxed knowledge, it includes embodied practices such as daily repetitive tasks to be found in riding a bicycle or cooking a pancake.¹³⁸ This routine aspect also means that tacit knowledge present in many “everyday” technologies which Peter Soppelsa and Amy Rodgers define as technologies that are “familiar, mundane, routine: its use is ‘intuitive.’”¹³⁹ Tacit knowledge also relates to personal knowledge, or rather the ability to actively understand, learn from embodied experiences, and develop skill.¹⁴⁰ Know-how, therefore, covers the embodied or tacit knowledge that helps to explain what makes a technology function properly and allows people to act as users. Also relevant to the discussion of everyday knowledge is the concept of embedded knowledge since tacit knowledge cannot be effectively stored or transferred.¹⁴¹ Embedded knowledge can be found in processes, prototypes, or even cookbooks wherein tacit knowledge may be required to fully interpret or make use of the technology.¹⁴² Embedded knowledge is particularly relevant when discussing transferring knowledge and crossing knowledge boundaries – a role which cookbooks are designed to span.¹⁴³ While these theories have yet to be applied to eighteenth-century British kitchen practices, historians of technology have paved the

¹³⁶ Biagioli, “Tacit Knowledge, Courtliness, and the Scientist’s Body,” 71.

¹³⁷ Polanyi, *The Tacit Dimension*, x.

¹³⁸ For more on tacit knowledge see Turner, *The Social Theory of Practices: Tradition, Tacit Knowledge, and Presuppositions*; Gascoigne and Thornton, *Tacit Knowledge*; Collins, *Tacit and Explicit Knowledge*; Collins, “The TEA Set: Tacit Knowledge and Scientific Networks,” and Smith, *The Ongoing Pursuit of Tacit Knowledge*.

¹³⁹ Soppelsa and Rodgers, “Origins of the Flyswatter,” 886. See also Arnold, *Everyday Technology*, 10-11; Myllyntaus, “Prologue: Constructing Technology for Everyday Life”; and Parr, *Sensing Change: Technologies, Environments, and the Everyday, 1953-2003*.

¹⁴⁰ Gascoigne and Thornton, *Tacit Knowledge*, 5-6. Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy*.

¹⁴¹ MacKenzie and Spinardi, “Tacit Knowledge, Weapons Design, and the Uninvention of Nuclear Weapons,” 45.

¹⁴² Horvath, “Working with Tacit Knowledge” 36-37.

¹⁴³ Carlile, “A Pragmatic View of Knowledge and Boundaries: Boundary Objects in New Product Development,” 442.

way to offer a vocabulary and framework with which to tackle the presence of embodied, embedded, and tacit knowledge in skill-based practices.¹⁴⁴

An allied area to the history of technology is analysis of material culture from archaeological vantage points. While little work has been done in the archaeology of recipe books themselves, studies of ceramics and material culture help to inform the degree to which these recipes represented daily practice.¹⁴⁵ Annie Gray's discussion of the multiplicity of uses for eighteenth-century kitchen equipment, for example, helps to aid the historian of technology as they work to separate the user experience from the expected use or purpose of a kitchen tool.¹⁴⁶ Use itself can offer insight into how kitchen instruments were used, how frequently and for what purpose. Gray explains that "the effect of boiling a pan dry with a steamed pudding within leaves tell-tale crack marks around the bottom of the pudding mould."¹⁴⁷ While pots and pans may have been repurposed and reused from the eighteenth century to the nineteenth, archeologists can at least see the effects of heat and boiling over time, just as continued use might wear down favored or frequented equipment. Finally, when it comes to kitchen remodeling and planning, maps and plans for remodels, even later into the nineteenth century can hint at the location and general set up for cooking and the entrance of people, ingredients, and information into these spaces.¹⁴⁸

Archeology, much as any history of the everyday, struggles to tackle the ephemeral nature of things that were not written down. Not only is it nearly impossible to truly re-create the

¹⁴⁴ See, for example, Petersen, "The Notebook and the Laboratory: Types of Knowledge in German Piano-Making, 1880-1930"; Valeriani, "Grasping the Body: Physicians, Tailors, and Holy People"; and Twagira, Larua Ann, "Machines that Cook or Women Who Cook? Lessons from Mali on Technology, Labor, and Women's Things."

¹⁴⁵ Gray, "A Practical Art: An Archaeological Perspective on the Use of Recipe Books," 48-49.

¹⁴⁶ Gray, "A Practical Art: An Archaeological Perspective on the Use of Recipe Books," 52.

¹⁴⁷ Gray, "A Practical Art: An Archaeological Perspective on the Use of Recipe Books," 53.

¹⁴⁸ Gray notes how Audley End's kitchen in 1720 was a pavilion accessed via an underground corridor. By the 1760 a service wing was constructed to join the kitchen and dairy to the main house. Gray, "A Practical Art: An Archaeological Perspective on the Use of Recipe Books," 54-55.

tastes of the past, but presentation too is not always obvious. Gray observes that by the mid eighteenth-century Glasse and other cookbook authors state that birds should be trussed, without an explanation of how to truss a bird properly.¹⁴⁹ While Gray analyzes nineteenth century instructions and illustrations, we cannot definitively know whether trussing and displaying birds changed, or whether this practice was passed orally and physically from generations of kitchen staff and represents even earlier practices. Gray recommends “experimental archaeology”, or the re-creation of recipes contained within these cookbooks, as “a reminder of the sensory nature of food.”¹⁵⁰ I will explore this perspective in Chapter Four, drawing on the work of avocational historians and historical food enthusiasts to fill this gap, especially for the historian who does not want to actually cook “a calf’s head surprise.”

Food History

Unlike history of science’s disciplinary historiography, food historians have studied the eighteenth century in depth. From a history of science perspective, there is a difference between non-historians of science addressing science and histories of science that are embedded within the discipline’s historiography -- namely that the historian of science places known scientific concepts front and center as the primary subject of inquiry. Scientific content is analyzed in the light of specific sub-disciplinary historiographies, and although political, gendered, philosophical, or literary histories may be pulled into the narrative, ultimately the research is designed to improve our understanding of the complexities of scientific thought. In short, most

¹⁴⁹ Gray, “A Practical Art: An Archaeological Perspective on the Use of Recipe Books,” 57.

¹⁵⁰ Gray, 60.

often the history of *science* is the history of *scientists*. For many food historians, food is the center of their discussion, not the science of how it was cooked, not the knowledge of the natural world needed to comprehend the processes within the kitchen, not the transmission of scientific ideas between the laboratory and the kitchen. Food historians often go far deeper into areas that historians of science have had less interest in, such as table manners, food display, or food as theater. These two historiographies can both explore similar terrain, but the difference in questions asked means in practice that the two approaches can be close and yet still can retain a certain distance from each other, leaving space in between where the potential benefits of each for the other have yet to be seen. This dissertation project is one that adopts a hybrid approach: one that loosens what can be a hyper-specialized orientation on the part of historians of science, and one that amplifies the ecology of scientific knowledge embedded within topics that are the focus of more diversified food histories.

Food studies draws from many sources, and key journals such as *Petits Propos Culinaires*, *Food & History*, *Food, Culture & Society*, and *Gastronomica* are interdisciplinary in scope.¹⁵¹ Another key contributor to the literature is the Oxford Symposium on Food & Cookery, which meets every year around a themed, food-related topic, and publishes its interdisciplinary proceedings.¹⁵² Beyond these publications, anthropologists and sociologists have a rich legacy of analyzing food and the artefacts by which we can determine what was eaten and how it was prepared. Beyond the academy, popular histories of food present re-created recipes -- where the disgusting, the beautiful, and the strange all have their place -- as well modernized recipes. The

¹⁵¹ L'Institut Européen d'Histoire de l'Alimentation, "Food and History; Revue de l'Institut Européen d'Histoire de l'Alimentation"; "Food, Culture & Society; An International Journal of Multidisciplinary Research"; *Gastronomica: The Journal for Food Studies*, "Gastronomica"; "PPC (Petits Propos Culinaires)."

¹⁵² Oxford Symposium on Food and Cookery, "Who We Are."

scope and commitment of these to historical inquiry, however, often stops at establishing time and place, with only the briefest of treatments of historical background information.

Food history initially focused on French cuisine, with books by Jean-François Revel in 1978 and Barbara Ketcham Wheaton in 1983 about French historical food setting the stage. Neither author had a doctorate within an historical or academic field, and thus these foundational accounts did not have immediate moorings in the university yet were nevertheless foundational for the establishment of food studies as its own discipline.¹⁵³ Scholarly food histories can be divided into a few categories, from ingredient and general studies to cookbook histories, yet very few truly examine the intersection of science, gender, and daily life. Ingredient histories, as their name indicates, tend to focus on the transmission or lifespan of a single ingredient.¹⁵⁴ These histories are fascinating and touch upon a great number of social and political themes yet are narrowly focused by their nature. General food histories often focus on a geographical delineator, and tend toward large, broad sweeping treatments.¹⁵⁵ It should also be noted that histories of food also often go hand-in-hand with discussions of the evolution of menus and of table manners.¹⁵⁶ Different from these food-focused accounts are studies or reproductions of cookbooks or recipes.¹⁵⁷ This category is often tied to English literary studies and is focused

¹⁵³ Revel, *Un festin en paroles* (1978) and Wheaton, *Savouring the Past* (1983).

¹⁵⁴ Appleby, "Ginseng and the Royal Society"; Loveman, "The Introduction of Chocolate into England: Retailers, Researchers, and Consumers, 1640-1730"; Maroney, "'To Make a Curry the India Way': Tracking the Meaning of Curry Across Eighteenth-Century Communities"; Zlotnick, "Domesticating Imperialism: Curry and Cookbooks in Victorian England."

¹⁵⁵ Thirsk and Others, *Food in Early Modern England: Phases, Fads, Fashions, 1500-1760*; Denker, *The Carrot Purple and Other Curious Stories of the Food We Eat*; Davidson, "The Oxford Companion to Food"; Smith, *The Oxford Encyclopedia of Food and Drink in America: A-J*; Wilson, *Consider the Fork: A History of How We Cook and Eat*; Snodgrass, "Encyclopedia of Kitchen History."

¹⁵⁶ Cahill, *Mrs. Delany's Menus, Medicines, and Manners*; Hoock, "From Beefsteak to Turtle: Artists' Dinner Culture in Eighteenth-Century London"; Kay, *Dining with the Georgians: A Delicious History*.

¹⁵⁷ Bickham, "Defining Good Food: Cookery-Book Illustrations in England"; Cahill, *Mrs. Delany's Menus, Medicines, and Manners*; Claflin, "Representations of Food Production and Consumption: Cookbooks as Historical Sources"; Cooke and Harvey, *The Johnson Family Treasury: A Collection of Household Recipes & Remedies, 1741-1848*; Edwards, "Culinary Pleasures: Cookbooks and the Transformation of British Food"; Notaker, *A History of*

more on style or theme, while the reprints tend to cater to a more popular audience. A notable exception, however, comes from work in this category by Ketcham Wheaton, Sandra Sherman, Gilly Lehmann and Elaine Leong in examining cookbooks as sources for history.¹⁵⁸ Among this grouping are works such as Bee Wilson's *Consider the Fork*, for example, which offers an impressively extensive discussion of kitchen instruments and technologies from past to present, yet they provide no scholarly citations.¹⁵⁹ Texts such as these can be deeply historically informed, but present limitations as sources for academic research.

In terms of general food histories, another category that has had more extensive historical and philosophical inquiry is that of taste. Taste histories are perhaps the most interesting to a historian of science, combining as they do philosophy and social constructionism in trying to ascertain what past foods tasted like and how cultural factors played a role in how they were experienced.¹⁶⁰ These histories, however, often do not cover the *production* of food, focusing

Cookbooks: From Kitchen to Page Over Seven Centuries; Notaker, *Printed Cookbooks in Europe, 1470-1700: A Bibliography of Early Modern Culinary Literature*.

¹⁵⁸ Lehmann, "Reading Recipe Books and Culinary History"; Lehmann, "Politics in the Kitchen"; Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*; Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*; Leong, "Collecting Knowledge for the Family: Recipes, Gender and Practical Knowledge in the Early Modern English Household"; Lehmann, "Women's Cookery in Eighteenth-Century England: Authors, Attitudes, Culinary Styles"; Sherman, "'The Whole Art and Mystery of Cooking': What Cookbooks Taught Readers in the Eighteenth Century"; Wheaton, "13. Cookbooks as Resources for Social History." There have also been some publications on cookbook authorship and gender in the eighteenth-century, see Merrett, "6. The Culinary Art of Eighteenth-Century Women Cookbook Authors"; Monnickendam, "Ann Cook versus Hannah Glasse: Gender, Professionalism and Readership in the Eighteenth-Century Cookbook"; Lamarra and Federici, *Nations, Traditions and Cross-Cultural Identities: Women's Writing in English in a European Context*; Williams, "The Social Life of Books." Some authors also look at the rhetoric of cookbooks, see Sherman, "'The Whole Art and Mystery of Cooking': What Cookbooks Taught Readers in the Eighteenth Century"; Appelbaum, "Rhetoric and Epistemology in Early Printed Recipe Collections"; Norris, "The Rhetoric of Cookbooks in Eighteenth-Century England."

¹⁵⁹ Wilson, *Consider the Fork: A History of How We Cook and Eat*.

¹⁶⁰ Laurence, "The English Taste"; Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to Present*; Claflin, "Representations of Food Production and Consumption: Cookbooks as Historical Sources"; Bouchard and Herbert, "One British Thing: A Manuscript Recipe Book, Ca. 1690-1730"; Crosby, *Cook, Taste, Learn: How the Evolution of Science Transformed the Art of Cooking*; Jones, *Gender and the Formation of Taste in Eighteenth-Century Britain: The Analysis of Beauty*; Flammang, *The Taste for Civilization: Food, Politics, and Civil Society*; Pinkard, *A Revolution in Taste: The Rise of French Cuisine, 1650-1800*; Shields, "What Remains of the Flavors of the Eighteenth Century?"; Silver, "Locke's Pineapple and the History of Taste";

primarily on already cooked food. This dissertation does draw heavily upon philosophical interpretations of taste in this period. Wendy Wall, in her *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*, discusses the philosophical grounds of ideas about food in the eighteenth century including intellectual exchange, mastery and epistemology.¹⁶¹ A 2014 dissertation, *British Cookbooks and the Transformation of Taste 1660-1760*, also investigates the philosophical underpinnings of female cookbook authors and traces the presence of larger theoretical debates of the era.¹⁶² This dissertation recognizes that taste is both a philosophical and scientific sense, but one that was nevertheless impacted by lived experience and kitchen technologies and practices.

More fruitful for the history of science when it comes to the history of food are the histories of diet and of provisioning. If you expand your definition of cooking to include the kitchen system, the provisioning of the kitchen, and the development, upkeep, and maintenance of technologies for the kitchen -- or even go beyond to review the histories of hospitality, dining and manners -- there are numerous published scholarly articles and books available. Diet histories tend to focus on the social and political contexts of food, as well as its ability to shape identity.¹⁶³ These studies also delve into the realm of science and medicine in investigating digestion, appetite, and metabolism.¹⁶⁴ In the eighteenth century there have also been a number

Smith, "Preface: Styling Sensory History"; Styles and Vickery, *Gender, Taste, and Material Culture in Britain and North America, 1700-1830*.

¹⁶¹ Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*.

¹⁶² MacWilliam, "British Cookbooks and the Transformation of Taste 1660-1760."

¹⁶³ Bruegel, Chevet, and Lecocq, "Animal Protein and Rational Choice: Diet in the Eighteenth Century"; Guerrini, "Health, National Character and the English Diet in 1700"; Muldrew, "Food, Energy and the Creation of Industriousness"; Shapin, "Trusting George Cheyne: Scientific Expertise, Common Sense, and Moral Authority in Early Eighteenth-Century Dietetic Medicine"; Shapin, "'You Are What You Eat': Historical Changes in Ideas about Food and Identity."

¹⁶⁴ Clericuzio, "Chemical and Mechanical Theories of Digestion in Early Modern Medicine"; Stahnisch, "The Emergence of Nervennahrung: Nerves, Mind and Metabolism in the Long Eighteenth Century."

of publications on diet related to vegetarianism.¹⁶⁵ Given British political associations with meat, the flourishing of discourse on a vegetarian diet is certainly an avenue for further inquiry. Within European history the emphasis of narratives relevant to the history of cooking, expertise, and science tend to be overwhelmingly French-focused. Jennifer J. Davis's *Defining Culinary Authority: The Transformation of Cooking in France 1650-1830* examines eighteenth-century French chefs and the establishment of scientific expertise.¹⁶⁶ Also focusing on France, Sean Takats and Ketcham Wheaton discuss expert cooks and kitchens and dining respectively.¹⁶⁷ In terms of scientific inclusion, histories of brewing tend to capture science and its social context, though they have less discussion of gender or identity.¹⁶⁸ Another notable work in this area comes from Sandra Sherman, focusing specifically on gastronomy.¹⁶⁹

Also firmly rooted within the eighteenth-century context are histories of food related to provisioning, consumption, and the selling of food (including grocers). These narratives provide the social, political, and economic context of food production and offer insight into the symbolic significance of food and household management.¹⁷⁰ Although these histories help to provide context when talking about food, diets, and markets, they do not fully venture into the kitchen to evaluate the sciences and technologies of cooking itself. Food and provisioning also ties in to what happens when a community is without food, especially in the relationship to markets and

¹⁶⁵ Bruegel, Chevet, and Lecocq, "Animal Protein and Rational Choice: Diet in the Eighteenth Century."

¹⁶⁶ Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*.

¹⁶⁷ Takats, *The Expert Cook in Enlightenment France*; Takats, "Corrupting Cooks: Domestic Service and Expertise in Eighteenth-Century France"; Wheaton, *Savoring the Past: The French Kitchen and Table from 1300 to 1789*.

¹⁶⁸ Sambrook, *Country House Brewing in England, 1500-1900*; Ceccatti, *Science in the Brewery: Pure Yeast Culture and the Transformation of Brewing Practices in Germany at the End of the 19th Century*.

¹⁶⁹ Sherman, "Gastronomic History in Eighteenth-Century England."

¹⁷⁰ Kaplan, *Provisioning Paris: Merchants and Millers in the Grain and Flour Trade during the Eighteenth Century*; Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830*; Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants*; Brewer and Porter, *Consumption and the World of Goods*; McMillen, "Eating Turtle, Eating the World: Comestible Things in the 18th Century."

popular protests such as food riots.¹⁷¹ In terms of distinctly British themes, one can consult Troy Bickham's *Eating the Empire: Intersections of Food, Cookery and Imperialism in Eighteenth-Century Britain* (2020) to better understand the context of national identities, imperialism, and slavery or Lizzie Collingham's *The Taste of Empire: How Britain's Quest for Food Shaped the Modern World* (2017), to understand the effects of colonialism on British foodways.¹⁷² That which was presented as "distinctly British cuisine" relied heavily upon colonialism and the slave trade. Colonialism was not the only way that British culture was exposed to new (often appropriated) tastes and ideas. Travel and experiencing different local or national tastes was an inherent part of well-off British social worlds, in activities such as the Grand Tour, seasonal travel to London, and a culture of visiting and hospitality -- all experiences that many of the middling and upper-ranked women purchasing these mid-eighteenth-century cookbooks might have had.¹⁷³

Feminist and Gender Studies

Feminist and gender studies are central to achieving a fuller sense of many different dimensions of lived experience, whether it is in the composition of audiences, the force of prevailing societal expectations, the complexities of gendered roles, or biologically distinct physical experiences in history. For women within the kitchen, thinking about physical differences, for example, whether in terms of attire or in the strength that specific tasks required,

¹⁷¹ Randall and Charlesworth, *Markets, Market Culture and Popular Protest in Eighteenth-Century Britain and Ireland*; Brennan, "Public Drinking and Popular Culture in Eighteenth-Century Paris."

¹⁷² Bickham, *Eating the Empire: Intersections of Food, Cookery and Imperialism in Eighteenth-Century Britain*; Collingham, *The Taste of Empire: How Britain's Quest for Food Shaped the Modern World*.

¹⁷³ Calaresu, "Thomas Jones' Neapolitan Kitchen: The Material Cultures of Food on the Grand Tour"; Maudlin, "Inns and Elite Mobility In Late Georgian Britain*."

especially within the larger context of the playing out of gendered roles across various domains, helps to illuminate the female experience within the kitchen space. It is important to note the difference between gender as a modern archetype and gender as an actor's category. The link between the domestic sphere (namely activities impacting the running of the home) and domestic lives (a perceived dichotomy between private activities as compared to public presence) is one that persists.¹⁷⁴ Yet in the eighteenth century, engendering a British man as effeminate or foppish was as much a political statement as a gendered one. The categories of gender and gender boundaries were at the same time far more fluid than nineteenth-century (and modern) standards when it came to spaces and spheres.¹⁷⁵ The gentry welcomed people into their homes, servants crossed through spheres, and even the "private" bedchamber was not truly private.¹⁷⁶ While some guilds or spaces were certainly made up primarily of men, this did not create an impermeable boundary that women could not cross.¹⁷⁷ For example, women could run coffeehouses or be invited to join in upper rooms.¹⁷⁸ Guildsmen's daughters often learned the

¹⁷⁴ Felber, *Clio's Daughters: British Women Making History, 1790-1899*, 237.

¹⁷⁵ The study of women's lives and narratives has shown that the idea of separate spheres working in a binary fashion is deficient because it has obscured a wider array of activities and roles. In answer to the historians of science, I venture to go beyond what Spary and Zilberstein state, to suggest that the very nature of the embodiment of food and its daily aspect, while difficult to source, makes food histories an excellent arena to identify gaps in our broader history of science narratives and explanations when it comes to the domain of the everyday. Do the theories hold up in the heat of the kitchen? Does the housewife actually care or even listen to nutritional recommendations or warnings about chemical dyes that are produced in the context of various political, social, and scientific changes? As Spary and Zilberstein explain, historical inquiry into cooking offers an opportunity to see how scientific knowledge increasingly impacted daily lives of different, even marginalized groups through "agriculture, livestock management, the food trade, manufacturing, public health, cooking, eating, and drinking" (Spary and Zilberstein, "On the Virtues of Historical Entomophagy," 11). It is this daily aspect that I believe offers so much potential for historians of science, medicine, and technology as well as for broader historical narratives. The opportunity to gain insight into lived experience and realities long before the excellent documentation of the twentieth century, allows historians to once again question the sweeping claims of 'great man' and intellectual histories. Historical inquiry into kitchen practices allows us to ask to what degree the broader claims about politics, gender, public and private, scientific knowledge, and even scientific authority hold up when they meet the complexities of daily, lived experience.

¹⁷⁶ Lipsedge, "Domestic Space in Eighteenth-Century British Novels," 36–37; Anderson, "Touring and Publicizing England's Country Houses in the Long Eighteenth Century," 42.

¹⁷⁷ Locklin, *Women's Work and Identity in Eighteenth-Century Brittany*, 64.

¹⁷⁸ Ellis, "Eighteenth-Century Coffee-House Culture, Vol 2."

trade, even when rules and education suggested that only men could seek apprenticeships.¹⁷⁹ So too, even in male universities and in the Royal Society women still gained entry as partners, sisters, or through their social rank. And while women could not enjoy the same formal training, either in academics or the professional trades, they nevertheless were able to cross boundaries that were once presumed by scholars to have been impassable. When applying gender analysis, therefore, it is as equally important to think of the degree to which these boundaries were flexible, as it is to determine what, if any, gendered associations were made about them.

Among the scholarly literature on gender, areas that are part of the context for this dissertation involve literacy, publishing and print knowledge in the eighteenth century;¹⁸⁰ the consumption of products, popular culture, and material culture; and the rise of market capitalism during this era.¹⁸¹ Another category that it also depends upon is the sense of how spaces were gendered spaces, and the impact particularly on domesticity.¹⁸² These historiographies help to inform this dissertation both in terms of actors' categories and in areas where further gendered analysis would be fruitful. There are a great number of feminist and gender histories to draw upon, including ones that intersect with the historiographies already discussed in this chapter.

Within the history of science, where histories remained largely focused on the histories of great Western men and their ideas, there have been significant efforts made beginning in particular in the 1980s, to reclaim women and women's histories from their obscurity within the

¹⁷⁹ Hafter and Kushner, *Women and Work in Eighteenth-Century France*, 116.

¹⁸⁰ Bittel, Leong, and von Oertzen, *Working with Paper: Gendered Practices in the History of Knowledge*; Benjamin, *A Question of Identity: Women, Science, and Literature*.

¹⁸¹ Hussey and Ponsonby, *The Single Homemaker and Material Culture in the Long Eighteenth Century*; Potter, *Women, Popular Culture, and the Eighteenth Century*; Strobel, *Materializing Gender in Eighteenth-Century Europe*.

¹⁸² Harvey, *The Little Republic: Masculinity and Domestic Authority in Eighteenth-Century Britain*; Smith, *All Men and Both Sexes: Gender, Politics, and the False Universal in England, 1640-1832*. O'Brien, *Women and Enlightenment in Eighteenth-Century Britain*.

larger male historical narrative.¹⁸³ Within the first wave of studies, it was customary to focus on notable women within science, re-empowering individuals such as Margaret Cavendish and Rosalind Franklin, rather than investigating access to scientific knowledge for the female general public.¹⁸⁴ More recently there has been a concerted and continuing effort to change this narrative, to pull in forgotten cultures, marginalized or disenfranchised people, and perspectives.¹⁸⁵ Women in the history of science is no longer a novel concept, although tensions remain as to whether women are an “add-on” to the standard narrative (and thus are literally peripheral to it) or whether these histories have ramifications for the validity of the standard narrative itself. Not only have scholarly publications on the topic expanded significantly, but popular histories also have made efforts to be more inclusive, from shows like *Drunk History* to the online journal *Lady Science*, and its podcasts.¹⁸⁶

Yet what about women in general? How did these women who were not associated with the great natural philosophers, “unremarkable” women, how did they learn about science and technology? This dissertation seeks to show areas for further exploration within women’s histories that examine what large groups of women might know rather than singling out specific women who may well be non-representative and casting their experience as equivalent to a what would be more typical within the world of the everyday.

¹⁸³ For example, see: Conner, *A People’s History of Science: Miners, Midwives, and Low Mechanics*, 1.

¹⁸⁴ That is not to say that these narratives are not important, however books like Markel’s *The Secret of Life: Rosalind Franklin, James Watson, Francis Crick, and the Discover of DNA’s Double Helix* or Whitaker’s *Mad Madge: The Life of Margaret, Duchess of Newcastle* lead to a narrative whereby only exemplary women or women beyond the reproach of society due to status or circumstance are able to compete within an apparently masculine domain (Whitaker, *Mad Madge*; Markel, *The Secret of Life*).

¹⁸⁵ Townsend, “The Status of Women and Minorities in the History Profession.” See also Fara, *Pandora’s Breeches: Women, Science and Power in the Enlightenment* for an attempt to look at (mostly elite) women within established philosophical circles who hired tutors and corresponded with scholars but whose contributions had been overlooked in favor of their male counterparts.

¹⁸⁶ *Drunk History*, “A Toast to Women Throughout History.”, *Lady Science* is a podcast id dedicated to all topics related to the history of women in science, a more recent episode touches also on recipes *Lady Science*, “Episode 33: What Recipes Tell Us about Women’s Knowledge and Lives.”.

The most obvious question to ask first is who cooked? It is the case that male and female cooks alike were employed in England. While a woman may have become a cook or actively managed the cooking aspect of her household's activities, nothing required her to do so. That is not to say that for poorer women perhaps her skill or employment as a cook was not more appealing than say working as a seamstress or a dairymaid, but that for women who chose to superintend household cooking regimes, this was not simply a matter of preference of how to spend one's time, but that entailed asserting power in more ways than one. As just one example, for such a woman to choose to employ a female cook over a male chef trained in the French fashion entailed a political maneuver -- one which buttressed growing anti-French sentiments even as Whig elites stayed true to their aristocratic ideals and continued to employ male French chefs.¹⁸⁷

In terms of historical narratives, the presence of women in the kitchen *should* be notable, and not just assumed to be part of the natural order of things. However, the legacy of Victorian and then the twentieth-century solidification of gendered roles and spaces is such that we expect women to enter the kitchen, and therefore believe their presence to be unremarkable. While I am not necessarily suggesting that historians refocus on the stories of men in the kitchen, it is important to think of the kitchen space as one that was quasi-professional. Much like brewing, baking, or even naval food provisioning, the maintenance of the household economy could just have easily had been a man's job. Although gender studies of the late-eighteenth and early-nineteenth century have traditionally pointed to this period as "the crucial period when attitudes towards women's role and responsibilities became imbued with the ideal of the domestic, leisured and private sphere, in opposition to the active and public life of men," new narratives

¹⁸⁷ Mitchell, *The Whig World: 1760-1837*, 77.

have emerged that help historians to understand why women may have wanted to enter the kitchen in the first place.¹⁸⁸ Although women have been portrayed as losing public power and freedoms in the eighteenth century, a number of recent histories instead demonstrate that the mid-eighteenth century offered a number of avenues for women to wield public capital, from owning and running their own schools to using their social skills for political ends.¹⁸⁹

In England, men still actively engaged with the kitchen sphere and were by no means outliers in the eighteenth-century British kitchen. There were male staff within the kitchen, men entering and leaving the kitchen with wares and ingredients, and higher-ranked men interested in the workings of the kitchen, their land, and the household economy. Scottish chemist Joseph Black was not labeled as foppish for his exploits and experiments with boiling vegetables. While there were notably anti-French sentiments in terms of food consumed, fashion and manners, cooking the food itself or taking an interest in the larger kitchen system devolved no such association with femininity or “Frenchification”.¹⁹⁰ William Ellis is, perhaps, the perfect example of a man interested in cooking. Not only did he publish the *Country Housewife’s Family Companion* (1750), but he also published *The Modern Husbandman* (1742) on improving agriculture and farming. The latter even includes recipes for fertilizers and general cures for sicknesses.¹⁹¹ Not only did Ellis publish on the subject, but, if his books are to be believed,

¹⁸⁸ Skedd, “Women teachers and the expansion of girls’ schooling in England, c. 1760-1820, 102-103.

¹⁸⁹ For an overview of women owning and running their own schools in contradiction to historians’ assumptions they were shut out of public spheres see Skedd, “Women teachers and the expansion of girls’ schooling in England, c. 1760-1820. For an overview of women in politics in the second half of the eighteenth-century see Chalus, *Elite Women in English Political Life C.1754-1790*, 3-4.

¹⁹⁰ This trope was ever-present from British naval political commentary to the difficulties of Scotsmen navigating cultural expectations to be refined enough to fit into British society, while also avoiding “Frenchified effeminacy” (McCormack, *Embodying the Militia in Georgian England*, 15; Carr, *Gender and Enlightenment Culture in Eighteenth-Century Scotland*, 176). Although women were already feminine, they also needed to avoid being seen as too French. Although English sociability was based upon French manners, they were expected to espouse English modesty in comparison to French debauchery and coquettishness (Ylivuori, *Women and Politeness in Eighteenth-Century England*).

¹⁹¹ Ellis, *The Modern Husbandman, Or the Practice of Farming: The Timber-Tree Improv’d*, 88–89. For fertilizer see Ellis, 18.

whenever he traveled, he went up to housewives, dairymaids, farmers, and anyone else he could talk to on the subject and recorded their local or experiential techniques. As such, Ellis not only made a name for himself in the more public sphere of printed texts, but he also quite actively entered all manner of more private spheres and residences.

Although the lack of any kind of formal guild in England meant that women were not entering a highly regulated or gendered professional sphere, their cooking activities did create opportunities not only to create authority through the publication of cookbooks, but also to intrude on far less ambiguously gendered spaces and roles. Eighteenth-century naval provisioning is an apt example. The feeding and stocking of naval ships was firmly in the hands of the British military and consumed almost one-fourth of the Royal Navy's budget.¹⁹² Provisioning not only extended to purchasing supplies but also to packaging and preserving them, a theme equally significant in eighteenth-century cookbooks.¹⁹³ Determining, for example, how much water ships should carry, an estimation that drew upon experiments from the Royal Society on the potential of making salt water drinkable, was a key scientific and political endeavor of the 1750s.¹⁹⁴ While this domain seems clearly scientific, and heavily male by virtue of the combined spheres of the British Royal Navy and the Royal Society, we can see in *The Art of Cookery Made Plain and Easy* (1747), by best-selling eighteenth-century cookbook writer Hannah Glasse, that there is an entire chapter dedicated to preserving food and cooking dishes that can be sent with family serving in the navy.¹⁹⁵ While the Victualling Board worked tirelessly to supply the minimum needed for sailors, it is likely that at least some middling-to-upper-ranked

¹⁹² Brewer, *The Sinews of Power: War, Money and the English State 1688-1783*, 29.

¹⁹³ Brewer, 29.

¹⁹⁴ Chaplin, "Why Drink Water?," 194.

¹⁹⁵ *The Art of Cookery* was reprinted a number of times, through even the nineteenth century. A 1997 reprint by Applewood Books claims that it was "America's Most Popular Cookbook in 1776" (Glasse, *The Art of Cookery Made Plain and Easy*, front cover).

naval officers were also supplied by their wives, sisters, or family housewives. In this highly political arena, women can be seen contributing once we open the confines of the physical kitchen space and examine the larger kitchen network.

The kitchen space, regarding gender, has never been static. In eighteenth-century England this space was more or less neutral, with traffic of all kinds (gender, class, regional) passing through its physical borders. In this period of flux, where the kitchen space was relatively non-gendered, but where the gender or training of a cook was embedded within larger public political questions, the entry of women into the kitchen requires further critical analysis. The initial evidence indicates that women were pursuing knowledge, gaining domestic literacies, and through them participating in experiential knowledge-making in a period when women's participation in efforts to understand natural phenomena have been seen as something piecemeal or arbitrary.¹⁹⁶

¹⁹⁶ See for example Women, "18th-Century Bluestockings."

Chapter 2: Digitization, Popularization and Historical Inquiry

While Elaine Leong, among others, has paved the way to establish cookbooks as primary sources for the history of science, arguing that digitized cookbooks can also serve as primary sources is more problematic. Although digitization offers tools for study and the possibility to achieve insights previously inaccessible to historians, the convoluted history of digitization itself has made it difficult for historians to know how much trust they can place in this medium. In this chapter I propose to investigate the reasons why historians may increasingly need to turn to digitized sources in the future; how the starting points of digitization and its complex history impact the way in which historians currently view its products; and I will provide examples of how methodologies that rely on digitization can provide access to previously untapped domains. Indeed, digitization quite literally offers opportunities to read between the lines in a way that artificial intelligence or historians alone cannot manage. As an example, while artificial intelligence may be able to process and search for certain keywords within a text with greater speed than an historian, it does not have the expertise or nuance to read smudged letters, nor can it determine the contextual significance of word usage.

“Going digital”, however, comes with its own set of pitfalls that the historian must navigate. Digitization often means increasing accessibility, not only for the grant-reliant graduate students and busy professors of the world, but also for the general public --as access to primary sources has increased, so too has the number of avocational historians. In fields related to popular culture, such as cooking and food history, these avocational historians and food studies professionals offer valuable insights for trained historians, if they only know where to look. This chapter will assess the value of historical reenactors and avocational digitization or archival practices, as well as assess the ramifications when externally-trained historians publish without

thinking about key pillars of the historical documentation process. This chapter will describe the history of digitization to discuss why initial attempts caused such concern, and why future efforts have not rectified what have been fraught relationships.

This chapter serves as a reminder that with the age of information technologies, the way in which we interact with historical information may also need to be adjusted to encompass many of the rich resources that are normally overlooked. Close reading is not just a method of inquiry for physical primary sources: it can be used as a methodology when approaching digital or popular sources. The historian must be familiar with the historical context in which a source was written and must draw upon a nuanced understanding of the provenance, audience, and transmission to be able to understand the nuances of traditional and digitized texts. The difference is that with a digital text, the historian must treat the text with extra scrutiny: questioning provenance not only of the content but also the process by which it was digitized. With historiographical training and a rigorous approach, working with digital resources allows the historian to gain more nuanced insight into shifts in word usage.

Why Digital, Why Now?

As we contemplate the future of historical research, digitization is becoming more and more prevalent, with digitized sources becoming commonplace in higher education. While it may not be quite yet the next generation of historians, there will come a point when future historians will be more comfortable working with, annotating in, and interfacing with digital copies than they will be with working with physical texts. It has taken the better part of a decade for the sophistication and documentation of digital analytic tools to catch up to the standards of conventional methods based on physical archives and printed sources to the degree that using

digital sources can be perceived as proceeding without risk to historiographic inquiry. Many elements linked to the historical profession have already, and rather silently, undergone the process of digitization. Library catalogs are now digitized, and many archives allow for scholars to bring in computers to take digital and electronic notes or take photographs and scan texts with their cellphones. Even the process by which we find and gain access to archives relies on digital communication, whether through exchanges of email or online web searches to find related institutions or holdings and digitized finding aids.

It is important to be specific about what kind of digitization is meant when discussing the digitization of historical materials. There are two aspects of digitization that have not been widely accepted: substitution of digitized copies for primary sources, in combination with --and this is important-- professional and formal historical inquiry at the post-doctorate level. Historians have been relatively content to use microfiche for years when conducting preliminary investigations, and many faculty teaching undergraduate classes encourage the use of digitized primary sources in lieu of the original copies.¹⁹⁷ And while microfiche and digitized copies may be suitable for undergraduate or preparatory work, especially when access to an original is impossible, there is the expectation that for true scholarly work to be done, the original primary texts must be consulted.

Although, ironically, historians are said to be averse to change, there are several valid reasons why digitization has been held off for so long as professional practice. Even if digitization were verisimilar, there is an inherent expectation that serious scholarly research needs to confront physical copies of primary texts when available. Yet consulting physical copies

¹⁹⁷ The American Historical Association for example offers an entire section of its website to digitized primary sources, although with a decidedly high school and undergraduate focus. (American Historical Association, "Digitized Primary Sources").

of primary texts may not always be possible, or if possible, pose considerable obstacles to access. It is this last point that opens the discipline of history to the possibilities of transitioning to digital scholarship in terms of working with digitized primary sources. With the documentation of twentieth and twenty-first-century histories, questions about how to work with digitized or multi-media primary sources have already been asked. Historians of recent history already work with digital sources, so why has this practice not extended to historians of the eighteenth century and earlier?

Historiography is certainly not static. As we investigate under-documented histories of underrepresented peoples and groups, the conventional methods of reading primary texts have already undergone modification. Today, historians seek evidence beyond the formal written word as with the examination of artifacts of material or oral culture. Historians of technology, for example, don't just look at documented details of the users and implicated actors of a technology, but also at the non-users, what is not there can be as relevant as what is. As historical priorities and practices shift, so too do our definitions of what constitutes an historical record.¹⁹⁸ Historians who require new ways of "reading" for evidence have learned "to read" artifacts of material culture, such as kitchen instruments and remodeled fireplaces. Digital copies of primary texts, however, are viewed as support materials that enable historians to search within an archive but are secondary to physical primary copies.¹⁹⁹ While research indicates that historians'

¹⁹⁸ Oudshoorn and Pinch, *How Users Matter: The Co-Construction of Users and Technology*, 68.

¹⁹⁹ Research by archivists reveals that historians want to see and use historical sources in their original format (Sinn and Soares, "Historians' use of digital archival collections: The web, historical scholarship, and archival research;" Duff, Craig and Cherry, "Historians' Use of Archival Sources: Promises and Pitfalls of the Digital Age;" Chassanoff, "Historians and the Use of Primary Source materials in the Digital Age"). Chassanoff explains that even browsing digital records is problematic because without seeing the physical space on a shelf, the historian is unable to determine whether they have missed an important resource (Chassanoff, "Historians and the Use of Primary Source materials in the Digital Age," 463).

preferences for physical sources changes as they increasingly use digital materials, history as a discipline has yet to accept a purely digital methodology.²⁰⁰

It is nonetheless a fact that preference for physical primary sources limits the modern historian, especially in interdisciplinary research. While some archives do offer extensive topical collections --the University of Oklahoma boasts an impressive collection of works by Galileo for example --an interdisciplinary topic may require the historian to visit numerous archives to work with enough physical primary sources in order to meet modern standards of historical rigor. Not only does this distinction make the doing of history less accessible, it makes it harder to conduct historical research using the new, more inclusive, and interdisciplinary frameworks that have emerged. As scholarship shifts, as we come into the age of online, open-access, peer-edited journals, we have reached a point where it is time for historians of all disciplines to consider more intentionally the opportunities that working with digitized primary sources can offer, and how methods and practices from the field of digital humanities can provide potentially profitable options.

Academia, Archives & Scholarship

Let me begin by first sharing my personal experience working with primary sources. My story touches upon issues that many graduate students and tenured professors alike now face: access, time constraints, the cost of travel, and issues regarding information seeking in the age of the Internet. Without a fellowship at an archive or collection, the idealized historical undertaking

²⁰⁰ Sinn and Soares, however, noticed that the preferences for physical sources changed as historians worked more frequently with digital formats (Sinn and Soares, "Historians' use of digital archival collections: The web, historical scholarship, and archival research," 1794).

in which a scholar peruses and finds information by immersing themselves among primary sources is becoming less and less feasible.

Between my junior and senior years as an undergraduate at Stanford University, I received a prestigious scholarly grant to fund travel to Oxford to conduct research on Elias Ashmole's alchemical work. I had recently finished a class on paleography taught by the curator of their special collections' library, and I believed that I was ready to tackle primary sources and to dive right into obscure and original books and journals. The Stanford University collection has a rather unusual policy, whereby they allow students, once trained, to handle their rare book collection and work fairly uninhibitedly with primary sources. The point is that I had already handled rare books with my own two hands and thus felt prepared to work with any primary source, especially a seventeenth-century text when I had worked with books far older.

Upon arriving at Oxford, I checked in to the Stanford-owned scholars' house and went straight to the Bodleian with my letters of reference. The Bodleian required a letter of intent and three letters of reference, transcripts, my school and my government-issued ID and a detailed overview of my research inquiry. I then waited for three hours in their rare book basement, only to be told to return the next day and in the interim to get a temporary library card from the main circulation desk. Upon my return, the curator informed me of their decision that my references and level of training were not appropriate for the rare book collection, and I was outright rejected and banned from the special collections until I was ready to pursue formal graduate-level work. Of course, I managed to work around this order. The readers' room at Oxford contains a number of microfiche copies of the original Ashmole manuscripts, and many first editions of his published works that, in the Bodleian, were not considered to be so rare that an undergraduate could not check them out. I was certainly the youngest scholar in the reading room. To this day

I'm not sure if my credentials should have allowed me in, but through a combined inquiry of microfiche copies and physical first edition printed texts I was able to piece together a narrative.

Fast-forward three years, and I found myself studying the history of science, technology and medicine at the University of Oklahoma while simultaneously completing my master's level library degree. The University of Oklahoma's History of Science Collections has a far more open policy on visiting scholars than does the Bodleian, and they were incredibly accommodating for scholars in their associated program. I was able to continue my work with primary sources, reinforcing the lessons learned in library school and from paleography about the significance of memorabilia and notations. Part of my training was learning about the appropriate way to catalog and classify the unique aspects of a text while learning how to track and trace provenance, look for watermarks, and analyze bindings. During this time, I was also part of the library's digitization efforts. I helped troubleshoot and load digitized images to their website and was privy to discussions about the order in which content was digitized, the relative costs of working with external companies, and the differences between trained, yet avocational, digitized copies and professional digitization.

I also spent two years working for the *Isis Current Bibliography*, a bibliography for the history of science and aligned fields where we searched for recent publications related to the field, cataloged and classified them, and published them to the database²⁰¹. While I learned a great deal during this time, the key takeaway for this recounting is that history of science, as a discipline, catalogs and classifies differently than occurs in aligned fields. As we worked with external catalog records and compared the cataloging terms assigned by librarians or archivists

²⁰¹ Isis Current Bibliography for the History of Science, "IsisCB.org."

with the source's abstract, we frequently added to or amended their records' classification in the *Isis CB* to better reflect the source's relation to the history of science. For example, after taking a rigorous seminar on Medieval and Renaissance historiography, my fellow graduate students and I were more than happy to find books classified under sixteenth-century astrology and to add key terms such as "instrumentation", "astronomy", and even when applicable "agriculture" or "medicine". During my two-year fellowship I heartily contributed to the under-represented categories of food histories and science as I discovered newly published books that would have been passed over by a historian of science who was not interested in food history. The director of this prestigious annual bibliographic source, Dr. Stephen Weldon, sought to keep it at the forefront of historiographic trends, such as allowing what had conventionally been viewed as fringe topics and taxonomies to have a place within the protocols for each volume. While the bibliography staff actively maintained a well-rounded list of core history of science publications, my addition of food histories was encouraged because, in the era of crowdsourced metadata, community-editable information pages like *Wikipedia*, and crowdsourced transcriptions for the Smithsonian, research indicates that the incorporation of multiple scholarly perspectives within a library catalog or bibliography can lead to a much richer record.²⁰²

In addition to navigating new thinking on cataloging strategies, the *Isis CB* was also undergoing the process of digitization during my time there from 2011-2013. I spent a number of hours checking OCR (items that have been scanned electronically and then transformed through an optical character recognition software) image-to-text results and helping adapt algorithms to catch mistakes such as the long s or typeface irregularities. In the five years since working at the

²⁰² Parilla and Ferriter, "Social Media and Crowdsourced Transcription of Historical Materials at the Smithsonian Institution: Methods for Strengthening Community Engagement and Its Tie to Transcription Output."

bibliography OCR image-to-text technology has continued to improve, but many of the basic principles remain the same. Still relevant is the recognition that OCR is an imperfect art, and that certain conditions are necessary for a good OCR read, and that typeface or text irregularities are almost guaranteed to cause problems.

What do my experiences tell us? I suspect that my narrative is not entirely new or novel to many readers. Even with the correct credentials, accessing primary sources at an institution other than your own is a formal and highly coveted process. Credentials are checked, letters of recommendation are exchanged, and ground rules are set. The scholar adapts to the institution's rules and regulations, their limited working hours, their questionably comfortable furniture or provided sources of lighting. Compare traditional research to working with digitized sources and the narrative changes. Access to digitized sources is far less restricted. Granted your institution may need a subscription to a digitized collection, but the costs are minimal compared to those for just one scholar traveling to a collection. Working from an online repository, the historian can research without having to worry about travel time, taking time off to visit a physical location, or preparing the necessary paperwork and documentation that may be required both to visit a number of different archives and to be reimbursed by his or her home institution. Given the recent trends in educational research that highlight improved student access and outcomes when working with online texts, forcing historians to adapt to a single prescribed manner of interfacing with primary sources seems out-of-step with developments.²⁰³ In fact the belief that history must be conducted within physical archives and special collection reading rooms, constricted by set visiting hours and rules regulating access, sounds very much like the assumption that science

²⁰³ Researching open and eTextbooks and their impact on student learning outcomes and access has been the topic of a number of studies Guardia, Vinaja, and Waggoner, "Student E-Textbook Engagement and Performance Outcomes"; Feldstein et al., "Open Textbooks and Increased Student Access and Outcomes"; Yin et al., "Learning Behavioral Pattern Analysis Based on Digital Textbook Reading Logs."

was only practiced by men belonging to universities and academies during the eighteenth century; namely that while it is the best recognized form of study does not mean that it is the only relevant manner in which knowledge can be pursued.

In light of the 2020 Covid-19 crisis another question also needs to be asked, namely what will happen to traditional methods of research if seasonal travel is canceled or heavily restricted?²⁰⁴ Will a research grant meet the requirements to be designated as essential travel? Though costly and time-prohibitive, at the heart of modern historical scholarship practices lies the assumption that researchers will always be able to gain physical access to primary sources, even if the process is costly or time-intensive.²⁰⁵

Although the methodological systems for primary research have not changed, twenty-first-century logistical realities pose formidable obstacles to achieving the idealized physical archival visit experience that was only ever truly available for a small number of practitioners in the past. Very few scholars can jump on a plane, fly to an archive or special collection, and expect to be working with the primary sources the very next day. The trip alone needs to be planned. Scholars need to work around their professional and personal schedules. Many historians teach, so times when researching is appropriate either require a sabbatical or that the trip be scheduled around a school-wide break. And even graduate students are unlikely to pack up in the middle of a term to make a research trip. Even should all the dates align, securing access to a special collection or archive is not guaranteed simply by showing up. Scholars must

²⁰⁴ In March of 2020 a number of countries went into lockdown, with non-essential work including academia being transferred to an online environment. Even as restrictions lifted, public meetings and public travel were limited. Many universities suspended non-essential travel, including travelling for research and conferences were either suspended or moved online.

²⁰⁵ Not only does travel cost a scholar's institution but we must also consider the environmental impact of such travel expectations. The emissions and fossil fuels expended for an overseas flights alone ought to warrant further scrutiny as to how truly necessary this mode of scholarship is.

contact the curator or institution. They must secure an invitation or permission, often through a process of establishing credentials and sharing the needs of their research. Establishing a need, too, is important. No historian is invited to come to a special collections' library simply for pleasure or handle a rare book.²⁰⁶ Historians must prove that they have done their preliminary work, prove that their need to see or handle this primary text is worth taking it out of temperature-controlled storage.

Not only is preliminary work important for establishing need and giving the historian a right to be on site, but it is key for making the most of the limited time historians have for working with these primary sources. Trips, even sabbaticals, have an expiration date. Scholars must glean all they can from a handful of, or sometimes even a single, visit. Returning to check on details is cost prohibitive, and nearly impossible with scholars' schedules. Although historians are trained to make the most of their archival visit, to conduct substantive preparation and to take copious notes while they work with the primary texts, there is no training for what to do if you miss a detail or stumble upon a new conclusion that needs verification later. The entire outreach process must be started again. And although access may be easier the second time around, scheduling and budgeting for another trip makes this type of inquiry difficult.

Fellowships at archives or collections are highly coveted and with the rise in college enrollment --19.9 million students attended college or university in 2019 --more students are pursuing higher degrees to remain competitive on the job market.²⁰⁷ Fellowships that allow graduate students or post-docs to peruse a collection and to immerse themselves in the manner

²⁰⁶ While this section discusses scholars, the same can be said of non-academics. Unless an amateur historian is very rich and can somehow secure permission to visit the archive, the logistical aspects of the physical archival visit are designed to exclude the general public.

²⁰⁷ National Center for Education Statistics, "Back to School Statistics."

that traditional historical inquiry espouses are often brutally competitive. With rising student debt and the increased cost of living, not only are hybrid and online degree models in demand, but the time to take a fellowship may be a luxury that future graduate students cannot afford

Cost, too, plays an important factor when considering the setbacks of traditional historical research. The likelihood that governing institutions will cover the cost of graduate student or professional research is relatively low. While travel grants may be available, these grants are competitive and not guaranteed. With ever more historians, and ever more students going to college, the amount of grant money available is diminishing in proportion to the existence of a larger pool of applicants.²⁰⁸ Pair this constraint with increasingly restrictive University budgets, and the likelihood of securing funding for an exploratory primary source investigation is pretty much none. And while responsible historians plan and prepare for months if not years before making a trip to an archive or collection, they may very well be using digitized copies of the texts they will work with during this preparatory time to make the most of their time while they are on-site.

These obstacles are not secrets within the history of science. A publication from the 2020 History of Science Society's Virtual Forum states that "for years, early career and precarious scholars have been sounding the alarm about an increasingly impossible academic job market, diminished funding opportunities, and a lack of resources for scholars leaving (or forced out of) the academy."²⁰⁹ In the Futures I panel from this same conference, Elaine Leong proposed that

²⁰⁸ From 2000 to 2018 undergraduate enrollment increased by 26 percent. National Center for Education Statistics, "Undergraduate Enrollment." While the NIH has a significantly larger budget than many history-related grants, in 2018 they saw an increase in applications by 1.5 percent from 2017 and accepted approximately twenty percent of them. National Institutes of Health Office of Extramural Research, "NIH Annual Snapshot- FY 2018 by the Numbers."

²⁰⁹ Marcos et al., "HSS Virtual Forum: Futures Series," 576. In response to the pandemic, the History of Science Society converted their annual meeting to a virtual forum and offered a Futures Series to discuss obstacles old and new facing the profession.

historians of science need to develop better ways of supporting one another, including “rethinking dissertation timelines, extending research funding, sharing archival photographs we have on hand or taking photographs for scholars who can’t travel.”²¹⁰ Although it is unclear for how long Leong believes these practices should remain, or whether they might be a temporary response to the pandemic, the last suggestion essentially ratifies the use of digitized primary sources as a form of viable scholarship. In a similar vein, Patrícia Marcos proposed that “we can also stop fetishizing scholars who travel to dozens of archives as doing the most ‘serious’ work.”²¹¹ While this is not an approval of scholars who do not travel at all, it does speak to the implicit bias of this discipline: namely that archival work is the only kind of ‘serious’ historical contribution.

So, the question remains, why are digitized primary sources considered to be any less valid than physical copies given the realities of access issues? As our students are taught on iPads and can rent digital textbooks, how does the modern scholar fit into this computer-centric environment? What preconceived ideas about digitality exist?

Digitization: Inside the Black Box

To understand why digitization (or the use of digitized primary sources alone) has not been readily and openly adopted by the academic historical community, one must first examine the circumstances around the rise of digitization. Mass digitization started during the early 2000s and became popularized during the Google Books movement.²¹² Initially, digitization did not

²¹⁰ Marcos et al., “HSS Virtual Forum: Futures Series,” 579.

²¹¹ Marcos et al., “HSS Virtual Forum: Futures Series,” 579.

²¹² Leetaru, “Mass Book Digitization: The Deeper Story of Google Books and the Open Content Alliance.”

differ much from the process of converting text to microfiche. A digitized book was brought in, each page was photographed, and then these records were loaded into an online database, along with the standard cataloging information for the text and some rudimentary metadata. Over time, more advanced processes were developed, including adapting OCR (optical character recognition) software that could convert the images of these books into searchable text with relative accuracy. With no similar software available, one can imagine that early instances of OCR were problematic at best. Even today OCR is not perfect. For older books, for example, differences in typesetting and even spelling can make OCR algorithms skip or miss entire words. The most well-known example of this problem is the long “s” which looks the same as an “f.”²¹³ While a smart script can identify letters that look like “f” and change them to “s,” it will do so for all letter s, so that “fat” may be incorrectly converted to “sat.” And of course, we are only referencing modern character sets. Older fonts and letters, manuscripts, watermarks, and images are admittedly exceptions to what an OCR script can convert.

In the earlier days of digitization, who were the technicians who directed and carried out this process and who were their intended user set? By and large digitization was overseen by people immersed in the relevant technologies or those invested in mass access to information, either to profit from the process or from a philanthropic desire to share knowledge with the world. The Google Books project undermined much trust that existed within the academy due to the highly secret nature of their project and the technology used.²¹⁴ Without a public record of their processes, it was difficult to trust their output. Google also, in its quest to digitize all major nineteenth-century texts, has suffered a number of scandals (at least in the library world). They

²¹³ Osley, *Calligraphy and Paleography: Essays Presented to Alfred Fairbank on his 70th Birthday*, 115.

²¹⁴ Leetaru, “Mass Book Digitization: The Deeper Story of Google books and the Open Content Alliance.”

admitted to having erroneous metadata, which they claim is transferred from libraries without a process to check the validity of the information by which a text is cataloged.²¹⁵ In 2011 Google Books was served with a lawsuit when they attempted to force authors to opt-out rather than opt-in to public and wide scale digitization of their work.²¹⁶ Another cautionary tale comes from early independent digitization efforts, where it was discovered that digitizers were combining portions of multiple books to get the best possible full-text image of the content. For example, fire-damaged pages, and pages with scrawled notes were initially left out of the digitization process in the quest to capture a clean copy of the content of the overall book, rather than recognizing that the intact book itself was a source of additional historical information.²¹⁷ (There is also a blog devoted to mistakes, poor imaging, and code errors created by Google Books called *The Art of Google Books*).²¹⁸ While these past mistakes serve as a warning of what scholars would view as problematic, as a digital record, the advantage is that many of these setbacks can be retroactively fixed. The preliminary metadata, however, was often compiled by non-historians, and frequently by non-librarians, and Google currently offers no crowdsourced ability to improve it. You can easily find the camera information for many digitized works, although the notes about the binding, book provenance, or notabilia contained within the pages of the digitized copy are sparse or completely lacking. In short, the record itself is flawed and untrustworthy. Frustratingly, it would take an historian a visit to the archive which owns the

²¹⁵ Nunberg, "Google Books: A Metadata Train Wreck."

²¹⁶ Page, "New York Judge Rules against Google Books Settlement."

²¹⁷ While Google is less transparent about this, a modern publisher listed in Google Books explains their process. They use "state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully" (King, *History of Dickinson College (Classic Reprint)*). Another example of privileging processes over historical information can be seen in Google's choice to make images black and white, even if the original had color (Leetaru, "Mass Book Digitization: The Deeper Story of Google Books and the Open Content Alliance).

²¹⁸ Wilson, "The Art of Google Books."

holding just to verify that the early digitized copy was indeed complete, and that the digitizing organization had not left anything out of the record.²¹⁹

Incomplete and untrustworthy records are not the only problem that arose from the early processes for digitization. Another issue lies in the process of selecting which books were to be digitized, and it is an issue that remains today. Initially, digitization was a laborious and time-consuming process. Except for the Googles of the world, special collections and archives did not have the means to employ full time digitization experts —if these people even existed. To stay relevant and to keep up with current trends, many collections and libraries attempted avocational digitization. While this digitization was often run by content experts, and therefore offered far more complete records documenting the process and provenance, it also meant that the road to digitization was lengthy. Determining the correct photography settings, standardizing the techniques, and training others was a crucial and potentially slow part of the process. Indeed, skipping this step and taking photographs in poor or under different lighting settings could prevent OCR software from working.²²⁰ In addition, OCR in the early stages was either expensive or of below market quality when working with open-source alternatives. Even the *Isis Current Bibliography* less than ten years ago required hand coding of adjustment algorithms to make their OCR more accurate.

²¹⁹ For digitized cookery books one additional aspect of the digitized record that may be missing are also any stains, spills or smells that might be found within a cookbook that was used within a kitchen. This falls outside this dissertation's scope, since often the books that survive were ones that were stored in chests or cabinets. Frontispieces certainly suggest that cookbooks were used within the kitchen proper, but at the risk of drawing upon modern practices, a damaged, dog-eared cookbook that was out of fashion and out-of-date was likely not preserved during the nineteenth century in a state that might allow it to remain for digitization today. With the popularity of exchanging written recipes through letters during the eighteenth century, however, this is certainly an avenue for future inquiry.

²²⁰ For more on image quality requirements see Sdk, "Source Image Recommendations." Anything under 400dpi is unlikely to scan well.

Not only was digitization slow and laborious, but the demand for digitization often fell to big-name items: first editions, Galileos and Keplers, and Da Vinci Drawings. The texts that were digitized first were the best-recognized, made popular by an older version of historiography that still pervades introductory or elementary histories of science. The obscure and ephemeral were low priorities on the list of books to be digitized, if they even made it at all. It is here where the history of digitization gets interesting. Due to the lack of oversight, or even any systematic structure for digitizing collections, scholars with an outside interest in digitization could get texts they were interested in digitized in return for helping with the process. Although collections prioritized digitized books that would help them reach a broader online audience, individual scholars have shaped the online collections of any given institution. For the modern historian, this means that the presence of online primary sources in no way guarantees that the online collection is complete or representative of a particular institution's holdings. Indeed, what interests one scholar could be very different from what interests another, even in the same field and era, and thus their contributions to digitization efforts may not be as helpful to other scholars.

Where does digitization lie today regarding current practices? For institutions operating on relatively low budgets, not much has changed. They are forced to rely on their content experts or graduate students to put in the time to digitize the texts that interest their volunteers. The records for these digitized primary sources are almost always thorough, although their cataloging and metadata may be biased by the digitizer's training and background.²²¹ Repositories such as the HathiTrust are also available. The HathiTrust supplements its Google-based content with

²²¹ Particularly compelling is the discussion of colonialism on African libraries and culture Desai, *Subject to Colonialism: African Self-Fashioning and the Colonial Library*.

locally digitized materials; however, for ease of submission they lowered their technical digitization standards.²²² For collections and libraries with a more substantive budget, digitization can now be outsourced. The University of Oklahoma outsourced the bulk of their digitization to an external company. Today, outsourced digitization comes with a relative guarantee of improved quality, integration with the appropriate cataloging requirements, and improved OCR capabilities. Depending on the budget, however, sometimes only a portion of an entire collection will be sent for this high-level digitization.²²³ It is also worth noting that once digitized, distinctions among book holdings on the quality of an individual digitization is not made. Unless the digitization is so poor that it prevents accurate OCR conversion, professionally digitized books will be archived alongside avocational digitized titles within an online database. So too the older, earlier efforts at digitization will be cataloged alongside new digital versions.

How then should a modern scholar best work with digital resources? The answer is: carefully. Just as with any historiographical training, the historian can study the record, scrutinize the provenance, and research the institution that created the digital copy. The historian can also pull the traditional catalog record and compare it with the digital one to see if there are any notable differences, although many online catalogs now combine the two.²²⁴ And while there is never any guarantee short of directly comparing the digital with the physical copy, on the whole the differences are negligible. It becomes instead a question of the type of inquiry. Is this a text analysis, or a socio-cultural inquiry? Or is this a bibliographical attempt to track down all books belonging to an estate in search of small handwritten notes? For the former, working with

²²² Elkiss, "Beyond Google Books: Getting Locally-Digitized material into HathiTrust."

²²³ This issue is universal. For the budgetary considerations of digitization and the growing backlog see Miller, "All Text Considered: A Perspective on Mass Digitizing and Archival Processing."

²²⁴ This strategy works particularly well for Google Books, since their records are usually incomplete, but they reference the library from which the book originated.

digitized copies is verisimilar. For the latter, it could miss a key piece of information and may not be worth the effort.

Brave New World: Digital Research

Ten years ago, we would not have questioned the archival model. Some of the allure of getting a grant or fellowship is the payoff of the time spent researching the best archives and their holdings and the final culmination of the secondary source work in one giant unveiling of primary sources. So too, we would not have thought to critique or question the electronic or cataloging record of these items. The in-person archivist or curator is a researcher's best friend. They are intimately acquainted with their collection and yield a vast wealth of suggested materials and topics. Yet as this resource has not been codified or documented, the curator is one of the great unwritten secrets of the archival experience, and one of the greatest pitfalls of the digital.

The rise of digitization means that researchers have immediate access to facsimiles of primary sources. They do not need to do the initial prep work, they can test their theories as they go, and can search for primary texts and read them alongside the secondary sources. The instantaneous access to digital primary sources also means that inquiries are not necessarily as carefully or laboriously crafted. If the researcher's initial question is not answered by a potential source, they may well move on. They do not consider alternative answers or seek answers in linked items, partly because they do not need to, and partly because the electronic record does not preserve these kinds of archival or special collection-based links. In a Google Book search, I can access a cookbook stored in the United States and two minutes later access a cookbook archived in London. While access to named primary sources is undeniably improved, the

provenance of these sources is easily lost -- not only in the research process, but quite frequently by the digital copy itself. It is worth considering that while online primary sources and searches offer greater perceived access, they also lose much of the incidental, contextual and human element of traditional archival research. Although modern scholars are trained in the identification of online sources, and how to assess their quality by identifying biases, there is no standard of provenance, no requirement to share one's credentials or the source, process and date of the digitized content when sharing it online.

While training in digital historiography is certainly needed, an unforeseen advantage of the digital movement is the improvement in researcher diversity.²²⁵ In a world of fellowships, student debt, and highly competitive grants, being able to study books across the globe without incurring the expenses of traveling there should not be undervalued. The second half of this chapter surveys some of the diverse avocational historians whose insights can be carefully analyzed to help construct a more comprehensive historical narrative.

Not only does digitization offer the opportunity for diversifying the community of researchers, but it also offers the opportunity to diversify and decolonize historical narratives. While examples can be found in modern collections of indigenous literature through the partnership of librarians with tribal communities, historians of what are considered to be fringe topics such as ephemera or public science, feminist historians, and historians of indigenous or minority cultures all can impact the cataloging and framing of primary sources with crowdsourcing or peer evaluation.²²⁶ Although *Wikipedia* should certainly not be the gold

²²⁵ Drew, Moreau, and Stiassny, "Digitization of Museum Collections Holds the Potential to Enhance Researcher Diversity," 1789–1790.

²²⁶ Senior, "Decolonizing the Archive: Digitizing Native Literature with Students and Tribal Communities."

standard for historical information, its platform allows for content experts (and students guided by instructors as part of active learning strategies) to edit, correct, and improve public records.²²⁷

The fact that cookery books have not traditionally been highlighted as prominent items in the holdings of physical archives means that they have not garnered the fuller attention of historians. Food studies is a relatively recent discipline, especially when conducted with a feminist lens. Moreover, the study of scientific authority and expertise within the kitchen, especially in a context of anything pre-Industrial Revolution, has only become a more historiographically-engaged enterprise in the last decade. In its focus on open access digitized cookbooks from the mid-eighteenth century, this dissertation is structured so that it approximates a research environment that facilitates historical inquiry by a wider range of individuals than was possible a generation ago. Of course, these digitized cookbooks are necessary but not sufficient on their own to sustain an extended analysis—secondary sources play a crucial role as well in helping contextualize these texts and to thus bring as much of the information they contain as possible—whether explicit, implicit, implied, or absent.

Popular Food, Popular History

The rest of this chapter examines the impact that popularization has had on how modern scholars interact with the history of food and related areas of study when they appear in popular formats. Food histories appeal to a broad popular audience, a fact that greatly impacts what and how content from eighteenth-century cookery books is shared in popular venues. For the purposes of this dissertation, I have attempted to categorize eighteenth-century food history popularizations into four categories: 1) Austenites; 2) spectacle foodies; 3) food reenactors; and

²²⁷ “How to Run an Edit-a-Thon.”

4) paraprofessional avocational historians. While these four categories do not fully encompass the spectrum of popularized knowledge about eighteenth-century cooking, their existence is significant enough that each merits consideration when conducting an historical inquiry into this topic.²²⁸ Although popular histories may miss the finer points of analysis or leave something to be desired in terms of transparent methodology, I hope to demonstrate that a partnership with such avocational historians would undoubtedly be useful for the historical scholar (and improve the historical caliber of this more popularized work in turn). To differing degrees, popular histories can improve access to digitized materials, offer insight into histories of instrumentation and lived experience.

Avocational historical efforts are by no means new or novel, although digitization of historical materials being available to them is of course a more recent development. Depending on the primary source, it may in fact be easier for independent parties to digitize and publicize an historical record than it is for large institutions which have processes and budgetary responsibilities that may lead them to focus on big-name or widely recognizable sources before first (or rather then) tackling the esoteric or ephemeral. While independent, avocational historians are unlikely to be able to afford a work by Galileo (first editions cost anywhere from \$150,00 to \$250,000) even the most expensive 18th century cookbooks command low four-figure prices.²²⁹ Whereas entry into more established areas of history of science therefore may be cost

²²⁸ Unmentioned within this dissertation, but certainly worth considering, is the role of video games in creating and displaying historical cooking knowledge. The *Assassins Creed* games, for example, are known for their relative historical accuracy woven into the storytelling narrative, combining “the archaeological record and popular imagination” (Westin and Hedlund, “Polychronia – Negotiating the Popular Representation of a Common Past in *Assassin’s Creed*,” 3). Video games, with the need to create a truly immersive experience, represent a really interesting intersection of historical methodology and the needs of a gaming audience. Cooking and food consumption is a key aspect of many video and computer games. Combining the history of science and cooking with this more popularized but immersive format could present very rewarding, albeit challenging, opportunities.

²²⁹ AbeBooks currently lists the first addition of *nov-Antiqua Sanctissimorum Patrum* (1638) at \$250,000 while *Discorsi e Dimostrazioni Matematiche* (1683) is quoted at \$150,000 (See Abe Books, “Galileo Galilei, First Edition,” https://www.abebooks.com/servlet/SearchResults?an=galileo+galilei&fe=on&sortby=1&cm_sp=pan-_-

prohibitive, avocational historians can easily purchase a range of historical books from eBay online, rare book sellers, or at auctions. Indeed, when studying paleography, my professor instructed the class that while collecting complete medieval texts was likely unattainable, he believed that we could amass a notable collection of medieval manuscript pages and hymns if we were interested in starting our own personal collections.

The truth is that libraries and museums have never been the sole owners of historical records. It is in fact the case that during the mid-eighteenth century even formal historical and scientific collections were spread throughout personal, community, or society collections, and at sites that were the beginnings of larger institutional repositories. It should therefore not be surprising that cookery books were not uniformly assimilated into some kind of record-keeping system, or that avocational historians still control access to a great number of historical sources. With the advent of the Internet not only can avocational historians more easily acquire their own historical records and sources, but they also have the power to digitize, publish their findings, and engage in informal scholarship. In his book, *Seeing in the Dark: How Amateur Astronomers are Discovering the Wonders of the Universe* (2003), Timothy Ferris highlights the prominent role that amateurs have played—and continue to play—in the field of astronomy. Ferris explains that much of the apparent dichotomy between amateurs and professionals comes not from a lack of competence, but rather from terminology – “the word *amateur* didn’t enter the English language until around 1784, and *scientist* wasn’t coined until 1840.”²³⁰ Amateurs, according to Ferris, nevertheless prevailed in the field of astronomy, taking on professional projects and

[srp- -fe.](#)) Their top 10 most expensive cookbooks, however, list an American edition of Hannah Glasse’s *The Art of Cookery made Plain and Easy* (1747) for a mere \$2,875 with Menon’s *La Cuisiniere Bourgeoise* (1746) coming ninth at \$1,751 (AbeBooks, “A Guide to Collecting Cookbooks,” <https://www.abebooks.com/books/cooking/collecting-cookbooks.shtml>.)

²³⁰ Ferris, *Seeing in the Dark*, 36.

pursuing innovative research thanks to three technological innovations –“the Dobsonian telescope, CCD light-sensing devices, and the Internet.”²³¹ Librarians and scholars interested in information history herald the improvements of open access and the opportunities the Internet offers to expand informal scholarship as a development filled with limitless potential.²³² They cite the nineteenth century rise of the “armchair scholar” as a practical example of how scholars or amateur historians with access to the vast number of sources now available on the Internet can successfully research from the comfort of their own homes.²³³

The term “amateur” does not necessarily mean untrained or irrelevant. Even as history became a university-based profession in the 1900s, amateur historians flourished.²³⁴ Today, thanks to books such as *The Amateur Historian’s Guide to Medieval and Tudor London* and the fact that historical textbooks are readily available through Amazon, local bookstores, and Google Books, the truth is that amateur and avocational historians can -- through study or practical experience or both -- be fairly well read and have a well-informed and reflective sense of how to conduct historical inquiry.²³⁵ Many historical disciplines have in fact welcomed amateur and avocational knowledge to a far greater degree than has the history of science. Public and popular histories, local histories, modern history: all recognize that amateur and avocational insight can often spark connections that academic historians can overlook or would take them far longer to recognize. As the historians of science attempt to close ranks and correct the methodologies of the discipline’s early years that have been shown to be lacking by the more nuanced social and cultural constructionist perspectives that they now espouse --including the influence of gender

²³¹ Ferris, *Seeing in the Dark*, 37.

²³² Roff, “The Return of the Armchair Scholar.”

²³³ Roff. “The Return of the Armchair Scholar.”

²³⁴ Tyrrell, *Historians in Public: The Practice of American History, 1890-1970*, 49.

²³⁵ Kettler and Trimble, *The Amateur Historian’s Guide to Medieval and Tudor London, 1066-1600*.

studies, feminist perspectives and efforts to correct the marginalization of non-male, non-elite narratives --they have become more insular and less likely to accept informal scholarship. Historians of science can point to the stark divide between what is taught in high school history and science classes about the history of science and the evolving narrative that the discipline now promotes as an example of why amateur and avocational knowledge has been omitted. Whatever the case, an interest in amateur and avocational knowledge has been left largely uncultivated by the history of science as a discipline. Professional historians have no real ability to regulate digitization: access to online resources and records is a dynamic that will only continue to increase in scale. One possible response to this complication, currently the mainstream one—is to either pretend that amateur and avocational knowledge does not exist, ignore that it exists, or to rule it out and count it as irrelevant. An alternative for historians of science is that they do as I advocate in this chapter: consider the value of working with and developing partnerships with amateurs, avocational historians, and external professionals as informal colleagues. After all, they are here to stay.

Amateur Digitization and Access

Given the history of digitization, amateur digitization is perhaps the least problematic area of historical inquiry. Although amateur digitizers can certainly leave out key pieces of metadata or neglect to digitize front or end matter, much the same can be said for many early institutional digital records. With no need to protect their methodology, amateur digitizers can be more transparent about their digitization practices and more open to discussing them than others may be. Companies like *1DollarScan* allow users to send their books to be digitized, where what transpires is that the spine is cut off (cue librarian and academics' horror), the loose pages are

scanned and the copy is uploaded to a password-protected portal.²³⁶ Today, a number of online repositories offer toolkits for amateur or avocational owners of collections, providing constructive advice on how to digitize their holdings, including recommended software and equipment.²³⁷ Unlike purely amateur efforts, these resources are better-moderated- they pull from best practices from historical research disciplines, are connected to established and creditable institutions, and attempt to provide a formal system of inquiry for digitized endeavors. The existence of these better-moderated digitization products has an impact on how an amateur collection is shared with the public and from that public, who the intended audience is.²³⁸ There is undoubtedly a wealth of resources on the Internet that have not been indexed or optimized for search engines and are therefore undetectable by even an in-depth online search. I myself have happened upon a website indexing online copies of eighteenth-century cookery books, and then found out that the website does not show up in the results of web searches related to the topic. It was pure coincidence that I found it by checking the bibliography of a better documented website. Without a system of representation, recording or documentation for amateur digitization efforts, they are only as powerful as the audiences that they are actually able to reach, regardless of their quality.

At the same time, search engine optimization of the more popular amateur or avocational digitization efforts can teach historians how to better conduct outreach and disseminate their research. When running a quick Google search for “18th Century pudding recipe” there is not a single historical or formal academic institution listed in the top search results. Indeed, the top results come from www.savoringthepast.net, www.britishfoodinamerica.com,

²³⁶ Bellamy, “A Great Way to Digitize Your Library, Mostly.”

²³⁷ “Local History- Digital Collections.”

²³⁸ “Local History- Digital Collections.”

www.foodtimeline.org, www.townsend.us, and [Pinterest](https://www.pinterest.com).²³⁹ Why is this significant? *Savoring the Past* and *Townsend's* are both owned by the same avocational historians, a son and a father who attempt to re-create recipes on a YouTube channel filled with anachronistic mistakes. *British Food in America* is an online group of avocational historians interested simply in restoring what they describe as the heritage of "British food" and *Food Timeline* is the after-hours creation of a reference librarian.²⁴⁰ The presence of so many avocational accounts may at first appear unremarkable. Yet run a Google search for "18th century alchemy recipe" and top results include open access journals such as www.sciencehistory.org, www.livescience.com, www.the-scientist.com, as well as the *Washington Post*, the *Khan Academy*, and published books indexed by Google Books.²⁴¹ Admittedly alchemy has a longer academic history, but there is an equally large group of twenty-first-century alchemists, blog writers, and mystics whose webpages do not immediately display. Notable too, is that --apart from Stanford University which on the whole tends to index their sites with a savvy that rivals the strategies of their modern corporate competitors --university pages that would be relevant are also missing from the search results list.²⁴² This means that what is readily accessible to a general public trained or untrained in a variety of scholarly methodologies is not necessarily going to the best examples of

²³⁹ I conducted this search on a variety of different search engines including Bing and in an Incognito Browser so that my search history and metadata would not impact the results. While results differed slightly, there was still no formal academic or scholarly listing on the first page.

²⁴⁰ Carter, "Savoring the Past"; "Our Modest Manifesto"; Olver, "About This Site"; Jas Townsend & Son Inc., "Townsend's Live History"; "Pinterest."

²⁴¹ These results are also almost exactly the same when in Incognito browser mode (to prevent my preferences and metadata from filtering results). Similar results can be found on Bing, also with a greater representation of historically vetted sources. The top result for Bing is actually from *The Recipes Project* - an open access blog edited by a team of multidisciplinary historians (The Recipes Project, "About," <https://recipes.hypotheses.org/about>).

²⁴² It is not surprising that Stanford is raised as the gold standard of web indexing by librarians since they wrote the guidelines of how to scale and index for a complex Google search (Brin and Page, "The Anatomy of a Large-Scale Hypertextual Web Search Engine," <http://infolab.stanford.edu/~backrub/google.html>).

how to publish history online. They are, instead, seeing what other amateurs, avocational historians, or practitioners in semi-aligned disciplines are doing.

Ten years ago, the issue of amateur digitization was less pressing. Any amateur keen to conduct digitization would have required access to expensive equipment or high-resolution cameras and their numbers would have been correspondingly small. At that time, digitization efforts also had to contend with the potential cost of cloud storage, and the fact that digitized files were large and could fill a website's free allocated storage quickly. Today, however, none of these restrictions apply. With smartphones in almost every hand and improved scanning and picture-taking ability, one only needs direct access to historical records to embark on the amateur digitization process. And with the price of cloud storage at cents on the dollar—in addition to the massive amount of free storage space offered by Google and Amazon --it is unlikely that amateurs will need to purchase online storage space for their digital files.²⁴³ The fact of the matter is that digitization is increasingly easy to do, and that there are very few easily accessible models out there to demonstrate best practices for amateurs.

Amateur digitization comes with its own unique advantages and disadvantages. In not being tied to institutional budgets or budgetary review, amateurs can digitize what they want, when they want. They are not beholden to any production timeline, so they also have the luxury of double-checking scans or re-taking images. That said, it is unlikely that amateurs have the staff or budget that larger institutions have at their disposal, so their OCR capabilities may be limited, which would affect their output. What amateurs possess in abundance, and what many early historical digitization efforts also offered, is passion. Passion is, of course, not limited to

²⁴³Bourgeois, "The Definitive Guide to Cloud Storage Pricing."

amateurs. Early adopters of digital formats from the field of history certainly display the same kind of zeal and drive. Notable professional digital projects such as Jim Zwick's *Anti-Imperialism in the United States*, Edward Ayers' *Valley of the Shadow*, and Eyer Robert Coates, Sr.'s *Thomas Jefferson on Politics and Government*, all were the result of a "teaching need or historical passion" and a desire to reach "the widest possible audience."²⁴⁴ Yet on the whole, professional digital projects are underrepresented; they are often slow-moving, they may require institutional access to view in their entirety, and there are a great many factors that may deter an historian from embarking down this road: from a lack of technical skill, to the highly competitive nature of a grant that might allow them to hire a technically savvy collaborator, and even to the possibility that this kind of research may not count toward tenure or promotion. Thus, although avocational historians may not undergo the rigorous methodological training of archivists and catalogers, their interest in the subject matter may at times be an improvement on the older model of digitizing the most heavily used or notable texts first.

There are a number of external communities both formal and informal dedicated to digitizing or providing access to historical records and primary sources. Amateur digitization efforts are also not necessarily the undertakings of a single individual. The Ghostsigns project, which collects images of faded signs and advertisements from around the world, is an avocational initiative that later gained funding from the UK History of Advertisement Trust.²⁴⁵ With online digital archives, the role of the avocational historian is not limited solely to that of archivist or curator. Within an online platform, amateurs and avocational historians often have the power to interact with one another through discussion boards or by leaving comments and

²⁴⁴ Cohen and Rosenzweig, *Digital History: A Guide to Gathering, Preserving, and Presenting the Past on the Web*.

²⁴⁵ Carletti, "A Grassroots Initiative for Digital Preservation of Ephemeral Artefacts: The Ghostsigns Project."

they are able to crowdsource information such as relevant citations or metadata.²⁴⁶ And while *Wikipedia* shows us the dangers of such crowdsourcing such as the perpetuation of outdated (but citable) ideas or the proliferation of general knowledge as specialized knowledge may be removed by underqualified editors, it also reminds us of the power and benefits as well such as the sheer volume and representation of topics.

Another significant endeavor related to amateur digitization in the area of food studies is the cataloging or listing of cookbooks. A crucial issue when it comes to these types of amateur digitization efforts lies in two aspects: the rigor of the community if they are crowdsourced, and the ability or willingness of producers to return and update a listing. Two noteworthy examples where the purpose of the database falls short comes from *1000 Cookbooks* and *The Sifter*. *1000 Cookbooks* is an impressive, easy-to-search database of cookbooks, which also includes recommendations from chefs, authors and food professionals that can help to expand one's culinary journey.²⁴⁷ While the database has clearly designed to be user friendly by linking to full text copies and encouraging a sense of community through AI recommendations, community commenting, and links to social media, it has a predominantly twentieth-century bias. The full text links for older books are missing, forcing readers to purchase them on Amazon and the categories by era lump all historical texts into a very broad "Pre-20th Century" category.²⁴⁸ Thus, while this database is sleek and could be used as a model for food historians, it cannot adequately meet our researchers' needs.

²⁴⁶ Ghostsigns for example had extended interactions run through Twitter, Facebook, and Flickr. Carletti.

²⁴⁷ "About 1000 Cookbooks."

²⁴⁸ "About 1000 Cookbooks." Unlike YouTube channels, I cannot speak to whether *1000 Cookbooks* receives royalties from Amazon through these embedded links. If they have an Amazon Associate account they could be profiting from purchases directed from their web traffic.

On the other hand, *The Sifter*, as an open access repository of digitized cookbooks was designed with historical food studies in mind, although more in the realm of ingredients, techniques, and authors and less in regard to full text access.²⁴⁹ This project, however, seldom offers access to the texts themselves. Indeed, while it may be helpful to find active authors or to date ingredients, as the site does not contain the texts (or links to the texts) themselves, this renders the entire project nearly useless for historians. The database itself is woefully incomplete when it comes to mid-eighteenth-century cookery books and does not contain any texts by William Ellis, Elizabeth Moxon, or Edward Lambert. That said, *The Sifter* is a searchable database that acknowledges the presence of gaps and is open for outside experts to gain membership.

More static sites or blog posts do not have the same opportunities for improvement. Take for example two very thorough blog postings with lists of eighteenth-century cookbooks, along with links to their open access Google digitized variations: savoringthepast.net and angelfire.com/md3/openhearthcooking.²⁵⁰ Kevin Carter, the author of the savoringthepast.net has not returned to the list since 2014, while the anonymous angelfire.com posting offers no publication date.²⁵¹ Avocational blog posts, which need not follow rules, incorporate guidance for publication transparency, or adopt methods for improvement, can be equally as problematic as an incomplete amateur database.

²⁴⁹ “Search the World of Food.” Initially started by Barbara Wheaton, an honorary curator with some classes in art history, this project’s advisory board expanded to include faculty of food studies and has ties to the Oxford Symposium on Food and Cookery (Gattuso, “A Database of 5,000 Historical Cookbooks Is Now Online, and You Can Help Improve It.”)

²⁵⁰ Reber, “Historic Cookbooks 1700-1800”; Carter, “18th and Early 19th Century Cookbooks: Searchable, and FREE.”

²⁵¹ The page source information also shows no date or modification timestamp.

It is important to remember that avocational historians are not all alike. They are not some uniform class of scholars with the same passion or access to resources. There will always be outliers (such as independently wealthy collectors such as oil company executive Everette L. DeGolyer, the founder of the University of Oklahoma's History of Science Collection) as well as new age witches who genuinely believe that they can achieve the alchemical dreams of Hermes Trismegistus or Isaac Newton.²⁵² Depending on the avocational historian's "day job" they may have increased access to primary texts. Librarians, for example, do have such access to primary sources and can be granted permission to reproduce images of manuscript recipes on an institutional blog. In general, however, there is no formal way of accessing externally produced scholarship, as there is no single community of practice to which amateurs, avocational historians and scholars outside the history of science turn. Information on this subject can be found from contributors to Reddit, Flickr or private Facebook groups just as much as from published historical texts and sourcebooks. There is also no guarantee that the modern historian can really find and identify all products of amateur and avocational practice. We may never find posts by amateurs or avocational historians who did not optimize their blog for SEO (search engine optimization), nor can we know about amateurs and avocational historians who do not even feel the need to share their efforts in a public forum, or who hide their efforts in an attempt to bypass copyright rules and regulations. As such, the following comments about external contributors to this field are restricted to only those that can be easily identified through search engine results and better-recognized forums for online historical discussion.

Amateur digitization efforts, at least those to which historians have access, also do a remarkably good job at reaching their intended audiences. This is where they truly shine. While

²⁵² OU History of Science Collections, "About the Collections," <https://ouhos.org/about.html>.

attention to provenance and metadata may be neglected, in the age of the Internet, creating resources that are user-friendly and easy to find puts digital natives or avocational historians with experience in non-historical fields at an advantage. Digital humanities scholar Melissa Terras has written extensively on this topic, arguing that academics have much to learn from amateurs about how to design collections to be “useful, interesting, and used by online communities.”²⁵³

Independent amateurs and avocational historians, as compared to academic institutions, may also be less concerned about provenance or even owning the items portrayed on their website, focusing only on the digital access and representation.²⁵⁴ While academic professionals and their patron institutions are held back by the legalities of copyright, amateur or avocational online projects often bypass the lengthy process of securing license usage rights and publish any and all related visuals alongside their findings.

Getting Social

In a world that is made to feel increasingly larger due to the Internet, there has also been a cultural movement toward the discovery and identification of like-minded individuals, brought together by common interests. This concept isn't new or groundbreaking, but at a recent educator's conference they shared that the most frequent feedback they heard was that participants had ‘finally found my people.’²⁵⁵ Communities, tribes, squads, #fam and #girlgangs all get at the sense of belonging based upon a shared set of beliefs or interests. It should therefore not be surprising that amateur and avocational history has also made it into the realm of social media and is using these sources of networking to build quasi-scholarly communities.

²⁵³ Terras, “Digital Curiosities: Resource Creation via Amateur Digitization.”

²⁵⁴ TTerras, “Digital Curiosities: Resource Creation via Amateur Digitization.”

²⁵⁵ POD (Professional and Organizational Development) Network, “POD Feedback Survey and Core Committee Nominations.”

I recently gained insight into the ways in which social media sites can facilitate networking through an encounter with the curator of an American history archive at an unlikely place --the Rocky Balboa-esque old time MMA gym, complete with dim lights, industrial ceiling fans, and the pervasive smell of body odor, leather and what is quite possible jock straps where our spouses were sparring.) As an historian and librarian, he was telling me the difficulty he had had in getting his hands-on primary sources until he discovered Facebook. It turns out there is an entire community on Facebook that shares WWII stories, digitized pictures, and other records. Not only do they collaborate with one another, but they corroborate stories, provide dates, and on a number of occasions have helped him identify historical structures or people in photographs. He also told me that more recently he had started buying photographs, documents, and memorabilia from the era from eBay, then digitizing them and providing access to them on Facebook. He explained that now that he had spent a significant sum of his own personal money on this venture, he not only had become familiar with established eBay historical vendors but was also acquainted with other amateur or avocational collectors who bid on similar items and had started the process of reaching out to them to collaborate. While this kind of resource is not available for eighteenth-century historians, the ability to use crowdsourcing or social media to find specialized information and others interested in the specifics of one's scholarly niche has been noted by a number of scholars.²⁵⁶

Scholarship into the advantages of crowdsourcing and social media for cultural histories tends to focus on the nineteenth century onward. Digitization for this era spans the gamut: from full text digital primary sources to images of covers, frontispieces, and even period art. A

²⁵⁶ Terras, "Digital Curiosities: Resource Creation via Amateur Digitization"; Carletti, "A Grassroots Initiative for Digital Preservation of Ephemeral Artefacts: The Ghostsigns Project"; Madsen-Brooks, "'I Nevertheless Am a Historian':"; Hunter and Lastowka, "Amateur-to-Amateur."

noteworthy dimension of this interest is the large number of images that can be easily discovered, a situation quite different from the pre-Internet period. As a platform that caters to images, Flickr is particularly recognized for its ability to facilitate hosting, discussing and collecting historical digitized images.²⁵⁷ A study into user communities or “pools” created on Flickr around historical subjects, for example, revealed that popular topics included pulp fiction, “old-timey” paperback book covers, vintage fashion, vintage advertising, and “The Great War Archive.”²⁵⁸ While these communities shed light on online archival practices, keyword categorizations, information seeking practices, and collection management, their image-based nature makes it difficult to encompass earlier periods of history that are not already well-represented. Up until the nineteenth century, cookery books had few to no illustrations and there is little that is visually appealing about these eighteenth-century texts apart from their frontispieces.²⁵⁹ As such, just as they have been passed over as akin to ephemera in larger institutional collections, they remain underrepresented in the visual-based collections hosted on social media. Anton Stjepan Cebalo, in his study on the impact of YouTube on history, does warn of the pitfalls that can come specially when utilizing scholarship linked to social media, for it is designed and tailored to meet the algorithms and attention span of the intended audience.²⁶⁰ In particular, when history is packaged for short attention spans and as entertainment, emphasis may be put less in analysis and chronology and more into storytelling.²⁶¹

²⁵⁷ Terras, “The Digital Wunderkammer: Flickr as a Platform for Amateur Cultural and Heritage Content.”

²⁵⁸ Terras, 692.

²⁵⁹ Gray, “A Practical Art: An Archaeological Perspective on the Use of Recipe Books,” 48.

²⁶⁰ Cebalo, “Amateur Historians in the Age of Internet: A Look at YouTube”, 5.

²⁶¹ Cebalo, “Amateur Historians in the Age of Internet: A Look at YouTube”, 5.

A cautious researcher can nevertheless draw useful information even from incomplete digitized texts or questionable records. My own online investigations to search for information that would help me to generate hypotheses about the everyday lives of the female audience of the cookbooks in this study serves as example of options for exploratory research. Admittedly any image during this period is stylized, but I wanted to see whether the changes in architecture and cooking techniques had impacted the visual representation of eighteenth-century kitchens in paintings and frontispieces. I searched museum catalogs and reputable archives and found a relatively sparse turnout. These paintings, often with names unrelated to kitchens, had not been cataloged to represent the background setting. The painting *En Qvinna som skurar koppar*, translated to English as “a woman who cuts copper”, depicts a woman in an eighteenth-century Swedish kitchen with her wide ranging *batterie de cuisine* and working in a newer architecture fireplace. While paintings mentioning kitchens or cooks may show in a meticulous catalog search, this painting could have easily been overlooked.



Figure 1 Pehr Hilleström (1733-1815), *En Qvinna som skurar koppar*

I next tried a Google Image search, which yielded surprisingly few accurate results. The eighteenth-century images were mixed in with sixteenth- and nineteenth-century ones, requiring that I check each host website before analyzing the image. Fortunately, most of the postings come from auction or “great art” reprint sites, so they at least record fairly accurate dates. Finally, thanks to the intrusive wonders of AI, I stumbled across a board in Pinterest that was recommended for me in light of my recent Google searches. I discovered that the users of Pinterest do a far better job of chronicling, collecting, and differentiating eighteenth-century

images of domestic life than a month-long perusal of online archives and other websites ever could. In fact, there were a number of images posted on Pinterest that were not hosted anywhere else. While Pinterest was, and has continued to be, immeasurably helpful in identifying images of eighteenth-century life, the non-academic nature of this platform presents a rather large setback: namely that ‘Pinner’ are not required to or even prompted to cite the original source of images. Therefore, although some users link back to a website and a handful with historical training add the citation to their caption, use of the images so quickly found on Pinterest still requires a rather laborious undertaking to provide historical details. Even with the advent of reverse image searches, there have been a handful of very compelling eighteenth-century kitchen images that I have not been able to use or analyze because they can be found only on Pinterest and are not hosted elsewhere.²⁶²

In spite of the possible malpractice issues, from a lack of citations to sometimes questionable copyright infringement, the improved access to sources made possible through digitization offers new avenues into the way we do historical research.²⁶³ The transfer of historical discussion, repositories, and information seeking to social media, blogs, Facebook groups, image-hosting platforms like Flickr and Pinterest, and non-institution affiliated websites gathers across these platforms a wealth of external knowledge if historians can develop strategies to traverse its pitfalls.²⁶⁴ While using these resources certainly blurs the boundaries of historical

²⁶² It is also worth noting that Flickr does a great job of providing historical communities of practice with images. That said, without the requisite tie-in to a website, determining the authenticity or validity of Flickr citations can be difficult and often relies upon the expertise or interest of the person behind the original post.

²⁶³ Madsen-Brooks, “‘I Nevertheless Am a Historian’.” For an overview of copyright as it impacts amateurs sharing information see Hunter and Lastowka, “Amateur-to-Amateur.”

²⁶⁴ As a short aside, it is also worth recognizing that not only is amateur work useful, but it is also here to stay. Cebalo has convincingly demonstrated that many of the top historical YouTube channels are authored by amateurs (Cebalo, “Amateur Historians in the Age of the Internet: A Look at YouTube,” 6-8). He also notes that sales for academic publishing have dropped, as have the number of students studying history at a professional level (Cebalo, “Amateur Historians in the Age of the Internet: A Look at YouTube,” 14). With so many gaps in the historiography, and fewer historians coming to our discipline, it is not a stretch to suggest that perhaps amateur historians will end

practice, they also democratize history, offering “new opportunities and modes for expanding historical literacy.”²⁶⁵ And while social media collections and discussions certainly need to be approached with circumspection, they can offer far more than just improved access to digitized primary sources and images, as I discuss next.

Amateur as Expert: Instrumentation and Lived Experience

Amateur and avocational accounts, whether containing errors or marred by copyright violations, can still help the professional historian in two significant areas, particularly in their interest in attempting to replicate past actions. The first is that they can offer insight into what is missing from historical records; the second is that they can help to fill in some of the gaps about lived experience that is not recorded in cookery books, diaries, and other sources of formal historical documentation such as account books, fiction, and taxation records.²⁶⁶ The history of chemistry and alchemy perhaps serve as one of the better accepted examples of recreating past practices to better understand processes, in which historians performed or worked with archeologists and scientific experts to re-create experiments.²⁶⁷ While they also worked heavily with manuscripts and printed texts, these historians drew upon material evidence and engravings as a basis for recreating laboratory settings.²⁶⁸ The acceptance of routes other than reading texts to explore the past –here how chemical practices using period apparatus could be replicated –

up filling and presiding over the history that is consumed and preserved. As such, if we cannot determine ways to work with amateurs, we may in time find ourselves becoming obsolete.

²⁶⁵ Madsen-Brooks, “‘I Nevertheless Am a Historian’.”

²⁶⁶ Gray covers a full wrist of sources of written documentation including taxation records, imports and exports, and fictional accounts (Gray, “‘A Practical Art:’ An archeological Perspective on the Use of Recipe Books,” 49).

²⁶⁷ Lawrence Principe’s work replicating alchemists’ formulas is perhaps the best-known example outside of historical circles (Guarino, “This Chemist is Unlocking the Secrets of Alchemy.”) More recently, other historians of science and technology have also adopted re-creating experiments and part of their analysis, most prominent being Pamela Smith’s “Making & Knowing” project (“The Making and Knowing Project: Intersections of Craft Making and Scientific Knowing,” <https://www.makingandknowing.org/about-the-project/>).

²⁶⁸ Holmes and Levere, *Instruments and Experimentation in the History of Chemistry*, ix.

within the history of science arose during the late 1990s due to the efforts of historians such as Lawrence Principe, Jan Golinski, Mary Jo Nye, and William R. Newman.²⁶⁹ In studying the instruments and practices these historians were better able to shed light on the similarities and differences between chemical practice and theories.

Developing instrumentation histories of matter in past centuries is difficult due to very little physical evidence surviving to the present day. In chemical laboratories the equipment ran the risk of breakage, not to mention being subjected to the wear and tear of time and use.²⁷⁰ Chemical apparatus in fact were sometimes repurposed within the kitchen and vice versa, but no intentional attempt at historical record preservation was extended to these tools of daily practice.²⁷¹ Kitchen practices run a similar risk. Not only is there very little historical evidence that has been preserved, but many older kitchen technologies were also repurposed for new culinary practices.²⁷² In the sixteenth and seventeenth centuries, for example, the majority of cooking was conducted in a single large stewpot. Puddings were boiled in the same water as the stew, and the drippings of spit-fired meat were also caught, permeating all foods cooked within with the same flavors.²⁷³ With the rise of a new method of cookery in the eighteenth century, saucepans, frying pans, and other cookware were added to the cook's arsenal. The stew pot did not disappear; it was simply incorporated into a new method of cookery, its uses limited now to stews and soups. And while it was possible to have a kitchen with a sixteenth-century stewpot

²⁶⁹ All four authors contributed chapters to Holmes, Frederic and Trevor Levere, *Instruments and Experimentation in the History of Chemistry* (2000).

²⁷⁰ Holmes and Levere, viii.

²⁷¹ For example, Joseph Priestley used kitchen instruments including "common tea dishes" in his experiments Holmes and Levere, 91.

²⁷² Recipes for feast day entries and spit roasts, for example, can be found in eighteenth-century cookery books. Recipes for "Great Cakes" – older yeast-based spice cakes – continued to be used for celebrations even though they were creations of seventeenth-century cooking (Davidson, "The Oxford Companion to Food," 840; Smith, *The Oxford Encyclopedia of Food and Drink in America: A-J*, 157).

²⁷³ Wilson, *Consider the Fork: A History of How We Cook and Eat*.

and eighteenth-century copper and brass pans, the wear and tear of daily use also means that is just as likely that the pot was replaced or repaired, rendering archeological dating of remaining instruments relatively useless. What remains or has been collected by museums or public manor houses cannot therefore be taken as representative on its own.

Even with a scarcity of historical evidence, other fields have had promising results through recreations and reenactments in adding to their knowledge base. In particular, the history of musical performance offers an alternative approach that compares the physical and technical limitations of instruments with historical sources, an approach that goes so far as to question whether accounts that remain are representative.²⁷⁴ Historians of these fields draw upon archival and historical methodologies derived from working with even the ephemeral nature of oral histories to capture practices that have not been described in formal written records. Ethnomusicology, for example, draws upon historical musicology and anthropology to understand the sounds, settings, and significances of historical music.²⁷⁵ These ethnomusicological historical explorations utilize period accounts from audiences, event publications, photographs or images, recordings or re-creations, and even architectural plans.²⁷⁶ Historical sound studies, in which lost soundscapes are rebuilt to “‘visualize’ the past, or at least bring to the surface different patterns in the meshwork.”²⁷⁷ Historians recreating soundscapes note that there is not, as of yet, a way to truly create an immersive experience, but that the

²⁷⁴ Butt and John, *Playing with History: The Historical Approach to Musical Performance*. For an history of technology analysis of sound, see also Mody, “The Sounds of Science: Listening to Laboratory Practice” and Schmidt-Horning, “Engineering the Performance: Recording Engineers, Tacit Knowledge and the Art of Controlling Sound.”

²⁷⁵ Shelemay, “Toward an Ethnomusicology of the Early Music Movement: Thoughts on Bridging Disciplines and Musical Worlds.”

²⁷⁶ See “Ethnomusicology: Primary Sources.” Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933*.

²⁷⁷ Graham, Eve, Morgan and Pantos, “Hearing the Past,” 228.

recognition of the modern intrusions of technology or imperfect experiences “remind us that access to the past is always mediated through the technologies and inquiries of the present.”²⁷⁸

For how else can we re-create sound, short of attempting to reproduce it in a similar setting, with the same or similar instruments?²⁷⁹

Methodologies for researching subjects so intricately linked to our lesser documented senses applies directly to cooking. Food and diet historian Ian Mosby cooks historical recipes as a way to test hypotheses and interpretations. He explains that “when you misinterpret a recipe or fail to account for its historical idiosyncrasies, the result is immediate: the cake fails to rise, the meat is undercooked, or the soufflé collapses in on itself.”²⁸⁰ Mosby’s approach certainly works for assessing measurements or testing processes. A quantity he does not mention, but is also present, is time: the time it takes to cook, the time devoted to scrubbing pans or preparing these large-scale household recipes is also a factor in understanding the lives of the women working within the kitchen. Even more elusive is the ability to integrate tastes and odors into food history- the former being a sense even harder to document for it is decidedly subjective. The smell of the river Thames, for example, works its way into accounts of British eighteenth-century daily life because it was so often commented on. But there were a myriad of scents and smells that made up British daily life that have not become a matter of public record.²⁸¹

²⁷⁸ McPherson, “Editor Introduction,”

<http://vectors.usc.edu/projects/index.php?project=98&thread=AuthorsStatement>. These sentiments are also echoed in Graham, Eve, Morgan and Pantos, “Hearing the Past,” 233.

²⁷⁹ These histories of ephemeral experiences offer guidelines and vocabularies that can be applied to the history of cooking. As we think about what it is to re-create a recipe, we must make allowances for the scope, purpose and technologies that impacted daily food production.

²⁸⁰ Mosby, “Eat Your Primary Sources! Researching and Teaching the Taste of History.”

²⁸¹ Smell, in particular, is a difficult sense to recreate. Museums have recently taken an interest in the possibility of combining scents in a fully immersive experience, especially as the costs for AR and VR technologies decrease. In 2020 the “Odeuropa” project was announced, a 2.8 million Euro venture to attempt to screen historical texts to identify meaning and context of odors and scents across early modern Europe and recreate the with a team of

In exploring how to address these gaps in historical understanding, I recommend taking the imaginative efforts of amateur and avocational accounts under consideration. Although amateurs may use less rigorous methodologies than do academics, their findings, difficulties, and observations offer potential insight into aspects of daily and process-driven experiences that are often only hinted at by traditional historical resources. Best-selling fiction author Deborah Harkness, who is a professor of the history of science who specializes in the period from 1400-1700, sums up the balance between the need to postulate answers to missing details and the importance of adhering to historical accuracy in a 2018 interview. She explains that although as an historian she thinks it is imperative to capture large thematic details -- such as the French Revolution's impact on family structures -- guessing on the details for lived experience when little to no historical record remains is warranted.²⁸² As she asserts, "None of us really knows how underwear was constructed in the 16th century because, like, three pieces of it survive, and we generalize based on that."²⁸³ Eschewing any hypothesis in circumstances where there is a dearth of evidence due to deficits in the historical records that have survived – or writing off such hypothetical efforts completely -- is as problematic as attempting to re-create an alchemical laboratory experiment from the eighteenth century using only what remains when the majority of glassware has shattered or been structurally compromised.

This issue is not just a problem that historians have noticed. Diana Gabaldon, author of the *Outlander* series, discusses the importance of her own avocational research into eighteenth-century Scottish history and daily life in a number of interviews. Gabaldon read eighteenth-century cookbooks to gain familiarity with what common ingredients were used, but given that

scientists (Davis, "Scents of History: Study Hopes to Recreate Smells of Old Europe," <https://www.theguardian.com/science/2020/nov/17/scents-of-history-study-hopes-to-recreate-smells-of-old-europe>).

²⁸² "Interview with Deborah Harkness."

²⁸³ "Interview with Deborah Harkness."

no images and no descriptions of how things tasted existed, she had to draw the rest from her “culinary imagination.”²⁸⁴ To create a believable historical picture, Gabaldon reads historical herbals, books on Scottish and highland culture and customs, eighteenth-century dictionaries, especially of the “vulgar tongue,” medical historical texts, books on warfare and eighteenth-century artillery, and books on wood-working, house-building, cookery and sewing.²⁸⁵ If this comprehensive background research reflects on the requisite aspects for painting a credible account of the lives of fictional characters, the research an historian must undergo to accurately represent the daily practices of lived experiences in the case of real people should, perhaps, be as thorough. Finding clues of where to look for what is missing from historical sources by examining external accounts may provide support for academic historians’ endeavors.

I think it important to pause, briefly, and note that while historians may well find use in amateur or avocational scholarship, there is also a very real possibility of creating a mutually beneficial partnership. Melissa Terras, in an interview “Citizen Science: Crowdsourcing and Ethics” describes what a positive partnership with amateur or volunteer workers might look like. She explains that communication is crucial, not only in asking transcribers if they wish to have their username or their real name published when their transcriptions were used, but also in finding ways to ensure that the volunteers were getting something out of a woefully underfunded cultural heritage project.²⁸⁶ Terras emphasizes that, even while the volunteers may not have been trained historians, “it’s about dialog, even though they are not on campus, they’re not on site, but

²⁸⁴ Outlander Kitchen, “Rolls with Pigeon and Truffles,” <http://outlanderkitchen.com/2011/10/31/rolls-with-pigeon-truffles-from-voyager>.

²⁸⁵ “FAQ: About the Books,” <https://www.dianagabaldon.com/resources/faq/faq-about-the-books/>.

²⁸⁶ Parthenos Project, “Parthenos Training- Citizen Science: Crowdsourcing and ETHICS (Transcribe Bentham)” 1:50-5:08.

they are part of the team.”²⁸⁷ As stated at the beginning of this chapter, in assaying the significant roles that non-academics can play in elucidating the nature of eighteenth-century cooking, I believe four categorizations can be a fruitful framework within which to think about collaboration. I now turn specifically to brief descriptions and discussions of these: Austenites, spectacle foodies, food reenactors, and the paraprofessional avocational historians. Each offer different insights when it comes to contextualizing and navigating the gaps of what is not said in mid-eighteenth-century cookery books, along with biases and methodological issues that need to be critically evaluated.

Austenites

Austenites are those amateur or avocational historians interested primarily in the “everyday” experience of living in a manor house. While much of their focus is on fashion and table manners, they also show particular interest in seasonal or feast day foods, and foods for the British aristocracy. The degree to which members of this category can contribute to historical insights varies. There are a number of voyeur or occasional Austenites who flock to events such as the Jane Austen Festival in Bath, England, which is for all intents and purposes a Victorian “renaissance fair”. Historical accuracy is low upon the list of particulars as revelers dress up in gowns, attend balls, and take pictures in “not completely historically accurate” dress.²⁸⁸ This cohort of enthusiasts fuel the interest in the period, but their primary interests lie elsewhere than contributing to the historical record.

²⁸⁷ Parthenos Project, “Parthenos Training- Citizen Science: Crowdsourcing and ETHICS (Transcribe Bentham)” 5:09-5:12.

²⁸⁸ “Regency Clothing.”

There is, however, a second category of Austenites who take the historical accuracy of the details they collect far more seriously. These Austenites, for example, write comprehensive blogs, either as the sole contributing author, or as part of a peer-edited group that may be composed of historians, chefs, English literary professors, and librarians. Although Georgian England and Jane Austen are based firmly in the late-eighteenth to mid-nineteenth century, these blogs tend to extend back into the early-eighteenth century to provide context. A good, albeit nineteenth century focused resource comes from the blog *Jane Austen's World*. Distinctive from other blogs in this area, *Jane Austen's World* is designed as a scholarly endeavor and draws upon a number of guest writers. Started in 2006, the website offers information on original sources, historical bibliographies, English literature resources, and content on social customs.²⁸⁹ The post on eighteenth-century cookery books and British housewives brings quotations and frontispieces together to create a compelling, historically accurate narrative.²⁹⁰ Sadly, all the evidentiary images do not refer to their original title or provenance, they instead cite a published book authored by *Jane Austen's World* as their source. A historian wanting to find the original copies of these images must do so without the aid of this austenite resource. However, knowing the title of an image or having a copy of it to run through a Google Image reverse search helps to broaden the scope of investigation beyond archival databases.

Regula Ysewijn is a blog by the author of the same name that combines recipes with research into their historical contexts. Ysewijn is an award-winning historical cookery book author, chef, and graphic designer, yet she meticulously outlines not only the historical background of her recipes, but also where she had to deviate from or make assumptions about a

²⁸⁹“Original Sources/19th C. Texts.”

²⁹⁰ “18th Century Cookery Books and the British Housewife.”

recipe. For example, when discussing Queen cakes, she explains that “18th century recipes remain silent about the tins they should be baked in, but it is very possible that the then fashionable mince pie tins would have been used, leaving them without a need to create new tins.”²⁹¹ Her explanation not only points out the assumed practical knowledge contained within the recipes, but also reveals her nuanced understanding of what was available within an eighteenth-century kitchen.

Not all blogs are alike, however. Another blog comes from two self-proclaimed historians, one an author and the other with an undergraduate degree in arts and sciences, with a focus in history. This blog also features guest posts, from historical romance authors, art historians, editors of historical society newsletters, and collectors. Although their audience is certainly broader than that of an academic historian, their format lends itself to brief, yet historically based forays into a range of topics that would not qualify for full treatment in an essay or book, with accompanying uncited images. A brief piece on eighteenth-century careers highlights the role of a pastry cook with an undocumented explanation of the earnings of a male pastry cook.²⁹² However, below this entry they share an image of a satirized nineteenth-century female pastry chef.²⁹³ The lack of citations and the incongruous decades of the accompanying images is certainly problematic. However, both provide a good place for historians to seek additional avenues of inquiry. Knowing how much a male pastry chef earned helps to narrow a search for the primary sources, which in turn may shed more light on additional information that may have been missed with the short lens of the blog post. The broad interest in Georgian

²⁹¹ Ysewijn, “Queen Cakes- 18th Century Dainty Bakes.”

²⁹² Murden, “More 18th Century Career Choices.”

²⁹³ Murden; “Mock Turtle. Puff Paste. 20-20 Nov 1810.”

lifestyles, therefore, leads at least to a repository of resources arranged and cataloged by people with an interest in everyday narratives, if perhaps not historical training in this area.

Spectacle Foodies

Spectacle foodies is my term for the historical subset of people interested in consuming the weird or the grotesque. While this category certainly extends to people who actively search for unique recipes with the intention of making someone eat them, this category also extends to the publication of unusual recipes by online newspapers or on popular websites for the novelty or disgust factor. More often than not, spectacle food pieces are one-offs, such as recipes printed by online newspapers or news websites as puff pieces or in connection to the discovery of an antique cookery book. While these pieces rarely carry historical weight, they often provide links to primary sources or high-resolution images of the manuscript from which the recipe originated. For example, an article in the *Daily Mail* claims that a cookbook from 1793 holds the “earliest” recipe for curry. Eighteenth-century food historians can tell you that curries were already a popular dish in the 1740s, -- one example, Hannah Glasse offers a recipe “to make a currey the Indian way” in her 1747 *The Art of Cookery made Plain and Easy*.²⁹⁴ So while this article is historically inaccurate, handwritten notes captured in the high-resolution images of the cookbook itself offer a wealth of information to the careful historian. This 1793 text also features the addition of a recipe for Mince Pies and a number of French recipes, handwritten in neat script.

A characteristic sensationalist headline -- “This is what people ate in the 18th century. Be happy you’re alive today instead” -- that appears in *The Huffington Post* lures modern readers in with the promise of a warm fish custard.²⁹⁵ In actuality, however, the article highlights *Cooking*

²⁹⁴ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 101.

²⁹⁵ Boboltz, “This Is What People Ate in the 18th Century. Be Happy You’re Alive Today Instead.”

in the Archives and the authors' belief that cookery books and manuscripts offer a "rare written archive of female knowledge."²⁹⁶ Thus, while the spectacle and flashy title served as click-bait, the real content of the work was primarily historically-oriented. The blog itself falls into the next category, but the article serves as a popularized introduction to more nuanced examples of external popular inquiry.

Food Reenactors

Food reenactors are much like other historical reenactors of military battles, who attempt to re-create historical foods for consumption. Similar to their metaphorical historical counterparts, food reenactors can be classified by the degree to which historical accuracy is considered to be imperative. While some members of this category insist on dressing up and using the "original" technologies (I call them purists), others are content simply to translate or re-create historical recipes with modern appliances. This category also covers museum-related events that can range from an intensive training in eighteenth-century cooking at a manor house to working with popular food network shows to provide a rudimentary overview of what it was like to cook in an eighteenth-century context.

When done well, even by non-purists, food reenactment can contribute much to the understanding of lived experience and the discrepancies between the cookery book record and the lived practice. Take for example the *Cooking in the Archives* blog mentioned above. This blog was funded by a fellowship for interdisciplinary innovation from the University of Pennsylvania and is written by two women with backgrounds in English literature, and specializations in fiction, anthropology, book history, and political theory. This blog does a

²⁹⁶ Boboltz.

number of things well: it provides historical context; transcribes the original recipe verbatim; and then provides an updated recipe suitable for modern kitchens. For example, in a post on almond pudding the author discusses modern preconceptions about the classification of puddings, and then shares the process of adjusting the recipe for modern appliances and ingredients.²⁹⁷ The discussion of preconceived notions is significant because it informs readers about ahistorical biases but is not particularly relevant to a trained historian or food historian. However, the author's discussion of ingredients is illuminating:

The first time I tested the recipe with students, we scalded the cream, milk, and egg mixture until it curdled and attempted to strain out the whey. Barely any liquid dripped out of the mix and we were left with a stinky mess. Working from the assumption that this first step is designed to address issues with dairy that has not undergone homogenization and pasteurization, I decided to make the mix again and skip the straining step. The resulting filling was luscious and delightfully scented with orange and lemon.²⁹⁸

Marissa Nicosia offers insight into the rationale behind the passage “keep stirring till ‘tis curdled like a Chees, then Strain *the* whey from it, and put half a pound of Butter to it...” speculating that cooks may have been nominally aware of the need to cook dairy to make it safe to eat. Pasteurized milk proteins presumably did not react the same way to egg whites as does fresh, unpasteurized milk, serving as a reminder that modern ingredients, although operating under the same names, have evolved. This salient detail also implies that perhaps the texture of the original pudding was lumpier (and more odorous) than the smooth creamy puddings of the re-creation.

A more purist, although questionably historical account comes from *18th Century Cooking: Jas Townsend & Son*, a YouTube channel known for sharing historical recipes, where

²⁹⁷ Nicosia, “Almond Pudding.”

²⁹⁸ Nicosia.

Townsend dresses up and films in mock historical kitchens. These series are problematic at times, as when an episode for “fried chicken in the 18th century? 300 year old recipe” erroneously attempts to create an eighteenth-century recipe in a single pot outdoor setup more indicative of the sixteenth century.²⁹⁹ At other times, however, these videos display a nuanced understanding of ingredients and processes that historians may miss. A significant example comes from the episode for cooking a “Plum pudding” in which Jas Townsend explains that suet cannot be substituted with hard muscle fat but what is necessary is the softer kidney fat, even when the term is most frequently translated as crude fat.³⁰⁰ The need for historical accuracy here reveals an important distinction not only about the difference between ingredients, and their availability, but also provides clarity on how different ingredients impact texture.

Food reenactment purism does offer some advantages, as can be seen in Townsend’s use of an era accurate wooden whisk made of a bundle of twigs. The close-up of the video reveals the awkward stirring motion required to move the asymmetrical bundle as individual twigs stick over the side of the bowl as he attempts to whisk a pitcher of cream.³⁰¹ With little to no leverage that is provided by a modern whisk handle (and which we expect to work smoothly in this way without thinking about it), the era-appropriate stirring motions are also larger and more violent. Townsend also adds a step not mentioned in many eighteenth-century recipe books to his video. After boiling the pudding, he dips it in cold water for a few seconds to make it easier to remove the cloth. In Glasse’s Chap. VII “Of Puddings” all recipes conclude once the pudding has been boiled and even Ellis who loves to go above and beyond describing daily practices does not

²⁹⁹ “Fried Chicken in the 18th Century? 300 Year Old Recipe.”

³⁰⁰ “Plum Pudding 18th Century Cooking with Jas Townsend and Son S4E6.”

³⁰¹ “Plum Pudding 18th Century Cooking with Jas Townsend and Son S4E6.”

mention this process.³⁰² Townsend’s additional step may have been common practice and could reveal a discrepancy between lived experience and recorded practice.

Paraprofessional Avocational Historians

As a final category, “paraprofessional avocational historians” is the term I use to describe those museum workers, librarians, and other professionals from historically related endeavors who attempt to bring cooking history to a broader audience. Unlike the food reenactors, their primary purpose is to bring historical information to an audience, using food and recipes as a lens rather than as the primary focus. Although the authors of these blogs, websites, and other online resources tend to fall into the latter three categories, I distinguish them due to their emphasis on preserving more of the historical or archival record, and the context of the recipe beyond its ingredients. While these professionals are not necessarily formally trained in history, they work with a great deal of historical accuracy and thought in presenting and publicizing their material.

Neil Cooks Grigson, for example, is a blog by food historian Dr. Neil Buttery that he started during his dissertation research and which documents over ten years of cooking recipes mentioned in Jane Grigson’s *English Food*.³⁰³ In the account of his re-creation of “John Evelyn’s Tart of Herbs,” for example, Buttery gives a brief biographical sketch of the historical figure, explains the origins of Evelyn’s horticultural endeavors, displays the frontispiece, and offers

³⁰² Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 130–133; Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 33–39.

³⁰³ Biographical information gathered from his more food-oriented blog. Buttery, “About.”

commentary on the category of sweet vegetable-based tarts before even touching upon the recipe.³⁰⁴ Thus, although the food reenactment is certainly there, the history is placed at the forefront of each post.

Additional historically oriented examples come from Sally Osborn's blog *18th Century Recipes* and from *The Recipes Project*, a peer-edited website dedicated to posts from interdisciplinary scholars who are "interested in the history of recipes, ranging from magical charms to veterinary remedies."³⁰⁵ Osborn has a doctorate in humanities with a specialization in eighteenth-century medical recipes. Her blog shares images or manuscripts or transcriptions, along with her historical commentary.³⁰⁶ Osborn's blog appears to be a companion to her dissertation research, so its scope extends beyond recipes to encompass information about cherries, coins, and other daily-life artifacts unrelated to the topic. *The Recipes Project*, on the other hand, has no restriction to time period. It offers miniature historical exposés on recipe or cooking-related topics. Marieke Hendriksen, for example, writes as a guest about Herman Boerhaave's invention of a smaller kitchen furnace as a way to better allow for controlled chemical experiments.³⁰⁷ These short, historical exposés share a handful of bibliographical resources, and although directed at a larger, possibly interdisciplinary audience, maintain a rigorous standard for citations, image crediting, and historical accuracy.

With the wealth of information available online, especially from external practitioners in the final two categories, it is evident that amateur and avocational endeavors are not only abundant, but that they sustain a fairly large community. For the wide range of individuals

³⁰⁴ Buttery, "#329 John Evelyn's Tart of Herbs."

³⁰⁵ "About."

³⁰⁶ Osborn, "Quaking Pudding."

³⁰⁷ Hendriksen, "The 'Gentle Heat' of Boerhaave's Little Furnace."

interested in the history of food, it is unlikely to occur to any of them that there is any benefit to reaching out to the formal historians, isolated within their academies. It is the case that avocational historians, historical writers, and recipe re-creators, all recognize or stumble upon the gaps in the historical record that cannot encompass the nuances of lived experience and attempt to fill them. This is why I argue that it is time for historians to be more intentional in consulting what is being generated within the digital and online communities. Rather than seeing amateurs and avocational historians as peripheral at best, being attentive to their insights and bringing our disciplinary methodologies to bear on their experiential findings could generate a rich body of materials for further exploration (for both parties).

Exploring Lived Experience with Digital and Amateur Aid

I admittedly struggled with combining a discussion of digitization, its history, and the implications that OCR and data mining bring to historical inquiry with a discussion of the rise of food historians during this age of the Internet. In many ways, the two feel like separate topics. The former leads to philosophical reflections on the directions for modern scholarship as our discipline's methodologies, our access to archives, and our championing of the physical primary sources as the gold standard of historical inquiry may be on the brink of change. The latter is more a discussion of the role that avocational historians can play if we engage with them as offering a new set of resources to examine, rather than dismissing them as dabblers impinging on our fields of expertise. Both topics, however, confront a larger question: namely, how do we work with what remains from the past to get a better sense of lived experience, in order to enable us to achieve a better understanding of the empirical knowledge required for a middling-ranked woman to produce the meals that sustained the lives of the members of her eighteenth-century household?

One possible answer lies in opening ourselves up, with due critical care, to alternative forms of knowledge. Our reliance upon physical primary sources is as much a culturally constructed practice as those historical practices we study. Our way of doing history has been heavily influenced by both the survival of artifacts over oral traditions or other knowledge-products, and the nineteenth-century professionalization of the practice of history. What we value and the methodology by which we conduct research has changed very little, even though our way of thinking about history as the deeds of great men has undergone major changes. Historians now find ourselves in a position similar to that of archivists during the 1940s, facing the divide between meticulously honed professional practices and the need to record, document and organize alternative ways of knowledge with the rise of oral history.³⁰⁸ We have before us an opportunity to set standards for the use of digitized primary materials and to add to the canon to which historians of technology and archeologists have begun contributing as they study material objects and architectural structures, and as they develop new ways to investigate lived experience to better understand the past.

Admittedly, the digital age is not without its dangers. The increasing number of avocational historians creating and publishing quasi-historical information is rampant. The digitization process itself can lead to transcription or coding errors that in turn can impact the interpretation of an historical text. And the lack of involvement of historians in the methodologies and processes employed for digitization also means that what is preserved and digitized is neither as systematic nor as comprehensive as we would like. Nevertheless, the world is changing around us. Future generations of historians will have grown up reading digital textbooks. They will inherit an academy in which funding is limited, graduate school debt is

³⁰⁸ Charlton, Myers, and Sharpless, *History of Oral History: Foundations and Methodology*, 10–11.

crippling, and the diminishing currency of undergraduate degrees will pressure them to pursue more specialized masters and doctoral degrees if they want to stay competitive in the workforce.³⁰⁹ Can we truly expect future historians to continue to revere physical primary sources that may be inaccessible due to the cost of visiting them, when they can access digitized resources from multiple locations without needing to secure funding or to coordinate the many logistics required to travel? The truth is that digital scholarship is broadening out whether or not historians of science participate in those dynamics. The opportunities it presents in terms of OCR and improved access to obscure, damaged, or geographically dispersed texts should not be underestimated. New forms of historiography are coming into being, especially as fostered by interdisciplinary experiments and encouraged by the growing standing of digital humanities.

³⁰⁹ Between 2000 and 2019 the number of U.S. adults with an advanced degree increased by 8.6 percent. “Number of People with Masters’ and Doctoral Degrees Doubles Since 2000.”

Chapter 3: The Digitized Cookbook as an Historical Source

The ways in which a reader used an eighteenth-century cookery book and the information the cookbook contained differ greatly from our twenty-first-century model. Eighteenth-century cookbooks were a mix of vague instruction, burgeoning food culture and gastronomic classification, public displays of culture and social capital, and pilfered, plagiarized recipes. While manuscript recipes have a rich history of formal correspondence since the beginning of the early modern era (at least for those women who were able to read and write), the cookbook rose as a distinct printed genre during the early modern era.³¹⁰ Eighteenth-century cookbooks, therefore, were distinctly intertwined with their context. Their instructions, format, audience, and even publication sets them apart from other forms of sharing culinary knowledge.

The ability to publish cookbooks in the eighteenth century also indicates the presence of changing opportunities for women. The print and publishing of cookbooks made the recipes and ideas they contained more widely accessible, especially when compared to a culture of letters or learning by oral history. Not only did a published cookbook mean that women had greater access to the knowledge offered in its pages, but that cookbooks were published by women authors during this period, when previously housewifery manuals and technical printed texts had been authored primarily by men. Female authorship was not so common during the eighteenth century for this aspect to remain inconspicuous, especially on a subject when both men and women competed as authors. Moreover, women published as themselves, without the *nom de plume* that women literary writers in the nineteenth century often felt the need to assume. This chapter will investigate the eighteenth-century cookbook in context: what was published, by whom and the

³¹⁰ The printing of non-religious texts in English started around 1550. DiMeo and Pennell, *Reading and Writing Recipe books, 1550-1800*, 8.

degree to which the recipes can reflect the realities of daily life within the kitchen. To better understand the significance of cookbooks as historical sources, it is also important to consider the history of the (cookery) book. To assess these cookbooks, we must take into account what books remain, what access historians have to them, and what insight they can provide into women's everyday lives and domestic literacies.

The Stuff of Everyday Life

Print material, though pervasive in the modern world, rose to the fore during the seventeenth and eighteenth centuries in England. Traditionally, the history of print and the history of the press tend to focus primarily on literature, the dissemination of formal philosophical and scientific ideas, the rise of periodicals or print censorship.³¹¹ These are the histories that have been preserved, thanks in part to early trends in historiography or to high volume pressings. Such substantive texts are not the only object of study, there is a subsection of historians, however, who focus on the history of ephemera. Studying leaflets, posters, and pamphlets presents an opportunity to close the gaps in standard historical accounts of the public sphere, print revolutions and access to information.³¹² They argue for the immediacy of information and analyze the ways in which consuming ephemera, propaganda and news differed from the formal study of great texts. Between these two historiographies is a middle ground where how to read these cookbooks can begin to be established.

Part of the historiographical problem is the fact that cookbooks and items pertaining to women's everyday lives have traditionally been classified as part of the amorphous domestic sphere, separate from the outside world. The concept of separate spheres can be found in the

³¹¹ Harris, *Politics and the Rise of the Press: Britain and France 1620-1800*.

³¹² Randall, "Recent Studies in Print Culture: News, Propaganda, and Ephemera," 458-460.

historiographies of science, gender, and social history from the late 1980s.³¹³ In the historiography of gendered and separate spheres, it is worth noting that in the 1990s there was a significant historiographical shift, voiced by Amanda Vickery. She argued that the presence of separate spheres between women's familial roles and men's transcended any single decade.³¹⁴ This long view of gendered categories and spheres, along with the realities revealed by accounts of individual lives, reveals that this separation is more of a contingent "mechanism" and not a formal, stable boundary by which men and women lived their lives.³¹⁵ In the last decade, historians have instead shifted attention to the intersections of spheres, recognizing that while generalities are useful lenses of analysis, they fall short of capturing the realities and complexities of human experience.³¹⁶ I do not wish to argue the specific categories of gendered or public spheres in this dissertation. There are many British historians, including Lenore Davidoff and Catherine Hall who can speak with more authority on the literary, philosophical, and social creation of expected cultural roles. What is significant here is the fact that these spheres were socially constructed tropes, idealized boundaries envisioned by contemporary authors. They were not firm rules that women were forced to obey in their daily lives.

Another point of distinction is the lack of uniformity of any single 'sphere' or historical category applied to daily life during this period. There was no one single domestic sphere, no single and universal way of life. In her article "Observation, Experiment or Autonomy in the Domestic Sphere? Women's Familiar Science Writing in Britain, 1790-1830," Eleanor Peters

³¹³ Shoemaker, *Gender in English Society 1650-1850: The Emergence of Separate Spheres?*, 6; Opitz, Bergwik, and Van Tiggelen, *Domesticity in the Making of Modern Science*, 2.

³¹⁴ Vickery, "Golden Age to Separate Spheres? A Review of the Categories and Chronology of English Women's History," 413.

³¹⁵ Fletcher, *Gender, Sex and Subordination in England, 1500-1800*, 407.

³¹⁶ Backscheider and Dykstal, *The Intersections of the Public and Private Spheres in Early Modern England*, 9.

points out that there “existed a multiplicity of domestic spheres.”³¹⁷ Cookbooks catered to many different domestic spheres and many different ranks of English society. The very fact that no true social class emerged in England until the late-eighteenth and early-nineteenth century speaks to the multiplicity of roles and the nuances of social spheres.³¹⁸ As products of their context, the daily lives conceived for the audience of these cookery books would have been varied, consisting of women of a range of social ranks, with varying means and varying access to ingredients, information, and even kitchen architectures and instruments.

Yet while women may have had the opportunity to cross boundaries, to what degree did information also cross them? While the cookbooks this dissertation investigates were published during the 1750s, it is worth noting other opportunities and instances of female authorship and expertise during this century. The possibility that women could learn lofty intellectual ideas, which needed to be in place in order for them to establish themselves as authorities, was certainly present. Books like Benjamin Martin’s *Young gentlemen and lady’s philosophy* (1755), *The Newtonian system of philosophy; explained by familiar objects, in an entertaining manner, for the use of young ladies & gentlemen* (1761), and James Ferguson’s *Young gentleman and lady’s astronomy* (1768) all reveal the expectation that natural philosophical ideas were accessible, with instruction, to women as well as men.³¹⁹ Catherine DiMeo and Sara Pennell argue that the exchange of recipes and domestic information “was a crucial medium of both female and male association, conversation and friendship, and was clearly conceived of as an acceptable conduit for communication between men and women, of whatever marital status.”³²⁰

³¹⁷ Peters, “Observation, Experiment or Autonomy in the Domestic Sphere? Women’s Familiar Science Writing in Britain, 1790–1830,” 71.

³¹⁸ Davidoff and Hall, *Family Fortunes: Men and Women of the English Middle Class 1780–1850*, xii.

³¹⁹ Walters, “Conversation Pieces: Science and Politeness in Eighteenth-Century England,” 122.

³²⁰ DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*,

As such not only might women author and consume books that touched upon natural philosophy, through the exchange of recipes they might actively participate in an exchange of ideas as well.

What is particularly interesting about cookbooks as a genre is that they took technical, scientific, and practical knowledge from one sphere, and brought it to the most public: print publication. The concept of this private, domestic realm has served to limit the perceived reach and impact of sources found within this sphere. The problematic contrast between the formal public sphere and the informal domestic space of the home plays a significant role, both in British eighteenth-century histories and in the significance of female authorship of British cookbooks.³²¹ Yet, domestic spaces, like kitchens, were never isolated from the outside world. There was no dichotomy, no barrier at which all public, masculine, scientific, political, or other actors stopped. The domestic and public spheres intersected within the eighteenth-century kitchen, as did notions of private and public, masculine and feminine, scientific and amateur.

Consuming Cookbooks

While the information within the cookbooks certainly pervaded cultural perceptions of public and private knowledge, it is more difficult to determine to what degree their intended audiences also complied. Cookbooks, by their nature, were intended to inform daily practices as much as they occasionally catered to an elaborate feast. Determining the history of daily life outside the formal written record has been the subject of a number of history of science, history of technology and women's history accounts. In an ideal world, the historian would combine sources to see how the intellectual theory on female comportment, custom and manners, diaries,

³²¹ Walters, "Conversation Pieces: Science and Politeness in Eighteenth-Century England," 122; Barker and Chalus, *Gender in Eighteenth-Century England: Roles, Representations and Responsibilities*, 6–11; Shoemaker, *Gender in English Society 1650-1850: The Emergence of Separate Spheres?*, 6.

visual representations, and ephemera fit together to create a cohesive narrative. What is available, however, are the occasional diary entries, trade accounts, inventories and fictional accounts that make mention of food. The historian must therefore read between the lines in these cookbooks to fill in some of these empty spaces. That said, we can make some general statements about the intended mid-eighteenth-century audience and their daily lives.

In terms of audience, the cookbooks focus on middling-to upper-ranked households; households rich enough to purchase meat from the market or to choose what they ate beyond what was cheap and readily available. The reader could be in one of the larger urbanizing cities, like London, where food was brought in to market, where it was purchased, and where availability was heavily dependent upon travel and transportation networks, as well as the seasons. It is just as likely that the reader could be mistress of a large country estate, where at least some of the food was produced on-site. She would need to coordinate her trips to market, and non-local foods might be harder to access depending on road conditions or how far canals had been constructed. She would also have access to a larger pantry and still room with reserves of potted or pickled ingredients. These disparities make it difficult to pinpoint how, exactly, the cookbook was intended to be read and used.

When investigating how a cookbook was consumed the dangers of bringing in modern perspectives of how to read a cookery book abound. Was it read from cover to cover? Was it stored, mostly unused until a particular recipe was needed? Was owning a cookery book a prestigious gesture? Did housewives attempt to own just one comprehensive book (the equivalent of a Julia Child's *Mastering the Art of French Cooking* (1961)) or did they flood their kitchen shelves with notable authors to show their knowledge on the subject? Were cookbooks displayed at all? Pennell has observed that should a historian wish to study the remaining

physical copies of cookbooks, the fact that these books were preserved may in fact indicate that these remaining copies were not used for cooking at all and may have been safeguarded within closets, chests and libraries, while copies in use may have been burned, singed or ruined by grease.³²² I cannot attempt to answer these questions. There is no record or primary source to corroborate information about the social use of cookbooks or even their daily use. For this chapter, it must be sufficient to observe the general trends for books during this period, to examine the knowledge and directives contained within the cookery books, and to be ready to ask these questions should a better source be discovered.

Data Mining

While the answer to how mid-eighteenth-century cookbooks were consumed may remain elusive, there is a great wealth of information that historians can pull from these digitized cookbooks by utilizing data mining. To extract and discover patterns within these texts, it is imperative that the digitized versions be reliably search-able. This can be achieved, even for images, thanks to a process called OCR (optical character recognition). Although the provenance and quality of digital records require caution, the benefits of digitization that result from OCR are worth the effort. With the improvement in the quality of OCR and increased access to improved OCR algorithms, OCR is perhaps the most reliable output of the digitization process. That is not to say that OCR does not have its pitfalls, but for a trained historian OCR provides quantitative data on a scale that would have been nearly impossible to calculate by hand. In this section I will provide three examples of search terms in these cookery books and walk readers through the process of data mining for historical insight using Google Books. It is

³²² DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*, 225-226.

also worth noting that although Google Books may not be the gold standard for historical digitization, its OCR software is one of the best. While ideally an historian would be able to find a digital copy of the primary source they wish to study through an Open Access or library-managed repository, when running text analysis Google is often your best source for the text.

As an historian reading primary sources, the ability to run a statistical analysis of word frequency distributions allows you to determine the significance or commonality of prevalent words or phrases. Although word choice, especially in non-prose texts such as cookery books may not at first seem significant, when historians compare word choice or usage (especially of adjectives or politically significant terms) we can learn about the contextual influences or actors at work shaping the author's word choice.³²³ An instructive example derived from two recipes for pancakes is this one where I have gone to the liberty to bold the keywords:

1. "To make ***fine*** pancakes

TAKE half a pint of **cream**, half a pint of **sack**, the yolks of eighteen **eggs** beat fine, a little salt, half a pound of **fine sugar**, a little beaten **cinnamon**, mace, and **nutmeg**; then put in as much **flour** as will run thin over the pan, and fry them in **fresh butter**.

This sort of pancake will not be crisp, but very good." (Hannah Glasse, *The Art of Cookery, Made Plain and Easy*, 1747)³²⁴

2. "Barley-Meal ***palatable*** Pancakes, how to make them for a ***Yeoman***'s, a ***Farmer***'s, or ***poor Man***'s Family –CUT **Apples** very small, and stir them into the **Barley-Meal** with some Milk and Salt, and a little powder'd **Ginger**, for the Ginger hollows the

³²³ Archer, "Does Frequency Really Matter?"

³²⁴ Glasse, *The Art of Cookery, Made Plain and Easy*, "160.

Pancakes, gives them a good Relish, and warms the Stomach. Then fry this Mixture into Pancakes with **Pot-Fat, Lard, or Dripping-Fat**, and without any Sauce they will eat hollow and palatable.” (William Ellis, *The Country Housewife’s family companion*, 1750)³²⁵

In these two pancake recipes word choice is clearly important. Glasse writes for her wealthier, city-dwelling audience. She expects them to have access to fresh dairy and sweetens her pancakes with sugar. Her flour, while still not the processed white flour of the industrial revolution, was also certainly not barley meal. Ellis on the other hand is less concerned with making “very good” pancakes and simply wants ones that will not leave the poor man’s family hungry. Terms like “palatable” imply that he does not hold a high standard for this sub-par pancake and the ingredients are notably different. Apples are substituted for sugar, barley-meal for flour, ginger for the eggs and the spices, and dripping fat or lard for the fresh butter. While these two recipes out of context show only that word choice is impacted by the intended audience and the intended recipient of each recipe, when combined with textual analysis, they reveal a broader trend. Ellis uses the term “poor” in his cookery book 58 times in his text, “rich” 31 times, “common” 87 times, and “yeoman” 43 times. It is here that the historian is able to make a mark, where AI or textual analysis programs cannot. The terms “common,” “yeoman,” and “poor” are all synonymous in most of their instances for Ellis, which means that he refers to poorer audiences six times as often as he references richer ones.³²⁶ While an historian reading his book would surmise that his audience is markedly lower ranked than the that of Glasse, in this case study this word frequency analysis offers strong statistical evidence of that supposition.

³²⁵ Ellis, *The Country Housewife’s family companion*, 26.

³²⁶ Adding the instance of all three key terms results in 188 mentions of recipes for the lower-ranked, which when divided by 31=6.06.

On a smaller scale, this type of digital analysis parallels the close reading of a trained professional. Trained and meticulous historians observe word choice and frequency, even if they do not run a statistical analysis of word frequencies and usage. An historian with great familiarity with a particular text will probably come to the same conclusions, however it will take them significantly more time to reach the same answers. Not only do digital word frequency distributions speed up the analytical process, but they can also be applied to a far greater number of texts. In the examples above I have only compared two cookbooks, but in researching this dissertation, I ran initial text analysis on all fourteen British cookbooks listed in my introduction. Lehmann has conducted a similar qualitative analysis upon an unspecified number of cookbooks to reveal long-term trends in seventeenth-century British cookbooks such as movements towards more savory dishes post-Restoration or the increased use of vegetables.³²⁷

The above example offers a rudimentary analysis of socially significant terminology. Indeed, many more terms related to social rank or politics certainly can be found in additional passages. Ellis uses the term “French” 23 times --however it is most frequently linked to the provenance or name of an ingredient such as French pippins (a type of apple) or French barley.³²⁸ Glasse, on the other hand, mentions the “French way” or “a la Francoise” more than twice the number of times as does Ellis, with only a brief mention of French beans. With the popularity of French chefs among the Whig elite, Glasse’s inclusion of French styles of cooking reflect upon the higher rank of her audience, in spite of her very anti-French and nationalistic

³²⁷ DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*, 99-100.

³²⁸ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 478, 482.

diatribe against the French in the preface of her book.³²⁹ The historian must navigate the data produced by textual analysis not only to interpret, but also to identify keywords to analyze over those that may be statistically but not historically significant.³³⁰ The mention of “French” more than “Italian” in an eighteenth-century cookbook might appear to be statistically insignificant unless the historian is aware of the complicated political and cultural relationship Britain had with France during this period.

Perusing and familiarizing yourself with the texts before working with them by digitized methods, just as scholars already do with primary sources, is of paramount importance for successful digital textual analysis. In reading these recipe books I have also found, for example, that fritters and pancakes are nearly identical in terms of ingredients and cooking method. In his recipe for “The Hertfordshire plain Fritter” Ellis even recommends adding a “good store of powder’d ginger, because ginger makes the fritters hollow and hot.”³³¹ When looking for other pancake recipes to explore this novel use of ginger as a leavening agent, I searched for pancakes and fritters in other OCR-accessible eighteenth-century cookery books due to this nuance in analysis. This approach does not differ from the close reading by trained experts but is significantly faster than reading all available physical texts and unlike an archival visit, digital analysis can be conducted at any time during the research process.

In the example above, I grouped pancakes with fritters; however, some pitfalls can occur as an offshoot of sentiment analysis, which is most often used for grouping and analyzing

³²⁹ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, iv.

³³⁰ Baron, Rayson, and Archer, “Word Frequency and Key Word Statistics in Corpus Linguistics.”

³³¹ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 77.

passages for “sentiment, opinion, mood and emotion.” For historical work, however, it may also require that historians group like terms.³³² In the example from passage 2, I mentioned grouping Yeomen, poor and common for Ellis because he uses them more or less interchangeably. While there are cultural nuances between the three, certainly for the term “Yeoman,” for Ellis they all represent a rank lower than his own. Still, Ellis includes them because in the country a housewife might take on the responsibility of feeding not only her family but also the people they employed.³³³ Historians must also be careful, when grouping like-words to avoid preconceived or modern associations with common words. Mincemeat, for example, today refers to a sugary mass of raisins and candied fruit; in the eighteenth century referred to finely cut pieces of “sweetmeats” or “sweetbreads” (animal organs). In addition, single words may occur in different situations that then provide evidence of the likeness of the circumstances that might otherwise be categorized as different.

Another aspect of digital text mining is being able to identify key terms that will take you to pertinent passages quickly. In Chapter Five, I will discuss the significance of heat and how changes in hearth architecture led to the development of a rudimentary understanding of thermodynamics, as well as a language of heat measurement among cookery book authors and their female audiences. However, searching for terms such as “pot” leads to numerous irrelevant results. The word “pot” occurs in a number of recipes on how to pot and preserve all manner of ingredients by covering them in butter. Instead, the historian must use alternative key terms to narrow down the recipes that explain cooking theory or mention a system of heat-awareness and measurement. Specifying “pan,” for example, helps to narrow down the method of cooking. It is

³³² Vanetik and Litvak, *Multilingual Text Analysis: Challenges, Models, And Approaches*, 2.

³³³ Yeoman, of course, were fictitious farmers who lived off the land of their own farms, so housewives would not actually be responsible for them, yet Ellis includes them anyway.

worth noting that pan needs to be the term and not saucepan because variants like sauce-pan and fauce-pan are commonly missed by searching for “saucepan.” Within one page, Glasse mentions stew-pans, sauce-pans, and preserving-pans, all of which are caught within the net of this more generalized search term.³³⁴ While generalizing will not always work, finding linked or related words to ones that have spelling or name variants will provide better data upon which to base analysis.

A second search term that I have found quickly helps to establish how each author broaches and shares theories about heat is by searching for “fire” rather than heat as one might first assume. This is because heat is often a term that eighteenth-century cookery book authors use in a such a number of ways that the information on approaches to ascertaining how heat is regulated for cooking is obscured. Heat can describe the difference in how long it takes for meat to dry in the sun, as when Glasse recommends that “if the heat will let you” to leave a shoulder of venison outside for a week.³³⁵ Glasse also uses the term “heat” to talk about warming or cooking ingredients, as well as to discuss turning on the oven.³³⁶ When searching for fire, on the other hand, Glasse offers far greater instruction. She explains that when cooking veal, if the cut of the meat is large then it should be cooked on “a very good fire,” but if it is small it can be cooked on “a pretty little brisk fire.”³³⁷ Here, heat is measured in terms of speed or beauty, with “slow” also being categorized as another type of fire. Counterintuitively, the terms “heat” or “hearth” lead to very little information, and therefore learning terms that have contextual

³³⁴Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 162.

³³⁵ Glasse, 247.

³³⁶ Glasse, 297–298.

³³⁷ Glasse, 2.

significance or are tied to an identified theme require that the historian have a firm grounding in the context of the primary sources before embarking on their digital textual analysis.

As a final point, historians must also develop their own digital paleography in order to make their digital textual analyses improve upon the process of close reading. Understanding how OCR software processes typeface and font must be determined for each primary source, in spite of the fact that they may be housed in the same repository. Due to the development of photography and digitization standards over time, some earlier records may not be as easy to decipher as others even by the same OCR software. For pre-nineteenth-century texts, knowing the language and print standards goes a long way toward improving search and keyword analysis. For the British eighteenth-century cookery books, the *long s* can wreak havoc on searches. Searching for “salt” as well as “falt” will yield better results. However, the typeface that looks more like a long s without the ligature is almost always correctly identified by OCR software. It is here that using a proprietary or institutional OCR can improve your results over the Google standard. Tech-savvy historians can program their own code to identify *long s* “f” for keywords and replace them with “s.” For those of us not wanting to spend the time experimenting with hand-coding programs, running duplicate searches with both variants will suffice. It is also worth noting that with no formal spelling standards, spelling variations can pop up for single-instances and then be replaced by a different variation for the rest of the text. However, texts from 1740-1769 see a statistically significant decrease in spelling variants from earlier printed works (from almost 60 percent of texts with variant types to 30 percent).³³⁸ While

³³⁸ Baron, Rayson, and Archer, “Word Frequency and Key Word Statistics in Corpus Linguistics.”

it is impossible to reliably catch single-instance variations, common spelling variations can be fairly easily identified after spending some time with the digitized texts.

While OCR and digitization certainly don't offer a fast or easy way to gain further insight into primary sources, the preparatory process required before embarking on this digitally aided type of textual analysis mirrors the historiographical prep-work that scholars undergo before consulting real-world physical primary sources. Although deciphering the digital paleography of a text, determining like-terms, and running appropriate word variant searches does require tailoring search efforts to the individual texts and the subject matter being studied, the modern historian does not face these issues alone. Thanks to the interest of linguistic scholars, early modern English literature scholars, and the popularity of Shakespeare among avocational and amateur digitization contributors, much of the groundwork has already been conducted.³³⁹ By working across disciplines, historians of science can help to contribute to the community of scholars who are impacted by these shortcomings.

18th Century Cookery Books

In general, the book itself was evolving during the eighteenth century. Unlike the Middle Ages where owning a book was a distinction of wealth, books and printed material were far more widely available. Most eighteenth-century book runs went for about 750 copies. Due to the number of subsequent editions of Hannah Glasse's text, hers at least went higher.³⁴⁰ By 1770, a

³³⁹ Linguistics see Baron, "Dealing with Spelling Variation in Early Modern English Texts.", For literature see Blake, *Shakespeare's Non-Standard English: A Dictionary of His Informal Language*.

³⁴⁰ Rivers, *Books and Their Readers in 18th Century England: Volume 2 New Essays*, 22.

bound volume of Glasse's cookbook cost 5s, while the stitched edition cost 3s 6d.³⁴¹ In perspective, by the 1790s at Harewood House the female kitchen staff earned an average of £9 per year.³⁴² A recipe book, therefore could cost as much as a week's wages or more. Yet even costs are difficult to determine. Costs for books were subject to the discretion of the seller and of the printer's expenses, not to mention that second-hand books were available, commercial libraries and subscription book clubs were gaining momentum and until the end of the century it was common to purchase unbound prints to lower cost or to ensure the verisimilitude of a library.³⁴³ Whereas owning and purchasing books might once have been a symbol of social status and wealth, the variety of pricing options available to the savvy eighteenth-century consumer meant that the purchase of books no longer offered the same kind of social capital. The relatively high print run and the low cost of a generalized eighteenth-century book are significant because they indicate that cookery books would have been one of a number of books that a middling-ranked, and literate, housewife had access to. Unlike the social currency of the food, table etiquette and social events these books were designed for, these books likely held no more significance than any other book purchased by the household.

Whether it is due to their low costs or simply their subject matter, today historical cookbooks do not fall into the category of prestigious collection titles. Even notable archives and collections do not highlight their cookbook holdings; they highlight their Galileos and Keplers or their first edition literary masterpieces. Yet while they do not hold much modern prestige, these cookbooks were certainly not ephemera. Nor were they formal philosophical or educational works, and yet they contained technical knowledge and theory. The cookbook as a category,

³⁴¹ Gray, "A Practical Art: An Archaeological Perspective on the Use of Recipe Books," 50.

³⁴² At an average of £9, kitchen staff might expect to make 180s a year, or 15s a month. Gray, "A Practical Art: An Archaeological Perspective on the Use of Recipe Books," 50-51.

³⁴³ Rivers, 24-27.

therefore, falls somewhere in the middle: between great works and ephemera, between scientific treatises and novels.

What, then, can we know about eighteenth-century cookery books? Eighteenth-century cookery books exist in their own genre. They differ markedly from their Early Modern and Victorian counterparts in the type of recipes published, their organization, and the ways in which their authors intended for them to be used (as gleaned from instructions and prefaces). By the end of the eighteenth century, recipe formats had been standardized and the printed culinary and housekeeping manual had become its own category “with only residual medica, veterinary and even confectionary content.”³⁴⁴ Much of this section relies on Lehmann’s book *The British Housewife: Cookery Books, Cooking and Society in Eighteenth-Century Britain* and the edited edition from DiMeo and Pennell, *Reading and Writing Recipe Books, 1500-1800*. These two texts offer a comprehensive overview and analysis of trends in printed cookery books and their manuscript precursors during this period.³⁴⁵ Lehmann’s systematic review of diaries and memoirs helps to establish and cement the larger trends to be found in archive repositories and digitized eighteenth-century cookbooks.

Plants or Spices? Cookbooks and Herbals as Sources

Before examining cookbooks, reviewing books on botany, herbariums, and agricultural treatises is helpful because they offer an adjacent category for comparison since they are also books that exist in a space between daily experiential knowledge and formalized theory. The connection between cooking and the study of botany, gardening and agriculture during the

³⁴⁴ DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*, 9.

³⁴⁵ Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*, DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*, .

eighteenth century is not just a useful historiographical lens. The similarities and link between the disciplines was recognized during the eighteenth century. Indeed William Ellis, though for our purposes a cookbook author, was a well-known and established agricultural writer in his time.³⁴⁶ Unfortunately the collection and printing of botanical and agricultural readers during the eighteenth century in England remains equally unexplored. Leah Knight, for example in her book *Of Books and Botany in Early Modern England* surveys the genre of the herbal and the ways in which context, scientific information, and a culture of collecting intersected in the sixteenth century.³⁴⁷ She sees the collection of herbariums and poetic texts about plants as indicative of larger cultural trends and epistemologies. Thomas Hallock discusses a network of women who published garden calendars, although his chief focus is on formalized male scientific expertise and a culture of gift giving.³⁴⁸ Though present, the sharing and use of botanical books by women remains obscure.

Botany acts as the perfect sister subject to cooking because it was an intellectual and predominantly male-authority dominated field that was made available to women during the eighteenth century. Both fields can also be said to have roots in the oral history of female care and medical knowledge exchange that, while difficult to document, has an established historiography. The presence of female medical writing, recipe collection and herbal knowledge as a form of medical expertise is widely accepted among feminist historians and historians of medicine.³⁴⁹ Both botany and cooking share in scientific scope, potential value of the printed

³⁴⁶ Agar, *Behind the Plough: Agrarian Society in Nineteenth-Century Hertfordshire*, 38.

³⁴⁷ Knight, *Of Books and Botany in Early Modern England: Sixteenth-Century Plants and Print Culture*.

³⁴⁸ Hallock, "Male Pleasure and the Genders of Eighteenth-Century Botanic Exchange: A Garden Tour," 697–718.

³⁴⁹ See for example Green, *Making Women's Medicine Masculine: The Rise of Male Authority in Pre-Modern Gynaecology*; Park, *Secrets of Women: Gender, Generation, and the Origins of Human Dissection*; or Fissell, "Making Meaning from the Margins: The New Cultural History of Medicine."

books, and documented presence of women gaining experiential knowledge as part of their daily lives (gardening or cooking).

Yet botany serves as an illuminating contrast on one key aspect. Women were considered recipients of botanical or agricultural knowledge and were never cast in the role of publicly recognized experts. Literary scholar Samantha George, in her book *Botany, Sexuality and Women's Writing, 1760-1830*, explains that in eighteenth century literary culture cultivation of the mind “is connected with Enlightenment progress, femininity is either located within a discourse of luxury and consequent degeneration... or in a realm of minimal cultivation, close to a state of nature.”³⁵⁰ Women’s botanical knowledge was either considered detrimental to them or to exist at the level of novice. Unlike botany texts, women authored and published cookery books, taking on the role of experts rather than the docile flower waiting to be cultivated. It is also worth considering that literary and even medical studies often take the long approach, analyzing culture and attitudes well into the nineteenth century which can result in overlooking more localized changes in power.

While botany and cooking resided in an intellectual grey area for mid-eighteenth-century women, their clear connection to the everyday has resulted in the anachronistic classification by modern historians of science as less than academic. Botany was quite literally overwritten in the nineteenth century to “defeminize” the discipline and to “correct representations of botany as a feminine activity and to make it palatable to boys.”³⁵¹ The scientific botany that modern historians of science consider today bears the mark of this Victorian masculine ideology. Cookbooks have been mistakenly ignored by historians of science when their very presence and publication represents a shift in female authority in an area for which they possessed experiential

³⁵⁰ George, *Botany, Sexuality and Women's Writing 1760--1830: From Modest Shoot to Forward Plant*, 22.

³⁵¹ Shteir, “Gender and ‘Modern’ Botany in Victorian England,” 29.

knowledge. Thanks to a number of factors, including a scientific shift toward empiricism, the rise of public scientific lectures, British political anti-French (and French chef) sentiments among all but the Whig aristocracy, and a growing acceptance of female literary novelists, the opportunity for women to gain expertise in a subject that touched upon thermodynamics, taste and the senses, and a number of technologies came to the fore.³⁵² To better understand the eighteenth-century cookbook, let us briefly explore cookery book history.

Cookbook History

The British published cookery books well before their European contemporaries, resulting in a number of books between 1575 and 1650, and more following.³⁵³ Yet early modern and even Renaissance cookery books differed greatly from their progeny. These early cookery books focus on feast days or foods for special occasions. These recipes also adhere to the medieval culinary tradition of gustatory taste being equivalent to the cost of the ingredients: namely spices and sugar. Medieval high cuisine was marked by a mix of sweet and spicy in all dishes, because only the wealthy could afford such luxuries.³⁵⁴ Cookery books, therefore, were designed as either memoirs recounting fantastical creations or memory aids for professional cooks.³⁵⁵

During the seventeenth century a shift occurred in culinary cuisine and taste, thanks in part to a need to redefine luxury as trade improved and access to new ingredients like chocolate, coffee, tea, sugar and tobacco flooded the market.³⁵⁶ A notable distinction, too, should be made for the female literacy rates during this period. While women of rank may have been able to

³⁵² For rise of female novelists see Turner, *Living by the Pen: Women Writers in the Eighteenth Century*, 8.

³⁵³ Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*, xii.

³⁵⁴ Laurence, "The English Taste," 116.

³⁵⁵ Laurence, "The English Taste," 116.

³⁵⁶ Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants*, 13.

decipher these texts, possibly with the aid of a tutor, the scope and audience of these texts was certainly limited.³⁵⁷ As such, early modern cookery books were a product of luxury and display. They required literacy, access to expensive ingredients, and quite possibly were designed to aid in giving instructions to male professional chefs.

These early modern cookbooks were also frequently filled with medicinal recipes, humoral theory, and agricultural charts. In fact, the relationship between cooking, natural philosophy and medicine was firmly established. Cookbooks with titles like *A Closet for Ladies and Gentlewomen. Or, The art of preserving, conserving, and candying With the manner how to make divers kinds of sirups, and all kind of banquetting stuffles.* (1632), *The Ladies' Cabinet Opened: Wherein is Found Hidden Severall Experiments in Preserving and Conserving, Physicke and Surgery, Cookery and Huswifery* (1639) play upon the concept of curiosity cabinets and their established link to natural philosophy.³⁵⁸ Indeed these extended titles indicate the firm degree to which cooking, household management, chemical preservation, and household medicine went hand-in-hand.

While changes in cookbooks occurred slowly and over time, when the historian compares nineteenth-century cookbooks with their early modern, and even eighteenth-century predecessors there are some stark differences. Victorian cookbooks as a genre stand out in two ways. The first is that they are expected to be followed to the letter. The Victorian cookbook is certainly the prelude to the modern genre, for it discusses in far greater detail different recipes and leaves very little room for interpretation or individual taste. Victorian cookbooks also are, as a genre,

³⁵⁷ Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*, 10.

³⁵⁸ Anonymous, *A Closet for Ladies and Gentlewomen. Or, The Art of Preseruing, Conseruing, and Candying. With the Manner How to Make Diuerse Kindes of Sirups, and All Kinde of Banquetting Stuffs. Also Diuerse Soueraign Medicines and Salues for Sundry Diseases; The Ladies' Cabinet Opened: Wherein Is Found Hidden Severall Experiments in Preserving and Conserving, Physicke and Surgery, Cookery and Huswifery.*

specifically food oriented. They start to phase out medicinal remedies and cordials, and they do away with home solutions for cleaning or other kitchen-related but not food-related subjects.

Eighteenth-Century Cookbooks

Eighteenth-century cookbooks do not just bridge the gap between highly medical and affluent feast-day texts and the by-the-book daily nature of Victorian recipe manuals. They establish their own expertise and make the principles of heat, preservation, culinary taste and technological know-how accessible to a far wider range of British society. Eighteenth-century cookery books target housekeepers and mistresses of the household but suggest in their epilogues that these ladies share their books with cooks and servants.³⁵⁹ These texts not only catered to a larger audience, but the food they included touched upon the everyday. More importantly, these recipes were not designed for replication.

The eighteenth-century recipe itself is a mix of directive, culinary theory, and ample space for substitution, adaptation for taste, and an undefined quality of “ingenuousness” from the lady of the house. Thirsk, in her book *Food in Early Modern England* argues that cooking also relied heavily on “social, local and family traditions” as well as tastes and circumstances.³⁶⁰ Archeologist Annie Gray asserts that the very presence of self-help books for the newly wealthy middling sort implies that the readers of eighteenth-century cookbooks were expected to show restraint by limiting their culinary practice to the ingredients and instruments available based upon their budget and location.³⁶¹ Though the actual way in which cookery books were used on a daily basis remains shrouded in mystery, their broad audience (whether read to or reading for

³⁵⁹ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, i-ii; Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*, 10.

³⁶⁰ Thirsk and Others, *Food in Early Modern England: Phases, Fads, Fashions, 1500-1760*, x.

³⁶¹ Gray, “A Practical Art: An Archaeological Perspective on the Use of Recipe Books,” 51.

themselves) indicates the belief on the author's part and by the community of practitioners it impacted that the technological, scientific, gustatory and culinary theories and ideas held within their pages were appropriate for their proposed female audience.

How do we know cookery books were pervasive? Though the cookery books claim a female audience, this claim does not necessarily guarantee that they were indeed read by middling-ranked women during the eighteenth century. Food historians and historians touching upon women's social history in Britain have done extensive work documenting the books women had access to. Indeed, primary sources that are invaluable are the estate lists documented for wills, inheritance and probate documents.³⁶² These written documents shed light not only on the books in the possession of these ladies, but when well-documented can reveal changes over time in book ownership. Still, the degree to which any single woman within the household would have had access to such books is more difficult to determine.

Although significant historical finds such as handwritten notes or references in letters to the use of a specific recipe can demonstratively prove that a handful of women did read these books, the historian must draw upon external cues to make more general statements about women in general with access to these books. Fortunately, by the eighteenth century, book ownership, reading and collecting was not a novel concept within the broader arc of British women's history. Elizabeth Sauer, Leah Knight, and Micheline White's book on sixteenth- and seventeenth-century women's collections of books demonstrates a pre-existing culture of literacy, book ownership and collection among women.³⁶³ Whether servants would have actually read these books is up for discussion. Literacy rates at the time, as evidenced by records from British domestic servants in the courts does indicate that there was some degree of ability

³⁶² Erickson, *Women and Property: In Early Modern England*.

³⁶³ Knight, White, and Sauer, *Women's Bookscapes in Early Modern Britain: Reading, Ownership, Circulation*.

there.³⁶⁴ That said, access to the ideas would not have required each servant read the book in its entirety, for the housewife or a literate servant could share the knowledge with the other women in the kitchen.

Lehmann identifies a general trend by which cookery books made a gradual descent down the social scale, and into middling-ranked households.³⁶⁵ She cites textual evidence and frontispiece depictions of ladies giving servants cookery books to argue for the wider dissemination of these books beyond the purchasing lord or lady.³⁶⁶ Frontispieces are perhaps one of the only insights the modern historian has into the nature of the eighteenth-century kitchen. Frontispieces, for example, show a visible shift in which women are placed in a position of authority within kitchen scenes. While previously on the outskirts of the kitchen, and well away from the fire in sixteenth-century woodcuts, women take center stage in eighteenth-century frontispieces, commanding the kitchen, the fire, and anyone or anything else included in the depiction.³⁶⁷ In many of these frontispieces, however, the kitchen floor is uncommonly pristine, although the presence of animals, children or staff does illustrate more of the realities of the kitchen space. Food historian Kyri Claflin believes that the presence of the kitchen boy and the animals reflect the disorder that the housewife must oversee and control.³⁶⁸ The role of the housewife as the overseer and imposer of order over a once male domain can also be found within the rhetoric of these cookery books.

³⁶⁴ See Raven, Small, and Tadmor, *The Practice and Representation of Reading in England*, 205; Kord and Kord, *Women Peasant Poets in Eighteenth-Century England, Scotland, and Germany: Milkmaids on Parnassus*, 39; Fergus, *Provincial Readers in Eighteenth-Century England*, 47; Hill, "Women, Work And Sexual Politics In Eighteenth-Century England," 27.

³⁶⁵ Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*, 61.

³⁶⁶ Lehmann, 163.

³⁶⁷ Compare for example Baluding, Hans, "The Cook and the Hare" 1511 with Smith, Eliza, *The Compleat Housewife, or Accomplish'd Gentlewoman's Companion*, 1742. "The Kitchen at Sandpit Gate, 1752.

³⁶⁸ Claflin, "Representations of Food Production and Consumption: Cookbooks as Historical Sources," 124.

Of course while in the idealized frontispiece world ladies may give servants their cookery books to substitute for their supervision and make up for what Lehmann claims to be a decrease in the culinary education among ladies of leisure, there is not a strong likelihood that servants could read and learn to cook from these books.³⁶⁹ The very fact that twenty-first-century avocational historians and bloggers feel the need to add additional information and interpretation to the recipes they attempt to re-create from eighteenth-century texts implies that these books alone were never intended to substitute for experience, training or the housewife's involvement. The instruction of servants, along with economy, household management and planning also fall to the housewife during this period.³⁷⁰ Indeed the high turnover rate among servants, especially in urban areas, forced the housewife or lady of the house to undertake and learn some of the servant's duties.³⁷¹

Another measure of the pervasive nature of cookery books into the ranks of British society can be seen in the genre's descent away from feast day foods and displays of wealth. Cooking was still done for the household, so ingredients were still on a significantly larger scale than expected with today's single serving or "family sized" preparations, the food itself was not always glamorous or made for a display of wealth with guests. Discussions about leftovers and reusing dishes are present, and in Ellis' case, also present is the inclusion of food for servants and farm workers, as distinct from what the members of the house proper would be eating.³⁷² The cookery books of the mid-eighteenth century invariably offer both "rich" and more

³⁶⁹ Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*, 163.

³⁷⁰ Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to Present*, 96.

³⁷¹ Fairchild, "Masters and Servants in Eighteenth Century Toulouse."

³⁷² Ellis offers an entire section on "victualizing harvest-men" (Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 47-51).

economical recipes to cater to their more generalized audiences. While Ellis makes a point of separating recipes appropriate for the servants and those for the main family, Glasse, Fisher and the other female authors are less concerned with needing to make such distinctions, and instead highlight the truly exorbitant entries.³⁷³ “Richer” recipes in both Ellis and Glasse contained more expensive ingredients: rosewater, forcemeat, truffles, cream, fine sugar, and candied fruit. During this century the publication and print of event menus in newspapers also came to the fore, perhaps filling the gap left by ostentatious early modern recipe books.³⁷⁴

Even with the identification of “richer” recipes, it is worth considering that although the perceived audience is more varied, the social rank of eighteenth-century cookery books is certainly aimed at the middling-to upper-ranked kitchens. The fact that across-the-board recipe books at the time assume the presence of a variety of kitchen instruments and the assumption that there will be enough pans or kettles to cook items simultaneously, indicates a bias toward a larger kitchen and thereby a wealthier household.³⁷⁵ While a smaller kitchen could certainly reuse pans and bring together ingredients at the end, the general intended audience can decisively be placed towards the middle and upper ranks of British society. That said, even while aimed at middling-to upper-ranked households, the audience is clearly less elitist than the early modern equivalents. Titles that had previously talked about “ladies” “treasuries” or *A closet for ladies and gentlewomen* (1635) and *The Queen-Like Closet* (1670) instead cater to *The Country Housewife* (1727), *The Compleat Housewife* (1727), and *The Experienced English Housekeeper* (1769).³⁷⁶ Here the rank of the audience has clearly shifted. This distinction does not necessarily

³⁷³ Glasse for example talks about making fine cheesecakes with cream and “mackroons” for the base (Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 278). Ellis

³⁷⁴ Burton, *Credit and Consumer Society*, 27.

³⁷⁵ Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*, 170.

³⁷⁶ Wolley, *The Queen-like Closet; Or, Rich Cabinet; Stored with All Manner of Rare Receipts for Preserving, Candying, and Cookery*; Bradley, *The Country Housewife and Lady's Director, in the Management of a House, and the Delights and Profits of Farm. Containing, Instructions for Managing the Brew-House ... Directions for the*

curtail the dissemination of the knowledge contained within these books to lower ranks; however, access to these books would certainly have required access to a higher ranked household and its kitchen.

The mid-eighteenth-century cookery book as a genre made a notable shift not only in the extension of expertise and knowledge to lower-ranked individuals, but also in its allowance for prior knowledge and expertise on the part of its admittedly female and widely-ranked audience. The creation of space for ingredient substitution and individual expertise and preference makes the eighteenth-century cookbook more of a general theory treatise than a reproducible ‘how to’ for the ladies. Glasse, for example, sets out rules for pan reuse, warning against mixing cooking meat with cooking vegetables in case the meat ruins the color of the vegetables.³⁷⁷ With this general rule, Glasse explains that there are a number of possible ways to achieve a dish, even with a shortage of pans, so long as the basic tenets of eighteenth-century cuisine are obeyed. The authors of these cookery books recognize the need for the housewife to make substitutions and adapt recipes for individual taste -- leaving room for adaptation and innovation. It is important to think of cookery books during the eighteenth century as general guidelines rather than as the by-the-book cooking espoused in cookery books for the nineteenth and twentieth centuries. Lehmann argues that printing recipes had a stultifying effect on culinary practice because they

Dairy ... the Ordering of Fish, Fowl, Herbs, Roots; Smith, The Compleat Housewife: Or, Accomplish'd Gentlewoman's Companion: Being a Collection of Upwards of Six Hundred of the Most Approved Receipts in Cookery, Pastry, Confectionary, Preserving, Pickles, Cakes, Creams, Jellies, Made Wines, Cordials. With Copper Plates Curiously Engraven for the Regular Disposition Or Placing the Various Dishes and Courses. And Also Bills of Fare for Every Month in the Year. To Which Is Added, a Collection of Above Three Hundred Family Receipts of Medicines; Viz. Drinks, Syrups, Salves, Ointments; Raffald, The Experienced English House-Keeper: For the Use and Ease of Ladies, House-Keepers, Cooks, &c. : Wrote Purely from Practice and Dedicated to the Hon. Lady Elizabeth Warburton ... : Consisting of Near 800 Original Receipts, Most of Which Never Appeared in Print.

³⁷⁷ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 15.

became definitively authoritative. Although this shift would not take place until the concepts of reproducibility and exact measurement came to the fore in the nineteenth century.³⁷⁸

The cookery book as a genre during the eighteenth century was also rife with plagiarism. It was common for authors to fill or pad their books with plagiarized recipes from their forebears as well as from one another. Yet in spite of their inclusion of plagiarized early modern recipes, the eighteenth-century cookbooks remain distinct.³⁷⁹ Beyond trends in organization and publication, an eighteenth-century cookery book is also a distinctive product of its context. The very food that is mentioned, both in name but also in taste has changed and evolved during the last two centuries. A famous example of this can be found in the history of the carrot. The genetic cultivation of orange carrots came to the fore during the seventeenth century in the Netherlands.³⁸⁰ Undomesticated carrots were bitter and used for their medicinal and not culinary qualities, yet by the eighteenth century, Glasse is using these selectively bred orange carrots in an orange-water pudding.³⁸¹ The nomenclature, the tastes, even the architecture of the kitchens in which these recipes were re-created is distinct. Moreover, the housewife was expected to navigate the unique economic and agricultural circumstances that impacted on a national and local level what was available to a household, and the political impact on taste and culinary identity. Thanks to the genre of female expertise that was established in mid-eighteenth-century cookery books, the female reader was taken for granted as being an authority on the intellectual, economic, and political actors that intersected the domestic sphere as the publishing author.

³⁷⁸ Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*, 170.

³⁷⁹ Lehmann, in her chapter "Reading Recipe Books and Culinary History: Opening a New Field," in fact argues that the very idea of tracing the original recipe belongs to "a heroic narrative of culinary development, in which a defining moment can be isolated," when in fact the nature of changing cooking styles is nigh impossible to identify (DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*, 96).

³⁸⁰ Denker, *The Carrot Purple and Other Curious Stories of the Food We Eat*.

³⁸¹ Denker.

Eighteenth-century cookery books, though we cannot know the specifics of how any individual housewife read or used hers on a daily basis, still offer a great deal of insight as a genre into the epistemological nature of cooking, authority and expertise as it extended not only to the middling-to upper ranks, but also to the women working within these houses. The rise of literacy rates during this period, combined with cooking's association with oral communication and the emphasis on imparting theory rather than specific step-by-step recipes allows historians to consider a broader audience beyond those who purchased these printed books. The nature of the cookery book as allowing for expertise and insight on the part of the reader also highlights a key aspect of female authority and knowledge during this period. The expectation that the reader be able to substitute ingredients based on market availability, crop yield, political association, or even local, regional, or personal taste all infers a great degree of knowledge of the actors impacting the kitchen space. Moreover, the rich tradition that cookbooks came from, namely that of including "physicke" surgery, and other areas of formal male expertise allows for an easier transition between the housewife as culinary expert and the housewife as an empirical expert in technological, chemical, or thermodynamic observation and theory. Unlike botany texts where the female readership was presumed to need assistance from their male counterparts, the presence of female cookbook authors indicates that this was a domain in which women gained a firm foothold during the mid-eighteenth century.

Digitized Cookery- Access and Availability

Where are the physical cookery books now? They are scattered throughout archives in America and Europe. Although historians such as Spary, Leong, Davis, and Wall have clearly demonstrated the viability of cookbooks as primary sources, when it comes to archival

collections, on the whole cookery books remain individually dispersed either as part of the collection of a household or fragmented individually.³⁸² The Folger Shakespeare Library in Washington, DC and the Wellcome Library in London each offer large collections of manuscript recipe texts, yet the websites for both libraries do not emphasize or even mention their recipe collections as a featured attraction.³⁸³ Cookery books tend to not be widely advertised or categorized as collections on institutional or scholarly websites, in archival cataloging, or visible in other sources of initial twenty-first-century scholarly inquiry. While one can conduct a catalog or collection search for cookbooks, their classification is not uniform. Depending on the cataloger, cookbooks are also classified as recipe collections, household manuals, or by other terms contained within their titles that seem recognizable to the modern inquirer but may not be true to their contextual historical meaning (for example, *The Queen's Closet Opened* (1668) might accidentally be cataloged under closets rather than cooking).³⁸⁴ The Library of Congress classification for “Cookery, Nutrition and Food Technology” does include home economics, and yet the scope itself is defined in terms of a modern understanding of food including subjects such as “careers in the food industry,” “food contamination,” “sports nutrition,” and “microbiology.”³⁸⁵ For the Library of Congress, there is a separate category for food history, cookery-history, kitchens, cooking equipment, and utensils, and Cookbooks, from early antiquity to 1800.³⁸⁶ This last classification is particularly problematic since it implies that all pre-modern cooking is alike and therefore not distinctive in its own right. Not only can classification by

³⁸² See Spary, *Eating the Enlightenment: Food and the Sciences in Paris*; Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*; Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*; Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*.

³⁸³ Wellcome Collection, “Collections”, <https://wellcomecollection.org/collections>; Folger Shakespeare Library, “About the Folger,” <https://www.folger.edu/about>.

³⁸⁴ British Library, “The Queens Closet Opened,” <https://www.bl.uk/collection-items/the-queens-closet-opened>.

³⁸⁵ Library of Congress, “Cookery, Nutrition and Food Technology” <https://www.loc.gov/acq/devpol/cookery.pdf>

³⁸⁶ Library of Congress, “Cookery, Nutrition and Food Technology” <https://www.loc.gov/acq/devpol/cookery.pdf>

modern terms be problematic, not all catalogers will provide the same level of detail in the metadata or in descriptive notes. Catalogers are trained to include “essential details about the content of the item, such as the nature of item, its point of view, scope, and purpose,” but what they consider to be essential may not cover information of benefit to a historian such as whether there is an index of recipes, if the inclusion is only a handful of recipes, or if there are transcriptions of handwritten recipes at the end of a text.³⁸⁷ The lack of formal standardized identification of and archiving of cookery books as an historical area of inquiry makes regulating the process of digitizing or studying them significantly more difficult. As a result of the massive digitization efforts of the Google Books initiative, discussed previously, OCR has improved the ability to search for keywords and discover digitized cookbooks, but due to differences in digitizing processes and OCR technologies, use of this method only scratches the surface.³⁸⁸

As a genre, the study of eighteenth-century cookbooks is somewhat unglamorous. Unlike their nineteenth-century successors, for example, eighteenth-century cookery books do not usually contain recipe-specific illustrations. This distinction makes them less exhibit-worthy from a collector or museum perspective. The shift that makes eighteenth-century cookbooks so interesting -namely that they were accessible to more than just the top tier of the elite- also makes them less remarkable by modern standards. A giant cake of the early modern periods that is shaped like a castle or a pie with real live birds within it are far more remarkable to the twentieth-century general public than a recipe for a mundane item such as pancakes. As such, there are no traveling exhibits specifically on eighteenth-century cooking, and no main-page features on museum or collection websites of their culinary collections. In short, on an

³⁸⁷ Holmes, Sheryl et al, “Summary Notes for Catalog Records,” 7.

³⁸⁸ For a good overview of the role of machine and AI in cataloging see Jizba, “Reflections on Summarizing and Abstracting.”

institutional level, cookbooks from this era are relatively insignificant from a curatorial perspective.

This is not a diatribe against curators. Their hands are tied since, with limited staff and a need to secure donors or prove their budgetary value, it makes most sense to highlight the visually appealing or big-name and expensive items. In an age of blogs, twitter and social media, the residential experts who would previously have been pressuring their collections to put on an exhibit on this subject, instead publish their findings on their own. Yet while this creates a record on the Internet, it does not create a cataloging or archival link between the items within a collection that are self-curated on blogs. The catalog, therefore, does not evolve. It is an entity distinct from the outside world of social media (except in rare cases where crowdsourcing has been introduced) and for all academic records, the cookery books remain unlinked and thus prone to being overlooked.

Search Engine Optimization (SEO) also comes into play when considering digital access. While institutions may optimize their hosting website and presence in search results, which allows amateur scholars to find the general library or archive holding, most catalog records are either not optimized (since it would take a great deal of work to do so) or are housed within a separate program that often requires authentication and is therefore not viewable by search engines.³⁸⁹ Due to this feature of modern web searching and indexing, not to mention that institutions are unlikely to pay to further optimize the hit count of each of their catalog records,

³⁸⁹ To gain a sense of the scale of work, this article explains that keyword tagging, used to books search engine optimization, is regarded as “trivial, manual, and time-consuming.” Hindsight Technology Solutions “Better Archive Organization and SEO with This One Change.”

for an item to exist online is not the same as it being findable -- even if a catalog is 'open access' it may not actually be all that accessible.

Outside the catalog, secondary sources traditionally help to inform an historian's inquiry by familiarizing them with the who, what, where and when of bibliographic entities. Thanks to the rise of the field of food studies and food history, there are several secondary sources available that can provide such details about cookbooks and their authors; however, the ease of cross-cataloging or searching for linked contemporaries when it comes to cookbook authors is nearly impossible. Food histories are often published without footnotes or endnotes, so while dates, titles, and names are given, the primary sources are often lost in the process.

Cookery books, by their nature, also present a confounding problem for the historian: namely that their value is not purely historical. Although the historian can argue the case that recipes are the result of cultural construction, and that an eighteenth-century pie is not the same as a twenty-first century pie, the truth is that cooking terminology has changed very little over the past century. For an outside or lay audience, the instructions for baking a pie in the oven sound familiar and reproducible. Re-creating historical dishes has been a popular pastime and this includes the long eighteenth century. It should therefore not be surprising that many institutions attempt to translate, edit, and reorganize digitized or reprinted cookery books for a more popular audience. While some scholars or librarians attempt to preserve the original language, page order, and spelling, many reputable institutions from museums to libraries are willing to publish or digitize these edited editions. An example comes from a *Elizabeth Serrell of Wells Her Recipes and Remedies: An Eighteenth Century Kitchen Commonplace Book* (1986) which includes notes from volunteers translating the included recipes for modern oven temperatures, modern cook times, and modern measurement standards as well as an explanation

from the editors that they decided to re-order the original manuscript, omitting epitaphs and a table to predict the weather.³⁹⁰ As recipes are reproduced in anachronistic publications catering to modern readers or pulled piecemeal from the cookery books to be posted on blogs, the concept that a recipe can live outside of its historical context is perpetuated. The presumption that historical recipes should be adjusted for new contexts is problematic for historians, especially those who see the nature of digitization as yet another form of deracination, as information held in recipes is disconnected from the material ways people interacted with the original texts.³⁹¹ Indeed, the modern consumption of the past (both figurative and in the case of recipes, literally) has very real implications for the historiography of daily life and everyday technologies.

³⁹⁰ Serrell, *Elizabeth Serrell of Wells Her Recipes and Remedies*, 3.

³⁹¹ DiMeo, Michelle and Sara Pennell, *Reading and Writing Recipe Books, 1550-1800*, 228.

Chapter 4- From Taste to Practice: Everyday Kitchen Technologies

The very act of consuming and interpreting a recipe required experience, knowledge, and an extensive working-understanding of the market. The intended audience of the cookbooks -the women who were actually reading these books or overseeing the cooking within the kitchen – were by necessity empirical practitioners who were tasked with making use of a variety of technologies to produce a final result or dish while accounting for inconstant conditions that were affected by a formidable number of contingent factors: what kind of material pots and stoves were made from; the impact of the weather from seasonal changes to issues of humidity; the type of fuel they used; the size of the fire; the number of staff working within the kitchen; the number of clean, unbroken pots and pans available; the number of people being cooked for and their social rank; the most recent fashions in foods and display; the proximity to local markets; the family’s landholdings; the time of the year as it related to both weather and to seasonal ingredient availability; the success of trade ventures bringing imported goods to the market; the amount of credit or income of the family; and the list goes on. A truly determined British housewife could have continued to spit roast her meat over fire, boiling her meals using the single-pot system, relying on seasonal ingredients, and rejecting the market economy and precursors for the long Industrial Revolution. Yet as markets, politics and kitchens changed, the women who entered into this cultural mix and chose to invest in it became practical experimenters who shaped their kitchen environments as they made use of what they learned to assess outcomes, recalibrate their efforts, and take into account what impact modifications might have.

As Pinch and Oudshoorn might say, “users matter.”³⁹² Users of a technology are co-constructed and defined in a flexible, evolving process that takes into account technology design, different groups of users and their identities, and the social and political context of domestication.³⁹³ The term “users” encompasses not only the “end users” but also the “lay end users” and the “implicated actors”—eighteenth-century women fall within these latter two categories because they certainly were not considered to be parties to expert discourse related to heat or diet as elite practitioners were — the first order “end users.”³⁹⁴ Like implicated actors, eighteenth-century women had traditionally been made invisible by those in power, but by publishing cookbooks they made themselves visible. The fact that women entered the kitchen, that housewives accepted its management to be among their duties, and that women authored print cookbooks for publication — these were not mere gestures of women passively adopting “natural” domestic roles but were instead active participants in shaping a new environment in which their choices were consequential.

This chapter investigates the presence of new technologies within the kitchen, as well as the continued presence of older technologies. The integration of kitchen technology within the spaces for food preparation, although designed for that purpose, cannot be taken for granted as an automatic result. As Ronald Kline expounds in his chapter from *How Users Matter*, “farm men and women were not passive recipients of the transfer of technology from the city to the county; they were active consumers who resisted, modified, and selectively adopted these technologies on an individual basis.”³⁹⁵ The adoption of newer cooking technologies and the

³⁹² Pinch and Oudshoorn, *How Users Matter: The Co-Construction of Users and Technologies*, 6-7.

³⁹³ Pinch and Oudshoorn, *How Users Matter: The Co-Construction of Users and Technologies*, 6-14.

³⁹⁴ Pinch and Oudshoorn, *How Users Matter: The Co-Construction of Users and Technologies*, 7.

³⁹⁵ Pinch and Oudshoorn, *How Users Matter: The Co-Construction of Users and Technologies*, 51.

mastery of them by eighteenth-century women contributed to a kind of culinary industrial revolution in England.

Neither were women passive recipients of recipes: they were active users who modified the recipes to meet their household's particular needs, tastes, conditions, and supplies. In this time period the act of cooking required expertise, black-boxed knowledge, and a great deal of skill. Eighteenth-century cookery books occupy a middle ground that was not entirely representative of the early modern practices of cooking as a collaborative, experience-based process where cooks were inventors and cooking created a sense of community through the sharing of handwritten notes and recipes. Nor was it a genre prevalent in the late nineteenth-century, where cooking was a highly structured and strictly regulated process requiring exact measurement and that presumed readers had ceded the active role to authors, while they themselves had the responsibility to follow instructions, a more solitary undertaking. Mid-eighteenth-century cookbooks offered some guidance and structure, yet very much relied upon additional skills and knowledge from their readers — creating a synergistic relationship between reader and author.

The mid-eighteenth-century British method of cookery combined new techniques, technologies and theories while simultaneously attempting to make them accessible. In her title, Glasse's book offers to teach women "the art of cookery" but promises to make it "plain and simple" while Cleland's title promotes the "new and easy method of cookery."³⁹⁶ Both authors allude to a distinct style of cookery, one that was heavily based on the scientific French model of distinct tastes, dishes and flavors. While it may not have been intentional, by making this new art of cookery accessible, these authors also offered their readers ample opportunity to gain

³⁹⁶ Glasse, *The Art of Cookery, Made Plain and Easy*; Cleland, *A New and Easy Method of Cookery*.

experiential scientific knowledge. Mid-eighteenth-century women could turn to recipe books as sources that facilitated their agency and authority.

In examining the construction of new methods of cookery eighteenth-century Britain it should be recognized that this was not an isolated phenomenon. In France during this period, male chefs such as Vincent La Chapelle were developing theories of taste and turned cooking into a scientific and intellectual field of inquiry.³⁹⁷ La Chapelle's modern cuisine, for example, focused on using chemical distillation processes to create sauces that were smoother and more flavorful, albeit more expensive.³⁹⁸ Techniques were refined, treatises on cooking and taste were circulated, and ultimately, in the early-nineteenth-century, *gastronomy* was accepted as the "new science of food that integrated chemical and medical alimentary theories for the purpose of maximizing taste rather than improving health."³⁹⁹ Throughout the eighteenth century, the French kitchen was an experiential laboratory in which questions of taste and advances in chemistry and medicine converged.⁴⁰⁰

In England too, Scottish chemists and British intellectuals took up an interest in the scientific implications of cooking. Yet the anti-French and anti-Whig sentiments of the era made the kitchen a space that carried negative connotations for masculine identity, as the employment of male French chefs was seen as effeminate and foppish in England -- an image of suspect masculinity that was as close to unpatriotic as one could get (given that the term had yet to be invented). Although men could not as easily venture into the kitchen and achieve status in the way that they did in France, they nonetheless still published cookbooks and did not retreat entirely from this area of inquiry and practice. They also studied related fields, examining, for

³⁹⁷ Davis, *Defining Culinary Authority*, 31.

³⁹⁸ Davis, *Defining Culinary Authority*, 27-28.

³⁹⁹ Davis, *Defining Culinary Authority*, 11, 112.

⁴⁰⁰ Davis, *Defining Culinary Authority*, 28.

example, diet in relation to medical health.⁴⁰¹ The notable examples highlighted by modern historians writing for a more general public were, of course, those natural philosophers who weighed what they ate and compared it to the weight of their excrement. Treatises on vegetarianism, on diets for invalids, and on ascetic diets to better regulate the intellectual mind quietly made their way to public consumption.⁴⁰² Male British intellectuals were clearly interested in the same kinds of questions as their French contemporaries, yet without a guild to keep women out, the kitchen offered a space where women also could engage with scientific cooking. On the one hand, cooking might be seen as an art, but it was also considered to be a form of scientific knowledge. Cooking and what people ate was just as much a part of experiential philosophy as chemistry and Newtonian physics.⁴⁰³

Knowing what, in general, people ate is easier to nail down through a mix of primary sources than is ascertaining how the intended audience for these cookery books actually used them. As I discuss in Chapters Four through Six, cookbook texts contain traces of theory, kitchen architecture reveals elements of concurrent culinary paradigms, and tracking the seasonal availability of ingredients and the processes for preserving them all speak to a general class of knowledge about the physical, chemical, agricultural, technological, and social processes at work in the kitchen. We cannot say, however, exactly how any given woman read the cookery book, nor whether the purchase entry, when present in a bookseller's documents, was made by the lady

⁴⁰¹ Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to Present*, 307.

⁴⁰² For more on vegetarianism see Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to Present*, 307; Gregerson, *Vegetarianism, A History*, 64.

⁴⁰³ The extension of Newtonian physics to practical matters is certainly not novel. In France Gauger invented a fireplace that used ducts to better heat adjacent rooms (DeJean, *The Age of Comfort: When Paris Discovered Casual – and the Modern Home Began*, 99). Gauger was later translated into English by John Theophilus Desaguliers, who popularized the practical applications of Newton's work and created a number of devices that could demonstrate Newtonian theories (Crowley, *The Invention of Comfort: Sensibilities & Design in Early Modern Britain & Early America*, 180; Carpenter, *John Theophilus Desaguliers: A Natural philosopher, Engineer and Freemason in Newtonian England*, 119; Fara, *Newton: The Making of Genius*).

of the house, or for her in her name, or even for an employed housekeeper using the lady's credit.⁴⁰⁴ The lack of absolutes, and the lack of formal historical documentation when it came to the domestic life of purchased books makes this avenue of inquiry particularly troublesome for historians. If traditional sources of evidence cannot supply historians with the documentation about how these cookbooks were used, then it appears that the factual statements needed to answer this question are unavailable. Or are they?

In this chapter, I examine the ways in which historians can combine references to going off-script that can be found in the cookery books and domestic household manuals during the 1740s and 1750s, and use these suggestive comments to assess these dynamics in light of research on British social practices, customs and manners, user-repurposing theories from the historiography of the history of technology and contemporary theories of food properties to get a better sense of how the consumers of these cookbooks may have actually used them in their empirical undertakings. The significance lies in the active role women played in adapting, substituting, and creating food.

This active role afforded opportunities to women to enact forms of social, cultural, and political power that were less easily available in other domains. Women, for example, could curry political favor by serving fashionable dishes such as ragout or by knowing the individual dietary preferences of their guests. Women also could wield power over the household's budget, substituting ingredients when appropriate to free up capital for other expenditures. In cooking, women were also taking an active role in maintaining and safeguarding the family's health, from both a nutritional and a medical perspective. These examples, along with many more in the subsequent chapters, help to explain why so many women took up the domestic mantle of

⁴⁰⁴ Batchelor and Kaplan, *Women and Material Culture, 1660-1830*, 193.

housewives. It is also significant because by the nineteenth century, the domestic role lost much of the inherent power and agency that can be seen in these mid eighteenth-century cookbooks.

Recipes changed from collaborative experiments to regulated and reproducible instructions.

A Matter of Taste

The saying goes that there is “no accounting for taste” but that is exactly what this section will attempt to do. While today seasoning a dish “to taste” is a way of saying that you can add as much salt or pepper as you desire. The concept of taste played a far more significant role in the eighteenth century. Indeed this era sees the rise of distinct national cuisines through an association of certain flavors, ingredients and cooking techniques with a burgeoning sense of nationalism.⁴⁰⁵ The concept of having good taste and a refined palate came to the fore, and even though we see a rise in nationalist rhetoric, the tastes to be found in an eighteenth-century kitchen were impacted by ingredient availability, personal and familial preferences, and a new method of cooking that helped to differentiate one taste from another. As individual tastes were differentiated in this period, so too were regional and even national tastes.⁴⁰⁶

National culinary association or identity is not a purely eighteenth-century concept. Indeed, as Anita Guerrini has attested, the natural history of food naming demonstrates national and cultural associations even in the sixteenth and seventeenth centuries.⁴⁰⁷ The turkey, for example was known in Latin as *gallina Indica* or Indian chicken.⁴⁰⁸ The idea of a distinctly national cuisine, however, is somewhat problematic because it requires the presence of

⁴⁰⁵ Wheaton, “Expositions Universelles,” 302.

⁴⁰⁶ Lehman notes the regional and national food may be representative or set up in ridicule as a forming of political identity (Lehmann, Gilly “Politics in the Kitchen,” 71-83).

⁴⁰⁷ Guerrini, “A Natural History of the Kitchen,” 45-47.

⁴⁰⁸ Guerrini, “A Natural History of the Kitchen,” 47.

nationalism, a term that was only beginning to have meaning in the 1740s and did not truly come to the fore until the early nineteenth century.⁴⁰⁹ While a unifying and extensive sense of distinctive national identity was, politically, only just emerging, the British certainly were able to distinguish between elements of their own cuisine, tastes and fashions and those of other countries. Since the sixteenth century, British upper-to middle-ranked society had been exposed to an increasingly greater range of tastes, thanks to the expanding military occupation of British colonies and trading ventures like the East India Company.⁴¹⁰ Recipes and ingredients were brought back from overseas, by both traders and sons in the British military.⁴¹¹ The impact of military careers on cooking and cuisine should not be underestimated, as middling-ranked sons without an inheritance often found their way to a respectable position in the British military.⁴¹² One indication of this convergence is seen in Glasse including an entire section “For Captains of Ships” that covers preserving food for long journeys -a choice that make sense as a large number of her readers would have had potential family ties to a ship captain or sailor.⁴¹³ This exposure to the military opened the kitchen door, both literally and figuratively, to new foods and tastes.

Imported colonial goods included recipes and ingredients. Glasse offers recipes such as “To make a currey the Indian way” that reflect an attempt to recapture the foreign tastes that British nationals were exposed to either when traveling or through family in the military. This “currey” is essentially a fried chicken dish flavored with turmeric, ginger, pepper and salt, and is an example of how the entire concept of curry is an artifact of British colonialism.⁴¹⁴ According

⁴⁰⁹ Newman, *The Rise of English Nationalism: A Cultural history, 1740-1830*.

⁴¹⁰ Nussbaum and Johns Hopkins University Press, *The Global Eighteenth Century*, 66.

⁴¹¹ Not only were international tastes and ingredients imported, with the improvement of reliable transportation and efforts to improve roads and waterways, the British also were better able to experience a greater range of local tastes.

⁴¹² Wallis and Webb, “The Education and Training of Gentry Sons in Early Modern England,” 8.

⁴¹³ “For Captains of Ships” Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 240.

⁴¹⁴ Glasse, 240.

to Stephanie Maroney, members of the British East India Company labeled any sauce-based dish they encountered in India as curry, exporting the flavor and terminology as they returned home.⁴¹⁵ With access to exported Indian ingredients and spices, the curry dish was born, flooding eighteenth-century British cookbooks. The presence of these dishes from other countries, albeit of problematic appropriated cultural origins, offered an opportunity to forge a food-based identity based on comparison and contrast.

Curry was not the only dish to be domesticated and colonized. Rice puddings of all sorts and varieties permeate mid-eighteenth-century cookbooks, yet they did not retain their foreign associations. There are plain rice puddings, rich rice puddings, Carolina rice puddings ... the list can go on. Apart from the Carolina rice pudding, these recipes bear no mention of where the rice was grown. The British Isle was ill-suited for growing rice.⁴¹⁶ Yet these recipes were only made possible due to the availability of imported rice. This particular ingredient nonetheless had been so culturally domesticated as a staple of the British diet all recognition of its origins was eliminated as it became part of what was being constructed as the indigenous British national cuisine. Rice was one of the major exported crops in seventeenth-century British colonies in North America, adding approximately one million pounds to the British economy each year.⁴¹⁷ The cultivation of rice became a vital part of the British economy, and the stable system of the

⁴¹⁵ Maroney, "'To Make a Curry the India Way': Tracking the Meaning of Curry Across Eighteenth-Century Communities," 122.

⁴¹⁶ ,Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 383; Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 33.

⁴¹⁷ Volo and Volo, *Family Life in 17th- and 18th-Century America*, 121.

empire's trade networks, originating in Georgia and South Carolina and then being sent to Great Britain and then frequently sold to the Continent and India.⁴¹⁸

The viability of this trade regime was only possible through its inextricable link to the slave industry. Although at the start of the eighteenth century, enslaved Caribbean people grew rice and other agricultural cash crops in the colonies, the demand for rice led plantation owners to seek slaves from rice-growing regions of Africa, appropriating their knowledge, technology, and culture of rice production.⁴¹⁹ The everyday use of rice, therefore, was founded upon a flourishing system of colonial expropriation, slavery, and trade. Dishes such as rice pudding, tea, and turmeric-based curries could only become standard fare for the middling and upper-ranked families of eighteenth-century England because the military-backed colonial trade industry was flourishing.

Given the high number of imported ingredients and general dependency upon international markets for the British food supply, it may seem counterintuitive that a sense of national culinary identity was still being forged. However, given the tense political relationship with France and fears among the British aristocracy that foreign, especially French, culture could corrupt and diminish their strength, the attempt to create a distinctly British identity makes political, if not logical, sense.⁴²⁰ Britain had been at war with France, on and off again, since 1688.⁴²¹ The discontinuous nature of the war footing between Britain and France, coupled with the similarities in intellectual culture and the British tradition of traveling to visit houses of French nobility during the Grand Tour, also made it difficult for the British to isolate their

⁴¹⁸ Cumo, *Encyclopedia of Cultivated Plants: From Acacia to Zinnia [3 Volumes]: From Acacia to Zinnia*, 887.

⁴¹⁹ Cumo, *Encyclopedia of Cultivated Plants: From Acacia to Zinnia [3 Volumes]: From Acacia to Zinnia*, 887.

⁴²⁰ Cohen, "Manliness, Effeminacy and the French: Gender and the Construction of National Character in Eighteenth-Century England."

⁴²¹ Scott, "Britain's Emergence as a European Power, 1688-1815," 434.

unique cultural identity from that of their associate nation; Francophobia and Francophilia coexisted in British society.⁴²² A number of historians have examined this complexity, including Jeremy Black, Linda Colley, Gerald Newman and Robin Eagles, and have established that one area where the published rhetoric is less ambiguous concerns French food and dress during the 1750s. Publicly, in caricatures, papers, and other media catering to a general audience there is a general dismissal of French culture, clothing and food as “foppish.”⁴²³ Only the truly wealthy Whig elite of the British aristocracy had the political currency to ignore these generally anti-French sentiments and to indulge in acquisition of what they found to be desirable goods. Indeed, during the 1750s negative caricatures and accounts of Whig aristocrats continuing to employ French chefs and enjoy French cuisine were quite popular.⁴²⁴

While the British publicly eschewed French food, the truth is that the status of these practices was as convoluted as the relationship between the two nations. French food still appeared in British cookbooks, but often its overt French connection was ignored or accompanied by a diatribe against all things French. For example, Glasse includes a lengthy passage against French cooking in the beginning of her book. She warns that “if the gentlemen will have French cooks, they must pay for French tricks.”⁴²⁵ Glasse goes on to explain that French cooks swindle their English lords and could make “a fine dinner of twenty dishes” for what they would charge the English to dress one dish.⁴²⁶ In spite of her anti-French rhetoric, Glasse blatantly plagiarizes French recipes within.⁴²⁷

⁴²² Mitchell, *Mutual (In)Comprehensions: France and Britain in the Long Nineteenth Century*, 2.

⁴²³ Cohen, “Manliness, Effeminacy and the French: Gender and the Construction of National Character in Eighteenth-Century England.”

⁴²⁴ Mitchell, *The Whig World: 1760-1837*, 77.

⁴²⁵ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, iii.

⁴²⁶ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, iii.

⁴²⁷ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, iv–v.

The result of such contradictory impulses is that recipes for “ragoo” and “fricasey” were immensely popular and plentiful in eighteenth-century British cookbooks, as were entries for “Beef a la mode the French way” or “To force the inside of a rump of beef, the French fashion.”⁴²⁸ Ann Cook, in her 1754 book *Professed cookery... with an essay upon the Lady’s [i.e. Hannah Glasse’s] Art of cookery*” points out that while Glasse criticizes French chefs for their extravagance and tricks, “she has tenfold more extravagant *French* Cookery in her Book, then in the Chapter she bids you read.”⁴²⁹ Cook herself compounds this contradictory situation by including a note on “ragoo” above her criticism of Glasse.⁴³⁰

With French food out of favor and decades of mounting political tensions with France, the British needed to find a way to embrace a British cuisine, even if that cuisine was a fictitious construct that relied heavily upon imported ingredients and French culinary techniques. Rather than investigating what was actually being cooked or where their ingredients came from, the British used some creative license to create a national identity forged upon one main ingredient: beef. The mid-eighteenth century saw the increasing use of “the Beefeater” in political pamphlets, poems, and art, and with it the entirely invented trope of the “Yeoman,” an independent land-owning farmer. Today the Beefeater remains a symbol of British culture; they are the brightly garbed guards of the Royal Palace and Tower of London, but in the eighteenth century a Beefeater came to be a political term used for any British resident, a term that suggested that even British peasants regularly enjoyed eating beef.

⁴²⁸ Glasse, 386. To be clear, “ragoo” refers to ragout, a highly seasoned meat and vegetable stew. The variation in spelling was probably not an attempt to hide its French association but rather was, as with fricassee, a spelling variation based on how the French terms were pronounced.

⁴²⁹ Cook, *Professed Cookery: Containing Boiling, Roasting, Pastry, Preserving, Potting, Pickling, Made-Wines, Gellies, and Part of Confectionaries. with an Essay Upon the Lady’s Art of Cookery. Together with a Plan of House-Keeping. By Ann Cook, Teacher of the True Art of Cookery*, 37.

⁴³⁰ Cook, *Professed Cookery: Containing Boiling, Roasting, Pastry, Preserving, Potting, Pickling, Made-Wines, Gellies, and Part of Confectionaries. with an Essay Upon the Lady’s Art of Cookery. Together with a Plan of House-Keeping. By Ann Cook, Teacher of the True Art of Cookery*, 37.

Why was eating beef so significant? In our modern world where meat is readily accessible and fast-food chains serving hamburgers can be found in every city, beef eating seems a somewhat insignificant way of pointing out that most Britons were not vegetarian. Yet the idea that the British middling population and even farming men had access to such a plentitude of available beef that they could enjoy eating it year-round and not save their consumption of livestock for special occasions symbolized that the British surpassed other nations in possessing a strong market economy, improved vigor and sustenance, and generally dispersed wealth. Ellis frequently refers to eggs or livestock going first to paying customers or the manor house that owned the farming lots before the working families could partake.⁴³¹ For all British farmers to be eating beef, a surplus of cattle that allowed for personal consumption would have needed to be widespread, reaching across the Isles, with still enough beef to be sent to market for the growing urban cities like London or York.

The purported existence of this greatly exaggerated surplus of beef was supposedly tended by the Yeoman farmer. By the eighteenth century the real yeoman --independent farmers who owned and worked their small farmsteads --had been effectively hedged out by the upper to middling-ranked households as they increased land taxes and enclosed common land.⁴³² In reality very few yeoman actually existed in England during the mid-eighteenth-century period when the trope and supposed lifestyle and diet of this heavily fictitious character was wholeheartedly adopted by the very people who had made their lifestyle impossible. This fictive construct extended into cookery books making mention of Yeoman diets and rustic cottages

⁴³¹ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 25.

⁴³² Olsen, *Daily Life in 18th-Century England*, 2nd Edition, 255.

being built in manor pleasure gardens for the British landed elite to supposedly get in touch with their nonexistent roots.⁴³³ Indeed the small garden cottages designed to offer peace and relaxation while still on the grounds of the country seat, or the Yeoman's diet of fresh bread, cheese and apple pies or meat pasties with an edible crust, were figments of the middling to upper society's imagination; projecting their own values of relaxation and simplicity upon country-living. This strange contradiction between the fashionable adoption of an albeit imaginary rustic lifestyle and the extinction of that way of life by the very people who sought to emulate it helps to explain the similar adoption of the identity of Beefeaters, even as the most patriotic of recipe authors blatantly plagiarized French dishes and domesticated colonial tastes.

The adoption of beef as the purported staple of the British diet at the time also relies heavily on the political advantage to be found in its perceived nutritional value (at least in terms of sustenance). Access to beef symbolized the economic wealth of the British and their ability to keep their farmers healthy and employed while France tackled famine. This symbol became political propaganda. Artist William Hogarth during the late 1740s and 1750s painted a series of political images that not only portrayed the French as weak and starving but showed the British populace as well-fed and robust. Hogarth's *Gate of Calais or O, the Roast Beef of Old England* (1748) portrays French soldiers looking hungrily at a haunch of beef being transported to an English tavern (figure 2). This painting makes no attempt to hide its political agenda. The Jacobite Scotsman (identifiable by his entirely tartan



Figure 2 Hogarth, *Gate of Calais or O, the Roast Beef of Olde England* (1748)

⁴³³ Hickman, "The Garden as a Laboratory: The Role of Domestic Gardens as Places of Scientific Exploration in the Long 18th Century."

dress), starving in the right-hand corner of this image suggests that should the British monarchy fall to French sympathizers, they too would be subjected to the starvation rampant on the continent.⁴³⁴ In this image not only does the presence of beef highlight the hunger and malnourishment of the French and French-sympathizers, but the far more muscular and taller British guard seems to suggest that this diet is clearly advantageous.

The creation of a British identity forged upon beef, however, was massively problematic because the British continued to enjoy French food. In a later pair of paintings entitled *The Invasion*, printed in 1756, Hogarth includes the following poem:

With lantern jaws, and croaking gut
See how the half-starved Frenchmen strut,
And call us English dogs;
But soon we'll teach these bragging foes,
That beef and beer give heavier blows
Than soup and roasting frogs.⁴³⁵

The contrast between the beef eaters of England and the starving Frenchmen with their rumbling stomachs and who had to resort to meals of soup could not be clearer. This sentiment can be found in a number of images, poems, and engravings from the period. Another warns that should the French win the war “We now may expect, instead of, Roast beef, / To live ou Soupe Migre &c....But now—God save King George / his Subjects also, /And preserve the Roast Beef of Old England; / Give Lewis his Soupes and Ragoût.”⁴³⁶ Yet it is very clear from the cookbooks of the period that the British continued to enjoy soups and ragouts, chicken, pork, and a great number of proteins other than beef.

⁴³⁴ Wagner, “The Artistic Framing of English Nationalism in Hogarth’s *The Gate of Calais*, or *The Roast Beef of Old England*.”

⁴³⁵ Clerk and Hogarth, *The Works of William Hogarth: (including the “Analysis of Beauty,”) Elucidated by Descriptions, Critical, Moral, and Historical; (founded on the Most Approved Authorities.) To Which Is Prefixed Some Account of His Life*, 34.

⁴³⁶ Catalog of Prints and Drawings in the British Museum: pt. I. March 28, 1734 to c. 1750. Pt.II 1751 to c.1760. (British Museum Dept. of Prints and Drawings, 1877):1162-1163.

Even a political broadside published by Parliament in October of 1757 shows some of these problematic assimilations of French cuisine. The print “Change of Diet. A Ballad: *being a*

Sequel to the Roast Beef of Old England” portrays a mid-eighteenth-century kitchen in which a French cook roasts a beef sirloin while a British man is being force-fed frogs by a Beefeater (identifiable by his uniform). The full image includes statements from the French cook, the Beefeater and the Englishman. The

English gentleman (identified by his wig and fashionable clothes) vomits frogs while stating,

“Psha! Rot this plaguy Garlick: if this is your soop meager as you call it, eat it yourself Frenchman, or I shall vomit my Heart up.” The Beefeater says, “Little did I think that ever a British Beef-Eater would feed on Frogs & Ragout.” While the Englishman apparently cannot stomach French soup, and the symbolic Beefeater rejects ragout, the chef turns back to the kitchen to cook the roast beef. This image not only expresses the growing anti-French sentiments of this period, but it also makes a very real observation of British kitchen practices.

The fire on the left is not the spit required to actually roast beef, but a controlled hearth. The pots and pans, and the numerous dishes displayed behind the Beefeater are all indicative of the eighteenth-century *batterie d' cuisine*, the new cooking style that was so reliant upon the French. Not only did the mid-eighteenth-century middling and upper-ranked households dine on French-influenced food, their very kitchen and cooking systems were impacted by French cooking.

Nevertheless, by publicly criticizing French food and sending away French chefs, the British



Figure 3 Change of Diet: being a Sequel to The Roast Beef of Old England (1757)

middling and upper-ranked households were happy to celebrate their national identity as Beefeaters, even when they were eating more cakes, jellies and pies than actual beef.

The domestication of French cuisine extended well beyond the kitchen and into the parlors and dining rooms of middling households. Even banquets and formal dinners were modeled after the French, such as serving food in two or three designated courses. Dinner *a la francaise* did not change, but terms were exchanged to make the entire affair seemingly more British.⁴³⁷ ‘Menu’ was substituted for the ‘bill of fare’ and ‘entree’ exchanged for ‘side dish.’⁴³⁸ The adoption of this terminology can be seen in Glasse’s recipe for roast turkey. She includes instructions for how to serve and display the turkey in gravy, then suggests that it “makes a pretty side-dish for supper, or a corner-dish of a table for dinner.”⁴³⁹ The psychosociology of food consumption, “how food names impact our selection, what foods were chosen to be served at social gatherings, the social status of the people with whom you share the meal” all played a role in the housewife’s selection.⁴⁴⁰ A culinary nationalism built from plagiarism held potential pitfalls for the housewife, who needed to toe the line between remaining fashionable, providing politically and socially appropriate dishes to guests, and working with the ingredients available to her. Taste, therefore, was not just about personal preference, but also held deeper political and social meanings. It was a tool a housewife could wield to curry favor or to display allegiances. Given the clear evidence of politics at play within the kitchen, it is not surprising that flavor was quickly becoming an important way to forge identity or to outwardly align one’s household with one’s political beliefs.

⁴³⁷ Broomfield, *Food and Cooking in Victorian England: A History*, 101.

⁴³⁸ Broomfield, 101.

⁴³⁹ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 67.

⁴⁴⁰ Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present*, 11.

Taste and Aesthetic

While taste was certainly culturally constructed and influenced by biology, the literal tastes in terms of differentiating one ingredient from another, or the system by which certain flavors were deemed appropriate to pair is also the product of the eighteenth century, and perhaps the most helpful to the historian in terms of placing the British system of cookery in its context. Although France employed a similar method of cookery and was exposed to similar intellectual debates on heat, transformation and preservation, the cultural politics of Britain's desire to both emulate French fashionable tastes and differentiate themselves led to a distinctive development of rules for cooking. In particular, during the eighteenth century British culinary discourse rejected artifice or any attempts to conceal or reduce a food away from its posited hearty, wholesome origins.⁴⁴¹

What exactly did artifice mean? Take for example small, artful pastries shaped like chickens which revealed, when they were cut open, that there were in fact potatoes and sweet meats inside. While in France the pastry cook may have been celebrated for his artistry, in England eighteenth-century diners would have been thoroughly appalled by the fact that they thought they were going to eat chicken and no chicken was presented to them.⁴⁴² This expectation was by no means entirely new. Even feast day recipes for pies containing live birds from the seventeenth century warned against "mocking" the guests and suggested "you shall cut open the small Pie" that was to be sent up along with the one for display.⁴⁴³ While this is an

⁴⁴¹ This is also notably different compared to the British 17th century food traditions where Classicism encouraged cooks to assert their dominance over nature and make it something it was not. See Gillies, *Reflections in 18th Century Taste*, 75.

⁴⁴² Cook, *Professed Cookery: Containing Boiling, Roasting, Pastry, Preserving, Potting, Pickling, Made-Wines, Gellies, and Part of Confectionaries. with an Essay Upon the Lady's Art of Cookery. Together with a Plan of House-Keeping*. By Ann Cook, *Teacher of the True Art of Cookery*, 37.

⁴⁴³ Clarkson, *Pie: A Global History*, quoting from *Epulario* 1598.

extreme example, the British complained a great deal about the lack of substance of French cooking, even while stealing their recipes and cooking fricassees and ragouts.⁴⁴⁴ So even as the British cookbook authors borrowed heavily from French culinary techniques, there remained a standard that a dish's taste and appearance was consistent with the ingredients from which it was composed.

In the appearance of a dish, aesthetics also played a role in fulfilling this standard. Adding foods or ingredients to dye food an appropriate color is included in many of the cookbooks. A poem about apple pies published in "The Tory Tattler" in 1710 and then reprinted in Ellis' cookbook recommends adding "A tincture of bright Vermil' will shed, / And stain the pippin, like the Quince with red."⁴⁴⁵ The artificiality of adding vermilion to the apple pie to make the juice and the apples within more red was a permissible attempt to celebrate the red apples that comprised the dish, and presumably did not impact the taste of the apples.

Some aesthetic alterations, however, may have impacted the taste of the final dish. Ellis is perfectly happy with adding scum from a mixture of water and ashes to cucumbers to make resultant pickles look greener.⁴⁴⁶ While the brine was probably very strong, one wonders whether adding ashes impacted the taste of the cucumbers when they were eaten later. Ellis even asserts that "some make use of Vitriol, which is indeed of a poisonous Nature or to boil Things green as Savoys, Pease, &c."⁴⁴⁷ Thus vitriol was problematic not only because it could impact taste, but it was known to be dangerous as well -- and still it was used to make foods look fresh when

⁴⁴⁴ Boyce and Fitzpatrick, "A History of Food in Literature," 155.

⁴⁴⁵ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 39.

⁴⁴⁶ Ellis, 222.

⁴⁴⁷ Ellis, 222.

preserved. Glasse pickles her walnuts with vine leaves so that they appear green, repeatedly adding vine leaves to the mixture.⁴⁴⁸ These are but a handful of examples of many recipes that prioritize artificially enhancing the color of a dish to mimic the natural color of the ingredients. Preserving the original qualities of an ingredient was clearly an important aesthetic effort in English cooking.

Beyond ingredients themselves, an often-overlooked aspect of aesthetic manipulation involves the reaction of certain ingredients with the new materials being used for pots and pans. The case of pickled green walnuts is exemplary. Cooks who were “ignorant of the ill effects of copper” used it, much like some used poisonous vitriol, to pickle green walnuts and add color.⁴⁴⁹ The interaction of ingredients (acid) with new cookware ingredients like tin produced new colors and possibilities, but also could be potentially hazardous. In a less dangerous example, Ellis explains that a family hunted down their old cook to find out his secret for cooking pears a deep red, which apparently came down to the fact that they needed to be baked in deep pewter dishes rather than earthen glazed vessels.⁴⁵⁰ Not only could color presumably change due to ingredients’ reactions to new cookware material, but theoretically so could taste. Given that new materials were being brought into the kitchen, this area in particular places eighteenth-century cooking firmly in a changed empirical context and distinguishes it from the older methods of cooking and older technologies still extant.

⁴⁴⁸ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 260.

⁴⁴⁹ Wilson, *Consider the Fork: A History of How We Cook and Eat*, 29.

⁴⁵⁰ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 223.

Developing Taste: Natural Philosophy and the Senses

While the British sense of taste was certainly impacted by their assertion of a national culinary identity and by eighteenth-century aesthetic conventions, the concept of taste was also firmly rooted in natural philosophy and science. Taste is a culturally constructed concept with components derived from biological and psychological reactions. In the eighteenth century, Enlightenment thinkers started to overturn the earlier belief set by René Descartes and Nicholas Malebranche that the senses were “false witnesses.”⁴⁵¹ With prominent eighteenth-century philosophers such as Denis Diderot, Jean-Jacques Rousseau, and Immanuel Kant privileging the senses –although there was some debate as to which sense was the most informative –the role of cultivating taste and other culinary senses was viewed as an intellectual pursuit and not just some insignificant culinary task.⁴⁵² For example, the stench of a rotting body was used to identify crime, the scent of urine or of wounds could hint at the efficacy of medicines and the smell of rotting meat or of sour milk could help determine the quality of food.⁴⁵³ Being literate in the senses, as with the sense of smell, was socially significant in a manner similar to being well versed in manners or fashion.⁴⁵⁴ Understanding what opportunities mid-eighteenth-century women had to develop their senses offers insight into how they needed to be prepared to negotiate the social, intellectual and political dimensions of taste.

⁴⁵¹ Reinarz, *Past Scents: Historical Perspectives on Smell*, 13.

⁴⁵² Reinarz.

⁴⁵³ Tullett, *Smell in Eighteenth-Century England: A Social Sense*, 2.

⁴⁵⁴ “In the context of urban sociability smell occupied an important place in the performance of identity and the management of social relationships.” Tullett, 2.

A Distinctive Taste

Taste played a significant role during this period because the ability to identify and produce distinct flavors was a relatively new phenomenon. This is not to say that food was flavorless prior to the eighteenth century, but that an attentive appreciation of individual flavors became possible during the seventeenth and eighteenth centuries, due in part to two significant changes. First, the shift away from single pot cooking created, as an unintended byproduct, an opportunity to focus on distinct flavors. In the single pot system, the meat and fat dripped into the vat of water, in which savory and sweet items were boiled or steamed. In the end everything would have tasted similar because it was steeped in essentially a mix of vegetable-water and meat broth.⁴⁵⁵ Add to that outcome the medieval tradition of mixing sweet and savory spices with an emphasis on the expense of ingredients rather than their individual tastes led to a uniformity in taste.⁴⁵⁶ Taste for the upper and middling-ranked households evolved from a traditional expectation that everything would taste similar (and was often uniformly sweet and spiced) in an effort to display rank.⁴⁵⁷

So, what did eighteenth-century dishes taste like? It is difficult to truly determine past tastes due to the impact of agricultural cultivation. An excellent example of this dilemma is the modern-day carrot. Up until the seventeenth century, carrots in recipes were mostly the wild purple carrots, which held a bitter, acrid taste.⁴⁵⁸ Yet as they became domesticated, the bitter

⁴⁵⁵ Jaïne, *Taste: Proceedings of the Oxford Symposium on Food and Cookery*, 56.

⁴⁵⁶ Diderot privileged the development of the senses for French intellectuals. His inclusion of numerous and diverse entries for foodstuffs in his *Encyclopédie (1751)* privileged taste as the sense central to the enjoyment of food Jaïne, 70–72.

⁴⁵⁷ Another possible factor in the historical shift in taste that ties more directly to the eighteenth century is the general transition during the seventeenth century away from beer-based breakfast and the substitution for drinking coffee. (Sambrook, *Country House Brewing in England, 1500-1900*, 189.) I believe it can be generally acknowledged that while inebriated, the blandest, greasy food tastes better. Yet as the populous started to sober up, relatively speaking, it is not untoward to suggest that their palates may have sharpened, and their senses improved.

⁴⁵⁸ Friedland, *Vegetables: Proceedings of the Oxford Symposium on Food and Cooking 2008*, 63.

flavor was eventually bred out of the vegetable.⁴⁵⁹ Interestingly the shift of carrots away from purple to yellow, and later to orange, was less about flavor and more due to the fact that the purple color seeped into the food and stained the cook's hands.⁴⁶⁰ Yet it is difficult to tell what an eighteenth-century carrot tasted like, even if we know its color. It is likely that Glasse's "carrot pudding" would have used the newly domesticated, blander-tasting sweeter carrot, which mixed with eggs, cream, butter, orange-flower water and nutmeg, and covered in puff pastry, would today certainly be classified as a dessert.⁴⁶¹ The carrot pudding could not have become a fairly common delicacy in the eighteenth century without the genetic adaptation of the formerly bitter carrot brought about by its domestication through the technique of agricultural husbandry.

The impact of agriculture upon taste did not stop at the carrot. The enclosure of farms mentioned above allowed farmers to plant surplus crops and transition toward more of a market economy. This trend, coupled with the improvement of roads and waterways, meant that local strains of crops and fresh, seasonal flavors could travel further than the immediately local market.⁴⁶² Ellis, also a renowned agriculturalist of the period, spends a good two pages in his cookery book talking about his famous *Bell-orange Pear* and his willingness to send a nursery tree to gentlemen from "any Part of England, Wales, Scotland, Ireland, or to any of our Plantations abroad."⁴⁶³ Sending local flavors to travel the globe and take root on foreign soil, while agriculturally problematic, suggests a greater awareness of meeting a demand for a variety in flavors beyond perhaps the agricultural interest in anachronistic variation.

⁴⁵⁹ Friedland, 64.

⁴⁶⁰ Friedland, 64.

⁴⁶¹ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 209.

⁴⁶² Brennor, "A Short History of Economic Progress," 28.

⁴⁶³ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 43.

It is easy as a modern reader to overlook the distinct flavors of different types of ingredients. Ellis, for example, offers generic recipes for pies, although occasionally he will make a deliberate mention of pippins. His “apple pyes” are generic and unspecific, but when discussing preserving apples, Ellis explains that certain types of apples can be stored longer than others.⁴⁶⁴ He lists Parsnip Apples, Golden-rennets, Russertings, John-apples, Holland, Green, Kentish, Lemon Pippins, and alludes to more.⁴⁶⁵ The seemingly generic apple pie could in fact taste somewhat different based on what kind of apple was used to make it. The housewife, therefore, needed to navigate a whole slew of different flavors when undertaking preparation of a dish. This was not solely a country housewife prerogative, as produce was brought into London and even smaller towns, thus increasing access to new and distinct flavors beyond what one’s estate and nearby town could grow.⁴⁶⁶

A final example of how distinct tastes were recognized as significant comes from the fishing industry. Although they were “Beefeaters”, British cookbooks contain a number of recipes for fish in this period. Seafood, unlike chicken and other livestock, was not as easy to transport and required greater infrastructure and preparation. Fresh fish, dried and dressed fish, salted fish -all would have tasted different based on the method by which they were prepared. Green cod was salted when still wet, often while on the fishing boat, while dried or dressed cod was prepared on land.⁴⁶⁷ Housewives were expected to know how to counteract or work with the distinct flavors that these preservation methods would produce. Glasse, for example, offers two very different recipes in this area, one to dress flat fish, and another to dress salt-fish. Glasse directs that flat fish should be boiled immediately in salted water, then drained and fried,

⁴⁶⁴ Ellis, 232.

⁴⁶⁵ Ellis, 232.

⁴⁶⁶ Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830*, Chapter 3.

⁴⁶⁷ Braudel, *Civilization and Capitalism, 15th-18th Century, Vol. I: The Structure of Everyday Life*, 216.

whereas salt fish should first be soaked for over a day in water, then boiled in plain water, and finally cooked in milk.⁴⁶⁸ The salt used to cure the fish was so strong that it not only needed to be leached, but sweeter milk was also needed to absorb what remained of the salt.⁴⁶⁹ Understanding how to prepare a growing range of local and imported ingredients, not to mention how to preserve and prepare preserved foods, required a far greater literacy of taste and flavor theory than even the cookery books reveal.

This initial analysis of taste reveals a great divide between the multiplicity of ingredients promoted in printed cookbooks and the reality of the ingredients available at any given time within a middling-ranked household. Local differences, country versus urban networks, and seasonal availability –all were contingent factors the housewife had to consider when working between the lines of these recipes. Singly and in combination, these factors would have impacted the taste of a dish, requiring eighteenth-century housewives to not only master the new culinary rules of distinctive taste, but also to hone their own epistemology of local, seasonal, and ingredient-level tastes.

Urban Improvement and Improved Hygiene

While theories about senses, their affinities, and the nature of air were debated by natural philosophers within their intellectual circles, the observation of and interest in the senses did not remain the sole purview of this male elite. The investigation necessary so that a housewife could regulate the senses in a manner that was socially satisfactory should not be underestimated. An apt example is that of the factors introduced due to eighteenth-century oral hygiene: eighteenth-

⁴⁶⁸ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 178.

⁴⁶⁹ Barnett, “How to Fix Salty Food- Yes, It Really Can Be Done.”

century residents washed their teeth with “cinnamon, cloves, honey, orange peel, and other substances” to freshen their breath.⁴⁷⁰ It is a common mistake today to drink orange juice right after cleaning our teeth with a mint-based toothpaste, only to find the flavor drastically changed. So too, these early teeth cleaning agents would have impacted the taste of items consumed after the intervention, and in this way, the social practices of public and personal health and hygiene needed to be considered. The housewife, therefore, needed a practiced understanding of how different flavors and smells impacted the palate, alertness to current fashions, and to some extent a working grasp of theories of disease, air, and the senses that were being debated during the Enlightenment era.

Awareness of and discussion of the senses was already becoming a part of daily life. The exponential growth of urban centers in the eighteenth century gave rise to a crisis in public health management. The sheer increase in population, especially in more densely populated areas, required new approaches to waste management. With the horrors of the Black Death still a cultural memory, fears of plague and communicable diseases also weighed heavily on the politics of public health.

Thanks to efforts in urban improvement, greater attention was given to the regulation of sewage and keeping streets “open and clean.”⁴⁷¹ Yet eighteenth-century town improvement records are almost entirely devoid of any mention of smell, unlike their seventeenth- and nineteenth-century counterparts.⁴⁷² The lack of written records related to smell does not necessarily imply that scents and smells were insignificant or beneath notice during this period. Indeed, one of the more outspoken critics of Glasse asserts that she “Examines not for Judgment,

⁴⁷⁰ Olsen, *Daily Life in 18th-Century England, 2nd Edition*, 60.

⁴⁷¹ Rule, Stovold, and Others, *Minute Book of the Pavement Commissioners for Southampton, 1770-1789: 1770-1789*, 28.

⁴⁷² Tullett, *Smell in Eighteenth-Century England: A Social Sense*, 48.

Taste or Smell.”⁴⁷³ Clearly smells were significant factors in daily experience, even if formal mention did not make it into town improvement records. Even without formal records, the lived experience in these growing urban centers was certainly impacted by changes in policy, popular culture, and as the byproducts of changing architectural design. The transition to making houses from stone and beds from iron frames would have changed the household environment as rats and lice found the new materials less sustainable.⁴⁷⁴ What makes the history of odor difficult is the olfactory adaptation that occurs as we get used to the smells around us. There would have been a great many smells and odors that were so prevalent within daily life that they were essentially domesticated or literally unremarkable. What remains in the primary sources, therefore, were the odors that were found to be offensive or notable.⁴⁷⁵ Visitors coming to London, for example, often remarked on the general stink of the river Thames, even if residents who lived by it became used to the smell.⁴⁷⁶ While the period’s household and urban improvements certainly would not have passed modern standards, they would have impacted scent and smell in these growing urban centers.

During the eighteenth century there existed a persistent mix of humoral theory and newer theories about the spread and transmission of disease. Humoral medicine had not been replaced outright by new theories, but rather its concepts were adapted to encompass new discoveries such as blood circulation and the process of fermentation.⁴⁷⁷ For example, early eighteenth-century Roman physicians of two different schools of thought could both agree on the dangers of

⁴⁷³ Cook, *Professed Cookery: Containing Boiling, Roasting, Pastry, Preserving, Potting, Pickling, Made-Wines, Gellies, and Part of Confectionaries. with an Essay Upon the Lady’s Art of Cookery. Together with a Plan of House-Keeping. By Ann Cook, Teacher of the True Art of Cookery*, iii.

⁴⁷⁴ Olsen, *Daily Life in 18th-Century England, 2nd Edition*, 60.

⁴⁷⁵ For more on environmental history and its impact on senses see Parr, *Sensing Changes: Technologies, Environments, and the Everyday, 1953-2003*, 31.

⁴⁷⁶ Part of the issue was that sewage systems drained into the river Thames. See Stewart, *Pioneers in Public Health: Lessons from History*, 44.

⁴⁷⁷ Donato, *Sudden Death: Medicine and Religion in Eighteenth-Century Rome*, 37.

“bad air,” but for the first it was due to “a qualitative chemical notion of corrupt air,” while for the second it was a result of “the joint action of corpuscles and particles” that carried disease.⁴⁷⁸ Such concepts were not limited to debate between Roman physicians, but were the crux of a widespread debate among Enlightenment natural philosophers: namely whether the air contained chemical elements, or whether there was an inflammable fire element (phlogiston) that all combustible substances contained.⁴⁷⁹ Although Robert Boyle and his British contemporaries tended to be in the chemical camp, the significance of these debates is twofold: first that there was no clear or agreed-upon explanation for how certain properties related to air worked, and second, that these philosophies circulated broadly through coffee houses, museums and curiosity cabinets and public lectures and experiments, intermingling with older, Galenic and humoral theories of air and disease.⁴⁸⁰ Bad airs, therefore, were not just the concern of natural philosophers and physicians, but in fact were very much a part of daily life.

Bad airs further entered the conversation when it came to three areas of kitchen practice: smoking, boiling, and preserving. Knowing that one could transform food through the application of air, heat, or steam implied that food could also be impregnated with any negative qualities carried by the air itself. The practices of pickling and potting reinforced this theory, for when a preserve was not properly prepared, air would indeed get into the container and the food would rot.⁴⁸¹ Today we have come to understand that it is the presence of particular strains of

⁴⁷⁸ Donato, 37.

⁴⁷⁹ Wolf, *A History of Science Technology and Philosophy in the 16 and 17th Centuries*, 149. It is worth remembering that during the mid-eighteenth-century this was still very much a subject of debate, since Lavoisier only showed that combustion requires a gas that has mass in the 1770s (Deming, *Science and Technology in World History, Volume 4: The Origin of Chemistry, the Principle of Progress, the Enlightenment and the Industrial Revolution*, 111.)

⁴⁸⁰ Capp, “Separate Domains? Women and Authority in Early Modern England,” 39.

⁴⁸¹ Glasse, *The Art of Cookery made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 271; Cleland, *A New and Easy Method of Cookery: Treating, I. Of Gravies, Soups, Broths, &c. II. Of Fish, and Their Sauces. III. To Pot and Make Hams, &c. IV. Of Pies, Pasties, &c. V. Of Pickling and Preserving. VI. Of Made Wines, Distilling and Brewing, &c.*, 165.

bacteria that cause food to spoil if the jars are not sterile or the seal has been broken.⁴⁸² For an eighteenth-century housewife, however, the concept of bad airs was a very real and very pressing medical, scientific, and moral issue that could impact the health of the entire household.

While avoiding the smells of urban refuse and rats, eighteenth-century middling groups and ranked elites also actively sought out certain smells and odors. In women's daily lives, smells of polite society were also prevalent due to perfumes, snuff boxes, herbs, and flowers that were intentionally brought into domestic areas or carried in pockets. Although toward the end of the eighteenth century commercial bath houses aimed at washing and hygiene (rather than used as medicinal waters) became more popular, during the mid-eighteenth century full-body washing was still rare and soap was expensive.⁴⁸³ Instead, the rich needed to mask their smells with strong perfumes, all of which would have also added to the odors around them.⁴⁸⁴ Though not unique to the period, snuff boxes and smelling bottles were common accessories for women of the middling and upper ranks.⁴⁸⁵ Scent and good smells could quite literally be purchased and imposed upon the environment in which middling and upper-ranked polite society existed. One must also question the degree to which these practices may have diminished the ability to smell, given the wide range of items it was fashionable to sniff, thus affecting taste.⁴⁸⁶ Tobacco, for example, has been recognized as a stimulant that impairs one's ability to taste.⁴⁸⁷ Yet in spite of the danger that it could dampen their senses, even eighteenth-century ladies used tobacco for

⁴⁸² Desrosier, "Food Preservation."

⁴⁸³ Ashenburg, *The Dirt on Clean: An Unsanitized History*, 174; Olsen, *Daily Life in 18th-Century England*, 2nd Edition, 59.

⁴⁸⁴ Olsen, *Daily Life in 18th-Century England*, 2nd Edition, 59.

⁴⁸⁵ Friedman, *Reading Smell in Eighteenth-Century Fiction*, 51.

⁴⁸⁶ Schivelbusch, *Tastes of Paradise: A Social history of Spices, Stimulants, and Intoxicants*, 146.

⁴⁸⁷ Kale et al., "Effect of Using Tobacco on Taste Perception."

medicinal and fashionable reasons, displaying their wealth and means with their lacquered snuff boxes.⁴⁸⁸

It is important to consider how practices related to personal hygiene impacted the other senses. While foreigners found the English to be “unusually clean” their cleaning and hygiene practices certainly would have impacted their ability to smell and taste.⁴⁸⁹ Cleaning agents for the house, for example, were often made with sulphur or vinegar.⁴⁹⁰ These strong smells could have impacted how well the housewife could smell, not to mention permeating the scent and nose of the servant performing the actual cleaning. Not only were cleaning agents astringent, but thanks to the changes in kitchen architecture there were increased standards and expectations for keeping cooking areas clean. While a Renaissance spit may have been turned by a dog and smaller animals would have been butchered on the floor, the separation and regulation of the kitchen space phased out many of these practices.⁴⁹¹ Especially in urban centers, butchered meat could be purchased, removing the entire process from the domestic domain. And thanks to new techniques of food preservation, confectionary rooms and rooms for potting and pickling were expected to be kept clean as part of the process.⁴⁹² Keeping a clean kitchen, regardless of the practical impossibilities of that task was, as Sara Pennell puts it, “a requisite for not only domestic oeconomy, but also political economy.”⁴⁹³ Responsibilities regarding cleanliness, and regulation of household scents and smells became the purview of the housewife, and in managing these she possessed considerable power over the health of the household, conditions which held social and political ramifications.

⁴⁸⁸ McCullen, “Tobacco: A Recurrent Theme in Eighteenth-Century Literature.”

⁴⁸⁹ Olsen, *Daily Life in 18th-Century England, 2nd Edition*, 59.

⁴⁹⁰ Olsen, 59.

⁴⁹¹ Albee, *Dog Days of History: The Incredible Story of Our Best Friends*, 41.

⁴⁹² Cowan and Others, *More Work for Mother*, 72.

⁴⁹³ Pennell, *The Birth of the English Kitchen, 1600-1850*, 34.

While in theory the housewife could have attempted simply to keep the bad airs out of her kitchen entirely and promote a sterile form of cleanliness more appropriate for twentieth-century hospitals, in practice eighteenth-century housewives actively tempted the Galenic fates by using fumes, vapors and smoke to improve the flavor of certain food items. It was common practice in the mid-eighteenth century to smoke bacon in the chimney, rubbing it down with salt and then leaving it to dry above the fire, thereby absorbing some of the flavor.⁴⁹⁴ This clever attempt to re-create the flavors of spit-roasted or smoked meat had very real side-effects, for if the flames were too hot and the bacon was hung too low it could burn.⁴⁹⁵ Hung too high or in damp weather, the bacon could rust and spoil.⁴⁹⁶ Not only could housewives observe the potentially disastrous outcomes of this practice, but they were also aware that, as Ellis explains, “Smoak, by Naturalists, is defined to be a stupifying keen Fume of Vapour, full of dark sulphurous Excrements, void of all real Virtues, and very pernicious to Health; for that it proceeds from those poisonous Juices that the Fire and Air send forth.”⁴⁹⁷ Hanging bacon to absorb smoke, therefore, not only risked the safety of the meat itself, but also potentially exposed it to the ‘dark sulphurous excrements’ carried by these hazardous airs. What becomes apparent, however, is that the smoke flavor, while it presented a real potential danger in the eyes of eighteenth-century consumers, still merited this highly popular practice on the merit of taste alone.

⁴⁹⁴ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 98–104.

⁴⁹⁵ Ellis, 98–104.

⁴⁹⁶ Ellis, 98–104.

⁴⁹⁷ Ellis, 100.

Given the significance and power of taste, it is particularly interesting that during this period in England ministering the dictates of ‘taste’ was largely handed over to the lady of the house or the housewife. On the Continent, taste and taste-making was a highly scientific and male-driven area of knowledge that held weight among culinary connoisseurs and members of the social elite, as in Diderot’s thorough dissection of the concept in the *Encyclopédie*.⁴⁹⁸ In England, however, taste was the purview of the women and of the household workers. That is not to say that British men did not develop their sense of ‘taste’ and often refine it through over-eating and over-indulging, but rather that there was no concern that the nuances of catering to this sense of ‘taste’ might be entirely placed upon a woman rather than on a man with formal scientific and technical training. While Diderot worked to make a science of using the senses by stressing the importance of the development of taste as well as aroma in the cultivation of the palate, in England this form of male-oriented focus on the scientific dimensions of cookery did not take hold in what was a more egalitarian market for professional cooks and cookery books.⁴⁹⁹

Personal Taste

Personal tastes and preferences were a key part of eighteenth-century cooking. A phrase common to eighteenth-century cookery books is the instruction to season or cook a dish “to taste” or “to your palate.”⁵⁰⁰ This phrase, so familiar among modern cooks that it is overlooked, speaks volumes on the very real dietary and social changes that had occurred during the seventeenth and eighteenth centuries. A consideration of taste and flavor had slowly come to

⁴⁹⁸ Flammang, *The Taste for Civilization: Food, Politics, and Civil Society*, 5.

⁴⁹⁹ Jaine, *Taste: Proceedings of the Oxford Symposium on Food and Cookery*, 69–70.

⁵⁰⁰ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 209.

supersede the medieval prioritization of selecting ingredients as displays of wealth. Indeed while an apple pie may have been relatively inexpensive to cook, it was by all accounts a popular dish during this century.⁵⁰¹ Taste and flavor were not the only considerations. The eighteenth century saw the rise of vegetarianism and a greater attention to the impact of diet on overall wellbeing, in addition to the philosophical, religious, and medical beliefs about food consumption

Although mainstream eighteenth-century cookbooks do not mention vegetarian dietary regimens, given the trope of the British beefeaters, I think it worth pausing briefly to consider the implications of vegetarianism and austere medical or moral diets during this century in order to demonstrate the degree to which diet, dietary preference, and dietary theory could further complicate the housewife's tasks. British physician George Cheyne, for example called for a "vegetable and milk diet: in his 1733 book *The English Malady*.⁵⁰² He believed that this vegetarian diet could cure gout, nervous cholicks, epilepsy, melancholy, consumption, and many other contemporary diseases.⁵⁰³ Cheyne criticizes the temptation that "Liquorishness" and relish provokes, and warns of the danger that consuming thick or hot juices apparently has on the circulation and bowel movements.⁵⁰⁴ This mix of medicine and humoral theory, in which traits and attributes of foods could be passed on or impact body parts and functions, echoes that of the coexisting chemical and Galenic theories of smoke in the section above. Thanks to seventeenth-century medical experiments in which philosophers weighed themselves, the food they ate, and that which they expelled, the stage had already been set for the discovery of nutrients, chemical transformation, and emission of positive or negative gasses into the body.⁵⁰⁵ Although the

⁵⁰¹ Poems, newspaper articles, cookbook entries

⁵⁰² Cheyne, *George Cheyne: The English Malady* (1733), 166.

⁵⁰³ Cheyne, 167.

⁵⁰⁴ Cheyne, 167.

⁵⁰⁵ Gentilcore, *Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450-1800*, 33.

cookbooks do not cater to a vegetarian audience, the melding of medicine and food can be seen. Glasse offers home remedies, for everything from cures for the plague and rabies to “hysterical water.”⁵⁰⁶ Ellis warns of the danger that “ill prepared food” could “naturally send up into the Head gross ecrementous Vapours, very offensive to Nature, and especially to the Eyes.”⁵⁰⁷ Without a clear explanation of the hidden processes that occurred when food was consumed the philosophical process of eating was akin to the culinary transformation that occurred within an oven.

While hermetic or vegetarian diets certainly would have necessitated a shift in which ingredients to use, and may have highlighted more “wholesome” ingredients, the frequent interchanging of richer and lower quality ingredients in period cookbooks may also point to the larger role that personal preferences and environmentally constructed tastes had upon individual taste. Beyond the scope of vegetarianism and medical diets, there was still a consistent and somewhat contradictory use of lower quality, cheaper ingredients in recipes for upper and middling-ranked households. Glasse, for example, includes a recipe for “fine sausages” and follows it immediately with a recipe for “common sausages.”⁵⁰⁸ The fine sausages are made from “good pork” and beef suet, and seasoned with lemons, sage, pepper, salt, and nutmeg.⁵⁰⁹ The common sausages, on the other hand, are made from “nice pork” and seasoned only with pepper.⁵¹⁰ Glasse also feels the need to specify that the fine sausages be fried in butter or “good

⁵⁰⁶ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 324, 329.

⁵⁰⁷ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 100.

⁵⁰⁸ Glasse, 250-251.

⁵⁰⁹ Glasse, 250.

⁵¹⁰ Glasse, 251.

dripping” but offers no such instructions for the common sausages.⁵¹¹ The increased access to ingredients and the wide range of social ranks makes pinpointing the appropriate social meaning of using any given ingredient complicated; the inclusion of recipes using cheaper ingredients cannot be explained simply by medical or austere necessity.

The use of lower quality ingredients could have been an example of household economy and cost-saving, but the taste preferences of household members could also have been factors. The best modern example I can think of is the use of monk fruit sweeteners as compared to sugar. People who cut sugar out of their diet completely (such as those on the Ketogenic diet) report that when they try foods sweetened with real sugar, they find them to be “too sweet.” This change in flavor and taste is produced by a consistent change in diet. There was, in some ways, an anthropology of diet that housewives conducted as they introduced new foods into their home and determined how they were judged. The authority of the housewife, therefore, was wielded in matters pertaining to her scientific and technological experience and in her assessment of the tastes of the members of the household.

The changes in the *batterie de cuisine* and controlled coal fires led not only to new taste and flavor combinations, but also removed many of the infused flavors from the wood smoke of open-hearth cooking and the reuse of a single pot. An illustration of this difference comes from the incorporation of lard when preparing meals. In the new system, meat cooked in a pan or over a small, contained fire would not have flavored any of the other dishes being prepared. In an attempt to counteract this now ‘missing’ taste, there are numerous recipes in which lard and dripping fat is used. While this seems unremarkable, Ellis goes out of his way to warn against the

⁵¹¹ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 250-251.

adverse effects of cooking with spoiled lard or dripping fat.⁵¹² Using lard instead of the more expensive and safer butter, therefore, cannot be simply the result of plagiarizing or reusing recipes.

There are potentially two reasons why lard remained a heavily used ingredient. First, lard, unlike bought and stored butter, would not have been so heavily salted in order to preserve it. Ellis makes multiple mentions of the use of salted butter, even including his own method for creating it. Ellis not only instructs that salt be beaten into the butter, but he requires layers of butter to be soaked in a brine of salt water that is “strong enough to bear an egg.”⁵¹³ Ellis is aware of the excessive saltiness of his potted butter. He recommends that the salted butter be mixed with fresh butter to be more cost efficient and to retain the taste of fresh butter.⁵¹⁴ The taste of a pancake cooked in lard, therefore, would have been markedly different from one cooked in butter, fresh or preserved.

Secondly, the lard would have retained some of the taste of the meat it came from, especially if it were dripping fat rather than the more processed lard. While Ellis champions the use of lard in his pastry recipes, he warns however, that the taste is strong enough that it should not be used as the ointment base for curing “sores and ruptures” on a milk cow because it “may

⁵¹² It is worth noting that Ellis does not believe that spoiled lard is a permanent state. Lard can be “rankish” but it can apparently be made to “seam fresh.” Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 28, 81.. Ellis explains that the hotter pancakes made from rank lard are eaten, the “less Danger there is of rising in their Stomachs” (Ellis, 28.).

⁵¹³ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 324..

⁵¹⁴ Ellis, 326.

give an unpleasant Tang to the Milk.”⁵¹⁵ In today’s era of “I can’t believe it’s not butter™” this distinction needs to be made. Given that the taste of a pancake cooked in lard would have been identifiable, the possibility of ingredient substitution due to cost-cutting should be ruled out because regularly serving a dish cooked in an identifiably lower-ranked fat would not have highlighted the household’s prestige. It is conceivable that pancakes continued to be cooked in lard or dripping fat because, as the members of the household transitioned from one culinary style to another, the family’s familiarity with the taste of lard led to its continued use. While this is certainly not a novel proposition, it speaks to the complexity of the interwoven culinary traditions and methodologies that a cook needed to traverse. The continued presence of older technological systems and practices is not unusual because it is rare that a new technology is so immediately and thoroughly domesticated that it entirely overthrows the older system.⁵¹⁶ Yet the presence of two competing technological systems also required users to develop the know-how for both practices.

Another example of this residual presence of older cooking practices can be seen in recipes for smoking bacon. In order to retain the smoked flavor of bacon in the newer kitchen architecture, housewives had to hang the bacon higher and higher inside the chimney. The more efficient hearth meant that the smoke from the fire was vented better, so the cook had to hang the bacon high enough that it was not burned by the fire directly below it and low enough that it was still smoked and could be checked regularly for rust.⁵¹⁷ This method was time consuming,

⁵¹⁵ Ellis, 364.

⁵¹⁶ Inkster, *Science and Technology in History: An Approach to Industrial Development*, 20.

⁵¹⁷ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 104.

requiring the bacon to be checked daily over the course of two to three weeks. In terms of everyday technologies, these recipes reveal the lengths to which cooks went to be able to recreate the tastes lost in the new cooking system. While the chimney was no doubt designed to vent air, by using the chimney to smoke bacon, the housewife's actions went outside the role of its projected use.⁵¹⁸ The actual use of kitchen technologies, as compared to their intended uses, parallels nicely with the way in which women altered recipes to meet their personal and social expectations of taste.

Taste-Making: Kitchen Literacies

True culinary expertise and power came not from simply knowing which ingredients were available, but in knowing how to adjust recipes and to manipulate, modify, and assess kitchen technologies to create dishes within the limitations imposed upon the housewife by context, circumstance, culture, and dietary preferences. To say that there is a strict correlation between the intellectual inquiries of male Enlightenment philosophers into the nature of senses and female domestic contributions to related explorations from a practical vantage point would be incorrect. Adapting recipes, however, reveals the necessity for a higher order of understanding of the scientific and technological inner workings of the kitchen, as simply following the very general instructions would not result in successful dishes. Indeed, unlike novels or even Algarotti's *Newtonianism for Ladies* (1737) which focused on retention and understanding, cookbooks in this period are based on the assumption that women apply the knowledge found within, analyze and evaluate it for its relevance to their unique context, and sometimes even

⁵¹⁸ Oudshoorn and Pinch, *How Users Matter: The Co-Construction of Users and Technologies*, 9-10.

create new recipes in order to obtain results that match their own specifications. These higher order applications of knowledge required far more critical thinking and skill than would be necessary if one were passively reading a text about manners or gravity.⁵¹⁹ It is these skills, coupled with the aforementioned emphasis on the senses and contextual, social, market, and individual limitations on ingredient viability that contributed to forming the foundation of female authority within the kitchen.

Navigating the nuances of the individual kitchen system required a thorough knowledge of the newly domesticated technologies and an informal orientation to the chemistry of ingredients and the transformation of food during the cooking or preservation process. Beyond the overall general structure of an eighteenth-century kitchen, there would have been additional nuances the housewife worked with. A pan may have been re-patched or re-tinned by a passing tinker and the degree to which the repair was completed could greatly impact its use.⁵²⁰ Another might be in need of repair and therefore only suitable for frying pancakes. So too would a housewife know which saucepan tended to cause the most grief or which pan heated unevenly. This kind of context-specific knowledge was certainly not unique to the period. I own three purportedly non-stick pans in my own kitchen, but only one of them is actually suitable for cooking eggs without them sticking. Similarly, a medieval male cook would also probably have avoided using a pot with a hole in it. What does matter, however, is the plausibility that the empirical domains in which this kind of knowledge was deployed occurred in tandem with larger discussions within learned spheres that pursued questions as to the nature of heat and chemical

⁵¹⁹ These higher order cognitive skills are pulled from Bloom's Taxonomy for Educational Objectives. While traditionally these categories are applied to educational objectives, given the educational intentions of the cookbooks of this period, they remain relevant (Armstrong, "Bloom's Taxonomy").

⁵²⁰ On tinkers see Cox and Dannehl, *Perceptions of Retailing in Early Modern England*, 55.

transformations. The generation of knowledge within the domestic space of the kitchen, and then its circulation beyond this as ambiguously gendered domain, presents an opportunity to consider what intersections between the world of everyday knowledge and that of specialist elites may have existed. As I stated in the Introduction, my objective is to evaluate where cookery texts can provide access to points of intersection, demonstrating areas worthy of future investigation.

There are two key examples of this type of empirical knowledge from which women gained insight thanks to their relatively new presence in and oversight of the heart of the kitchen: that of the impact of humidity and weather upon cooking, and that of unique properties of individual ingredients such as the absorbent nature of rice. The weather played a significant role in planning and food preservation. Slaughter a pig too early, or during the heat of the summer, and you could run the risk of it rusting or rotting.⁵²¹ Following the exact same steps in the winter or the summer could lead to success one month and complete disaster another. Ellis observes that in March or April he kills a number of hogs and hangs them for three to four days in the chimney and then allows them to simply dry in a rack in the kitchen because “at this Time of Year the Air alone is almost sufficient to dry them.”⁵²² Yet on the next page he tells of the curing process for the bacon of the “West Country,” where they hang the hogs for two to three weeks, while covered in salt in their chimneys.⁵²³ The difference in methods is not simply about how pork is cured, but dependent upon conditions relevant to the local climate, the time of the year, and the space available.

⁵²¹ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 96–104.

⁵²² Ellis, 96.

⁵²³ Ellis, 97.

Weather did not only impact the preservation of meats or other ingredients that could spoil. British kitchen manuals mention the impact of the downcast British weather upon the cooking process, especially for drying, preserving, and baking.⁵²⁴ In a very literal sense, the British climate made British cooking distinctive simply because it created a distinctive environment. Any culinary techniques adopted from other climates had to be adapted to suit British weather conditions. Modern food scientists recognize the significance that climate and elevation have on oven temperatures and efficiency. This difference is so prevalent that numerous high altitude cookery books exist, and modern recipe websites explain that the elevation and humidity impact the temperature of the oven within twenty-five degrees Fahrenheit.⁵²⁵ Given that many recipes were plagiarized from France, or attempted to re-create foreign flavors, the British would have quickly noticed that their food did not quite taste the same or cook the same way as it had in its original locale. While imported French chefs serving the Whig elite may have been the first to notice, given that middling-ranked women of the period frequently participated in the Grand Tour along with their male counterparts, suggests that they too would have had the opportunity to taste food in its native context, and notice when it did not taste or appear the same as when re-created in their home environments. Beyond these larger regional differences, a housewife should eventually have sustained enough experience to notice the difference between baking on a rainy day and baking when it was dry.⁵²⁶

While adapting practices to weather-based differences certainly offered opportunity for women working in or over the kitchen to notice changes, to notice a difference women would

⁵²⁴ “High Altitude Baking.”

⁵²⁵ America’s Test Kitchen, *The America’s Test Kitchen Cooking School Cookbook: Everything You Need to Know to Become a Great Cook*, 785.

⁵²⁶ For readers who are particularly interested in this difference there is a qualitative study of the effect of steam baking and baking during falling temperatures for bread. Ahrné et al., “Effect of Crust Temperature and Water Content on Acrylamide Formation during Baking of White Bread: Steam and Falling Temperature Baking.”

have needed to be exposed to other conditions. Charts, like those included by Glasse at the end of her book, detailing which fruits and vegetables were grown in what season, could just as easily be used as a cheat sheet for less astute housewives.⁵²⁷ For while a great deal of kitchen literacy was developed and needed to run a kitchen, tales of remiss or underperforming housewives also abound.⁵²⁸ For example, Ellis recounts how a young maid spoiled the Pork because she had no “Mistress to look over her.”⁵²⁹ To truly be an “ingenious” housewife, therefore, one needed to master quite a bit of scientific, chemical, technological and gastronomic knowledge to balance the needs of the household with the impact of the various external actors that converged within the kitchen.⁵³⁰

A final example that illustrates the observation-based knowledge that competent housewives needed to acquire comes from rice puddings. Rice puddings reveal the need for expert understanding of how different ingredients reacted with one another and required different cooking times. The lauded ability for a housewife to ‘ingeniously’ substitute between ingredients in a recipe and those readily available was not just a matter of taste, but also required a technical

⁵²⁷ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 325–328.

⁵²⁸ For larger discussions about women defining themselves or being defined in turn as “good” or “bad” housewives see Dowd, *Women’s Work in Early Modern English Literature and Culture*, 132 or Ingrassia, *Authorship, Commerce, and Gender in Early Eighteenth-Century England: A Culture of Paper Credit*, 154.

⁵²⁹ (Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Œconomy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 56).

⁵³⁰ Ingenious was a term commonly used by eighteenth-century writers to describe men of great wit or learning. Ellis makes mention of “ingenious and careful Management” for a farmer who changed how he churned butter based on the season (Ellis, *The Country Housewife’s Family Companion: Or Profitable Directions for Whatever Relates to the Management and Good Œconomy of the Domestic Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives in the Counties of Hertford, Bucks, and Other parts of England*, 331). According to Samuel Johnson’s 1824 dictionary, “ingenious” is a synonym for “wi’tty”, “judicious” and “inventive” (Johnson, *A Dictionary of the English Language: In which the Words are Deduced from Their Origin and Illustrated in Their Different Significations by Examples from the Best Writers: to which are Prefixed a History of the Language and an English Grammar*, 1060).

understanding of the function of each ingredient and how it reacted to the others. For example, rice, with its noticeably high absorption rate, differed significantly from bread when used as filler for a pudding.

The absorptive quality of rice made it uniquely suited to puddings because it could absorb flavor and maintain its shape once cooked. Rice puddings remain the only puddings that both Ellis and Glasse maintain do not necessarily need eggs. For a baked rice pudding, Glasse explains that a rice pudding made from pre-boiled rice cooked in milk and then baked “will be good without” the addition of eggs, and her “cheap rice pudding” uses no eggs at all.⁵³¹ Ellis also explains that a boiled rice pudding made without eggs serves as a suitable “pudding in haste” when no milk or eggs can be obtained.⁵³² Even without eggs, these dishes still were considered puddings due to their moldable form and the contained bowls or cloths they were baked or boiled in. When baked or boiled, the absorbent property of rice allowed it to bind the other ingredients, a role that egg played in puddings.

While this quality is certainly interesting, the emphasis given to it by both cookbook authors is significant. Glasse makes a point to explicitly instruct her readers about the nature of rice. Glasse’s recipes for a variety of rice puddings (she has a total of nine different ones) are the clearest in addressing the varying properties of rice. Glasse explains that a rice pudding needed to be tied loosely in a cloth because the rice needs “a great deal of room to swell.”⁵³³ Her intention to make cooking ‘plain and easy’ for inexperienced housewives and cooks perhaps

⁵³¹ Glasse, 221.

⁵³² Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 34.

⁵³³ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 218.

helps to explain why she, of all the cookery book authors, goes so far as to mention the properties of rice. These properties, learned through observation and experience, would have become second nature to any cook regularly working with imported rice. Their inclusion in Glasse's book demonstrates that they were important enough to warrant their observation for mid-eighteenth-century culinary practitioners who may not have yet obtained such experience.

The housewife needed to rely as much on her own experience as the information gleaned from cookery books to successfully navigate the multifaceted demands of cooking for her household. Although certain warnings or tips about practice, processes, or qualities of certain food types could be gleaned from the cookbooks, much was learned from lived experience. The recipes were never intended to be followed to the letter; they acted instead as general guidelines, instructing the housewife in what flavors and ingredients should be combined, or the order in which sauces should be added. They helped her to navigate braising, forcing, stewing, and browning, but alone would not help her to decide which ingredients to pick up from the market or when to use fresh versus preserved fruit. A successful housewife, well-versed in the science and technologies that permeated the kitchen, managed to work with multiple variables under constantly changing conditions, acquiring a substantive amount of experimental knowledge, which aimed at the precise study of the natural world in pursuit of larger questions such as those about the nature of air. The mid-eighteenth-century English kitchen was placed at the nexus of empirical knowledge and everyday technologies, and as such it merits investigation.

Chapter 5: The Kitchen Infrastructure: Hearths, Heat, and Housewives

It is critical that some sense of the physical space and the objects it contains be utilized as primary sources in order to properly interpret cooking practices. While inventory records, illustrations, and commentaries allow historians to gain a general sense of what an eighteenth-century kitchen may have looked like, the architectural spaces and the instruments it contained within it continued to be used, repurposed, and modified throughout the next decades and into the new century. As such, what remains today is not necessarily archeologically indicative of the eighteenth-century context. Some manor house museums have attempted to restore the original Georgian appearance, complete with accurately dated equipment, but these kitchen re-creations are not necessarily representative of all middling-to upper-ranked kitchens during that period. This kind of “historical archeology” of daily practices therefore requires bringing history of technology into the analysis.

This chapter examines the general trends during the mid-eighteenth century in kitchen architecture and kitchen technologies. It draws upon images, primary and secondary texts, and, when relevant, some amateur sources. It is important to specify that the general history of eighteenth-century kitchen spaces and technologies as a whole will apply only approximately to any given middling-to upper-ranked household. Contingent factors influenced what appeared within kitchen spaces and how they were utilized—for example, some houses were remodeled slowly or were slow to adopt newer technologies, while others were adapted quickly for the new technologies or were more adept at making the new method of cookery work within their current kitchen configuration. There was no gold standard for how many pots and pans any given household actually had, how many couldn't be used because they were waiting to be re-tinned, how many were sitting filled with lye and sand waiting to be scrubbed. So, while this chapter

serves to illustrate certain expectations that the cookbook authors may have had of the physical contexts in which their readers would be cooking, ultimately it fell to the housewife to take these texts and interpret how to adapt them to her specific kitchen context and daily cookware availability.

In the first section I explore how the addition of interior chimneys and changes in fuel sources improved control of fire, facilitating women taking on larger roles in kitchen management. Next, I consider the significant increase in kitchen instruments and technologies that occurred between the seventeenth and eighteenth centuries, and their relevance. These new technologies required new kitchen literacies that included technological know-how and some degree of scientific theory. Finally, this chapter argues for the need to take the entire kitchen system into account when analyzing daily operations. This last point is one that rarely occurs to amateur or avocational historical cooks who report their efforts at re-creating one-off recipes. Recognizing the significance of the scale of the entire daily operation of an eighteenth-century kitchen brings into view, for example, that restrictions in terms of availability of pots, pans or other key instruments based upon cleaning, use, or repair were ever-present factors. A great deal of empirical knowledge was required to manage a fully functioning eighteenth-century kitchen, which included grappling with impacted operations.

The importance of examining *who* was cooking and managing these mid-eighteenth-century kitchens is that it will influence the historical analysis of the conduits by which knowledge and information traveled into the kitchen space. In managing kitchens and publishing recipes, women needed to develop a robust understanding of cooking, kitchen technologies, and the theories at work behind kitchen processes. I refer to these ways of knowing --the paradigms necessary to efficiently operate within the kitchen ecosystem --as “domestic literacies.” To be

competent in the kitchen, women needed to be “heat literate”, “disease literate”, “weather literate” and “agriculturally literate.” Cookbooks were a key source for instruction, but women needed to have a substantive understanding of the technological processes with which they were engaged in order to read the cookbooks fully, beyond the text on the page to the contexts within which the information existed. Through their familiarity with domestic literacies women gained experiential knowledge within kitchen spaces that placed them within the crosscurrents of experimental and theoretical activities being undertaken in male scientific spaces.

Working with digitized eighteenth-century recipes to gain insight into the experiential authority that women’s opportunities to observe, interpret and assess afforded them also requires attention to the broader scientific, cultural, and technological contexts beyond the kitchen space itself. Identifying these contexts helps to explain additional factors that were relevant as to why women in England were able to gain greater access to mastering this fairly technical practice.

Kitchen History: The Hearth

The kitchen itself was a space in flux during the mid-eighteenth century due to three important changes: the shift from open fires toward controlled hearths; the increased use of coal as a fuel source; and the development of the brass industry in England. These three developments allowed for improved and easier-to-regulate heat, which in turn gave women greater access to the kitchen space and first-hand experience in developing heat literacies. The growth of the British brass industry also led to the development of cost-efficient kitchen technologies that even lower-ranked households than those constituting the cookery books’ audience could afford. While these developments led to an overall adoption of a coal-fueled, chimney-based cooking system, it is important to remember that at the individual household level actual kitchen spaces

varied. At one end of the spectrum, sixteenth-century legacy technologies such as outdoor wood-fueled spit cooking were infrequently used and mentioned. At the other, leading natural philosophers were developing and installing new models of chimneys and stoves into their kitchens. What existed between these two poles can be ascertained from the references to baking, and the number of saucepans, pots, and frying pans mentioned within the cookbooks, evidence that indicates that the audience for these books were working within a hearth-based indoor kitchen, with a controlled fuel source and a plentiful supply of pots and pans at their disposal.

Although today the hearth serves as a modern symbol of domesticity, during the eighteenth century its operation was a highly scientific and technological subject of inquiry. A key development is the chimney, drawing the attention of some of the greatest minds of the century. By 1727 the chimney was considered an integral part of an idealized kitchen. Bradley reminds his readers that “the chimney should be large so that you may easily manage the vessels you use in your Cooking.”⁵³⁴ That this recommendation comes two decades prior to the period we are examining here, coupled with the lack of recommendations for chimneys in cookbooks from the 1750s demonstrates that this large chimney model had become standard by mid-century. Indeed, throughout the eighteenth-century cookbook frontispieces modeled the large hearth standard in their idealized kitchen imagery (see examples below).⁵³⁵

⁵³⁴ Chomel, *Dictionnaire Oeconomique, Or, The Family Dictionary: Containing the Most Experienc'd Methods of Improving Estates and of Preserving Health ... ; All Sorts of Rural Sports and Exercises*, II, sub kitchen.

⁵³⁵ Power, “Cookery, Ancient and Modern”; PBS Learning Media “Frontispiece of ‘The Compleat Housewife’”; Jane Austen’s World, “18th Century Cookery Books and the British Housewife.”



Figure 5 Smith, *The Compleat Housewife* (1727)

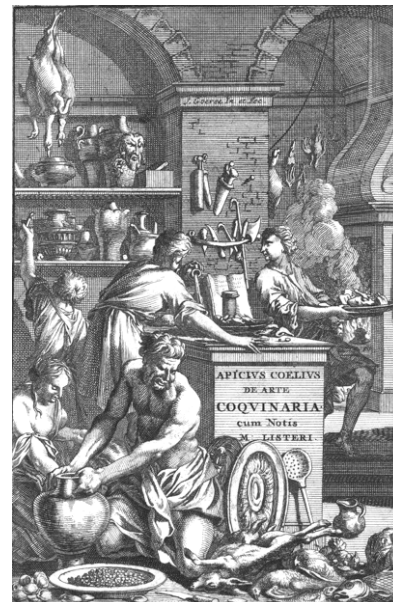


Figure 4 Frontispiece of *Apicius* (1709) displaying the artist's imagined combination of an eighteenth-



Figure 7 Henderson, *The Housekeeper's Instructor* (1790)



Figure 6 Sandby, *Kitchen at Sandpit Gate* (1752)

The chimney not only needed to accommodate the various cooking “vessels,” but the heat source itself also required better management.⁵³⁶ The sixteenth-century model of an open range fire fueled by wood was no longer as practical or as economical by the mid-eighteenth century as it had been in prior eras. Natural philosophers in England and America --most notably William Kitchiner and Benjamin Franklin --investigated innovations in chimney and hearth construction in their attempts to better regulate and control the heat of the fire. While interest in the nature of heat and its measurement contributed to the chemical revolution of the eighteenth century, debates on the improvement of chimneys were directly connected to domestic application. Improved management of the fire meant improved reliability in cooking.

In spite of the need to have a place to cook with all the new kitchen tools introduced during this century, the open range fire was getting smaller rather than larger. Franklin’s treatise on stoves in 1744 explains that the “large open Fire-places” and the “newer-fashion’d Fire-places, with low Breasts, and narrow Hearths” failed to adequately take advantage of the fact that although heat disperses radially, the greatest amount of heat is directed upward.⁵³⁷ His solution was to use a smaller iron fireplace designed with chambers to keep the hot air inside and ducts to pull cold air from outside to be warmed and then expelled to heat the room.⁵³⁸ Franklin was not the only scientist interested in controlling the heat of fires. Benjamin Thompson, Count Rumford, continued working on this issue into the 1790s, devising the Rumford Fireplace to

⁵³⁶ Gray notice that not only was there a spit range that vented up a shared chimney within a late-eighteenth century house, but also that kitchen equipment shown in frontispieces on the mantelpiece shows “certain norms in the placing of movable equipment.” Gray, “A Practical Art: An Archaeological Perspective on the Use of Recipe Books,” 55.

⁵³⁷ Franklin, *An Account of the New Invented Pennsylvania Fire-Places: Wherein Their Construction and Manner of Operation Is Particularly Explained; Their Advantages Above Every Other Method of Warming Rooms Demonstrated; and All Objections That Have Been Raised Against the Use of Them, Answered and Obviated.: With Directions for Putting Them Up, and for Using Them to the Best Advantage.: And a Copper-Plate, in Which the Several Parts of the Machine Are Exactly Laid Down, from a Scale of Equal Parts*, 5.

⁵³⁸ McWilliams and McWilliams, *A Revolution in Eating: How the Quest for Food Shaped America*, 208.

limit the airflow by making the chimney narrower.⁵³⁹ While the British upper-to middling-ranked households could not adopt Franklin's or Rumford's stove models during the mid-eighteenth century (since they had yet to be perfected), they still recognized the inefficiency posed by the large, open hearth and had begun reducing the size of the fireplace within their kitchens. This smaller fireplace not only improved the efficiency of heat retention, it also created space in the kitchen for the acquisition of new cooking equipment and the storage areas needed to accommodate them.⁵⁴⁰

Women's entry into the central part of the kitchen, namely the hearth, was made possible thanks to these new changes in architecture, not least because of improvements in fire safety. Retaining an older physical format by building the fire wider to accommodate new kitchen instruments was impractical, because not only did choosing this option require more fuel, but it also increased the risk of burning down the building if left unattended. While sixteenth- and seventeenth-century kitchens were constructed in buildings separated from the house by those who could afford to do so, during the eighteenth century kitchens returned to the main household.⁵⁴¹ Bringing kitchens inside the main house expedited the time it took to bring food to the table—a positive result that increased the likelihood that the food would still be hot—but it did not mitigate the risks of burning down the house. In response to this risk, eighteenth-century kitchens were constructed or renovated as indoor cooking spaces with smaller fireplaces and increased attention to the efficiency of chimneys.⁵⁴² In short, fuel efficiency went hand-in-hand with fire safety.

⁵³⁹ Partington, *The British Cyclopaedia of the Arts, Sciences, History, Geography, Literature, Natural History, and Biography*, 540.

⁵⁴⁰ McWilliams and McWilliams, *A Revolution in Eating: How the Quest for Food Shaped America*, 208.

⁵⁴¹ Wilson, *Consider the Fork: A History of How We Cook and Eat*, 77.

⁵⁴² McWilliams and McWilliams, *A Revolution in Eating: How the Quest for Food Shaped America*, 207.

Coal

Heat efficiency was impacted both by the newer models of kitchen architecture and by the fuel itself. The wastefulness of the open hearth and the chimney that, when positioned directly over the fire sucked up the majority of the fire's heat, was in no way diminished by the substitution of coal for wood by British consumers. Coal was an attractive alternative fuel source for middling-ranked kitchens because it was cheap and readily available. Coal had been introduced as a fuel source during the sixteenth century as the iron, glass, and lead industries shifted away from wood, and therefore it already had an established infrastructure.⁵⁴³ By the eighteenth century, coal was a more viable fuel source because the British navy was commandeering a large part of the island's wood supply. Indeed, historian Robert Albion argues that the depletion of domestic forests created a "Timber Problem" that was so great a national concern that it shaped the values and practices of commercial, colonial, and foreign policy.⁵⁴⁴ Although real, the rhetoric about Albion's timber problems has since been shown due to later analysis to have exaggerated the scarcity of timber.⁵⁴⁵ Nonetheless, the rhetoric of the policies put in place to protect British timber during the eighteenth century certainly would have been enough to convince members of society that alternative fuel sources were becoming necessary.⁵⁴⁶ Poorer families, of course, still had to make do with burning peat and other fuel sources like rushes or dried manure that they gathered themselves.⁵⁴⁷

⁵⁴³ Wilson, *Consider the Fork: A History of How We Cook and Eat*, 97.

⁵⁴⁴ Rasor, *English/British Naval History to 1815: A Guide to the Literature*, 271.

⁵⁴⁵ Rasor, 271.

⁵⁴⁶ Rasor, 271.

⁵⁴⁷ Poorer families relied on what was locally available as their fuel source. They collected firewood as well as horse manure and peat. (Robertson, *The Illustrated History of the Housewife, 1650-1950*, 17.).

Whatever the extent and validity of their dissemination, concerns about fuel economy certainly helped to steer eighteenth-century households toward the adoption of new cooking techniques and technologies that focused on a smaller, more controlled hearth, which impacted larger kitchen processes. Soot-heavy coal drew more attention to the need to vent fires with chimneys that made effective use of this more confined source of heat.⁵⁴⁸ Coal, in fact, required a raised hearth floor to be built with a more restricted chimney because it spread far more soot than had wood.⁵⁴⁹ The smaller, raised hearth in turn changed how heat was conducted and measured. Take for example the sixteenth-century single pot system on a roaring open flame. To cook food within this system it either needed to be boiled in the pot directly over the fire, or it relied on the uneven heat that radiated away from the fire. Within the emerging eighteenth-century system, the pan could be heated directly in the smaller hearth or the hot stones around the fireplace, which could also be used for cooking. Heat was not only better regulated, but degrees of heat were established to aid in its measurement.

Descriptive Heat Measurement

In discussing conceptions of degrees of heat and heat measurement, it is important to remember that the thermometer was not an appropriate instrument to bring into the eighteenth-century kitchen. A glass thermometer containing mercury, if broken, would poison the food, so it

⁵⁴⁸ The analysis in the shift from an open hearth to a more controlled hearth tend to focus more on how these changes impacted the heating of interior rooms. However, the understanding that a smaller enclosure, especially one made of cast iron could radiate more heat into the room and burned fuel more efficiently also explains why it could improve cooking. For example of a discussion of the domestic repercussions of the change in hearth design see Strasser, *Never Done: A History of American Housework*, 53. or even a nineteenth century article on the topic “The Open Fireplace.”

⁵⁴⁹ Pennell, “Material Culture in Seventeenth-Century ,Britain ‘. The Matter of Domestic Consumption,” 71–72.

was unlikely that bringing one of the early thermometers into the kitchen was even considered.⁵⁵⁰ By the eighteenth century mercury poisoning was widely recognized, and although the middling sort believed that risking poisoning was appropriate to achieve the culinary aesthetic of green walnuts, mercury poisoning from a broken thermometer served no aesthetic purpose and was therefore not worth the risk. Debating the use of a thermometer is, largely, a retrospective argument. Not only did it take until the late-nineteenth century to use thermometers on humans, but the concept of accurately measuring heat to a specific degree was probably considered unnecessary thanks to the fairly accurate descriptive system of heat measurement established by this time, that required the mastery of a system of visual cues and descriptions. Admittedly, by modern standards instructions like “Your Pan must be heated reasonably hot” sound terribly vague, however thanks to a mix of experience and facility with descriptive heat measurement in the mid-eighteenth century this instruction would have been all the specifics a cook needed.⁵⁵¹ With practical experience, cooks were able to determine the requisite temperature of the oven and adapt their recipes to any fluctuations that might occur.

Knowledge of oven temperatures, much like the description of hearth-top fires for making pancakes discussed in the previous chapter, relied upon experience and observation. The cook could throw paper (think thick parchment) or flour into the oven and see the color to which it turned to determine relative heat.⁵⁵² This understanding of heat through color drew upon its

⁵⁵⁰ Fahrenheit invented the thermometer in 1714, while in 1741 Celsius proposed the 100-degree scale. It was only in 1866 however that a thermometer was used on people by Haven, *100 Greatest Science Inventions of All Time*, 67.

⁵⁵¹ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 31.

⁵⁵² Even in the nineteenth-century, French chef Jules Gouffé discusses paper color to determine oven temperatures. Gouffé, Gouffé, and Fuller, *The Royal Book of Pastry and Confectionery: Le Livre de Pâtisserie*, 303.

alchemical and chemical predecessors for accuracy. Alchemical symbols like the green lion, red lion and yellow lion are indicative of different ingredients but also of different colors to which

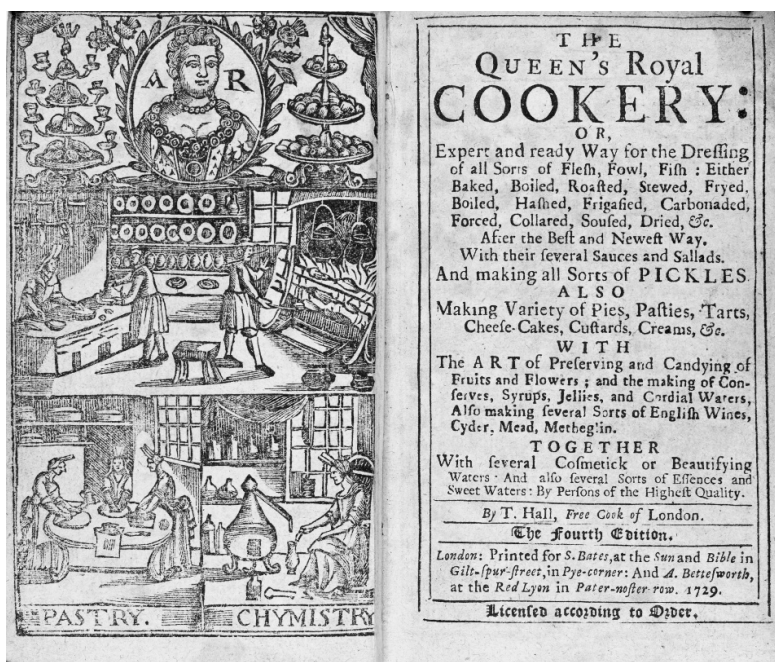


Figure 8 *The Queen's Royal Cookery* (1709)

those ingredients can turn when exposed to differing degrees of heat (or chemical reactions).⁵⁵³ It may be easy for the historian of science to examine an eighteenth-century kitchen and see traces of chymistry - indeed looking at images of the developing late eighteenth-century kitchens and the development of

chemical laboratories it is

difficult not to see parallels.⁵⁵⁴ For clarity, let me point out that I view the terms alchemical and chemical as roughly interchangeable because the two disciplines were still aligned during this century. Although alchemical mysticism was disappearing, the two were not yet fully distinct disciplines and were still sharing common terms and some common theories. Regardless, the (al)chemical connection to cooking was apparent even in public culture during the eighteenth century. A direct comparison can be seen in the frontispiece (figure 8) for *The Queen's Royal Cookery* (1709), in which a kitchen and a pastry area as a “chymistry” room are all portrayed.⁵⁵⁵

While the chemical laboratory still contains the salamander and conical chimney that are iconic

⁵⁵³ Thompson, *Alchemy and Alchemists*, 127.

⁵⁵⁴ I use the term chymistry here in an attempt to use actors' categories. For more on the significance of using chymistry for this period see Newman, *Atoms and Alchemy: Chymistry and the Experimental Origins of the Scientific Revolution*, 8-9.

⁵⁵⁵ British Library, “Queens Royal Cookery 1709.”

for alchemical and chemical images, the overall display and set up of both the pastry room and the kitchen show great similarity.⁵⁵⁶ The very fact that the author felt impelled to include the final image speaks both to the continued role of chymistry in cooking and the explicit cultural link between these disciplines. It is also worth noting, due to the fashionable headpiece and gown, that the person tending the chemical laboratory in this frontispiece is, indeed, a woman. For this dissertation, the largest takeaway however is that alchemical symbols and language were domesticated enough by the eighteenth century to be applicable to the cookbook's audiences.⁵⁵⁷

Cookware Materials

A final change that impacted the overall cooking context and space of the mid-eighteenth-century kitchen came from new options for what cookware was made from. While wooden spoons or whisks made of specific tree branches remained the same, changes in the

⁵⁵⁶ This similarity is echoed in other alchemical imagery. See Warlick, "The Domestic Alchemist: Women as Housewives in Alchemical Emblems," 25-26.

⁵⁵⁷ These alchemical images and allegories would have been accessible to an eighteenth-century middling housewife. Historians show that middling –elite women had long been employed as aids to their husbands or brothers within alchemical laboratories. Take for example Robert Boyle's sister, Lady Ranelagh, who not only maintained her brother's laboratory but who also exchanged recipes with her contemporaries (Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen*, 222.). For the social elite, women had access to the Elizabethan chemical community, thanks in part to Queen Elizabeth I's interest in the subject making the pursuit more socially acceptable (Latham, "*Lady Alcumy: Elizabethan Gentlewomen and the Practice of Chymistry*", 1). During the seventeenth century, men like Elias Ashmole created public spaces for alchemical education. Chemical and alchemical knowledge was also distributed through public lecture. Not only were these alternative public forums for science accessible to women, but popular literature also spread alchemical knowledge, even as it ridiculed strict alchemists as charlatans. Jayne Archer has contributed a number of articles on this subject, looking into authority and access to chemistry for women in the seventeenth century (Archer, *The Queen's Arcanum: Authority and Authorship in The Queens Closet Opened* (1655); Archer, "Women and chymistry in early modern England: the manuscript receipt book (c.1616) of Sarah Wiggess"). In one way or another the eighteenth-century middling housewife had been exposed to some form of alchemical theory. Even some of the chemical and alchemical instruments were domesticated and re-purposed toward everyday needs and functions. The development of earthenware beakers that could withstand high heat impacted the construction of bakeware, while knowledge of ways to hermetically seal containers was employed in potting food for preservation. With access to domesticated alchemical/chemical technologies and the presence of alchemical/chemical theory within popular culture, the sealed and hidden quality of a pie opened the housewife to scientific speculation.

British iron and brass industry influenced what kind of pans, chimneys, and infrastructure was available. Not only could brass conduct heat well, making it an ideal tool for kitchen implements, but as the industry grew, brass cookware became cheaper and more accessible.

The very practice of cooking within a mid-eighteenth-century kitchen relied heavily upon the development of the British domestic brass industry. The late seventeenth century gave rise to the initial investment in British manufacture of domestic cookware. The British brass and iron industry had been underdeveloped due to unregulated monopolies and a steady supply of manufactured items from the Continent. With the Thirty Years War limiting the legal importation of goods, from France and the Mines Royal Act of 1689 ending the monopoly over copper mining in England, there was a sudden increase in the demand for and the supply of raw materials for manufacturing cookware.⁵⁵⁸ While the opening up of domestic mining impacted the British brass and copper industries, they still relied heavily upon imported raw material. As the imported quantities of continental foreign brass declined, slavery and empire were inextricably tied to the improvement of British domestic brass manufacture, bringing ships full of pig-iron to supplement the national supply. The political and economic events of the seventeenth century served as the initial impetus for establishing manufactories. This impetus was boosted in the early eighteenth century when the Great South Sea Bubble brought increased investments in English copper and brass.⁵⁵⁹ Although many of these investments did not survive the stock market crash, they served to bolster technological improvement and industrial interest in the industry.

⁵⁵⁸ Gentle and Feild, *English Domestic Brass, 1680-1810, and the History of Its Origins*, 31–33.

⁵⁵⁹ Gentle and Feild, 40.

Due to changes in politics, technology, market demands and mineral availability, the British context represents a unique convergence of factors that domesticated brass cookware. As the burgeoning British brass and iron industries struggled to catch up to their continental competition, they focused on the production of new cookware. There was very little friction between the old and new systems of cooking and cookware because by the time British domestic cookware manufacturing caught up, it had to cater to the new demands for a large and varied *batterie de cuisine*. Mid-eighteenth-century England, as a coal-burning society that now had its own brass industry, was easily able to keep up with the demands for more cookware. In America, on the other hand, because coal was scarce, the older system of open wood hearths was preserved into the nineteenth century. Brass andirons, spit turners, and jamb-hooks were cast and exported to the colonies, who were stifled not only by the older hearth design and fuel source, but also by the restrictions upon manufacturing.⁵⁶⁰ The political and economic impetus of the late seventeenth and early eighteenth centuries provided the stimulus for new production in eighteenth-century England. The British climate also impacted the materials used for cookware because steel rusted quickly in the damp conditions that made brass preferable.⁵⁶¹ With all these factors, brass was not only ubiquitous in England by the middle of the eighteenth century, but the use of brass frying pans had become an integral part of the daily kitchen routine.

⁵⁶⁰ Gentle and Feild, 65.

⁵⁶¹ Gentle and Feild, 69.

Women in the Kitchen

To ascertain how women fit into these contemporary spaces in which new technological processes helped to shape roles, some sense of how women were situated in previous centuries is needed to identify what has changed. Although women could be present in sixteenth-century kitchen images, the position of authority is always accorded to the man in sixteenth-century kitchen scenes. A small, but important, factor in why women were not as central to kitchen practices during this period was due to the presence of the large open hearth. These large fires not only provided an uneven source of heat that favored cooking on a turning spit, but they also offered a very real hazard for women's safety. The long skirts and sleeves worn by women throughout the early modern period were at risk catching fire if they worked at the hearth.⁵⁶² The danger of the open flame was particularly detrimental to the status of women because it frequently prevented them from assuming not only the role of cook but as assistant as well in food preparation. The sixteenth-century architecture of the kitchen therefore made it difficult for women to assume all roles within a kitchen and assert expertise over the entire process.

As the new hearth model was adopted, these potential dangers for women decreased,

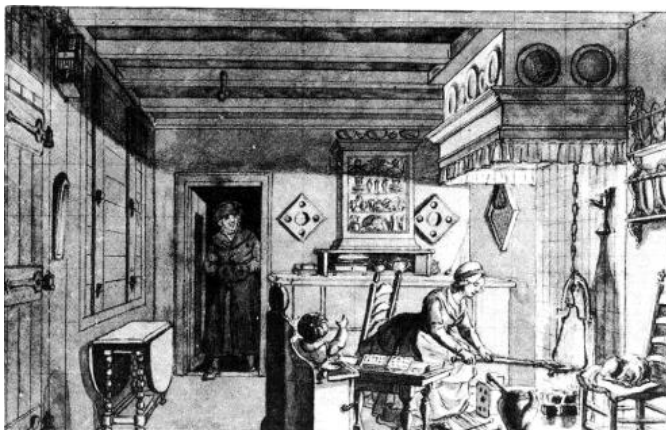


Figure 9 1769 Dutch Kitchen Interior

allowing them an opportunity to step into a more central role in the kitchen, which allowed for gains in developing authoritative experience. This change in status is reflected in contemporary kitchen work. There was a shift from the

⁵⁶² Robertson, *The Illustrated History of the Housewife, 1650-1950*, 25.

seventeenth to the eighteenth century from portraying women working away from the fire in more menial positions, such as chopping or cleaning, to women running and maintaining the kitchen, and controlling the fire, which was the primary source of the kitchen's power. Although eighteenth-century images of women doing kitchen work other than tending to the fire continued to exist, the presence of women in dresses and aprons calmly standing next to the fire only start to appear in eighteenth-century illustrations. In the Dutch illustration above, the woman tending the smaller and more controlled fire even has her small child near her as she cooks.⁵⁶³ Although the fireplace in this eighteenth-century Dutch image is not illustrative of British fireplaces or kitchens, developments in controlling fires through changes in fireplace design did lead to similar improvements in fire safety.

British images of women within the kitchen show them as central to the activities occurring within.⁵⁶⁴ They are not set to the side while a male chef tends the fire or takes control, but rather they frequently are the focal points of the images thanks to technological developments that made fire more manageable and brought kitchens back within the household proper. The frontispiece of E. Smith's 1742 edition of *The Compleat Housewife, or Accomplish'd Gentlewoman's Companion* (figure 4) portrays what a mid-eighteenth-century kitchen belonging to a middle-to-upper ranked household might have been expected to look like.⁵⁶⁵ In this image the housewife is portrayed front and center overseeing the servants. This

⁵⁶³ "Afb 1." *Bulletin Koninklijke Nederlandse Oudheidkundige Bond (KNOB)* (84 no.2&3, 1985): 133.

⁵⁶⁴ Two example images of women within British kitchens can be found above (figure 6 and figure 7). Henderson, *The Housekeeper's Instructor*, (1790) frontispiece. Sandby *The Kitchen at Sandpit Gate*, 1752. Both images show women in long sleeves and gowns tending the fire or shaping pastries with an assortment of kitchen technologies highlighted in the background.

⁵⁶⁵ Smith, *The Compleat Housewife: Or, Accomplish'd Gentlewoman's Companion: Being a Collection of Upwards of Six Hundred of the Most Approved Receipts in Cookery, Pastry, Confectionary, Preserving, Pickles, Cakes, Creams, Jellies, Made Wines, Corials. With Copper Plates Curiously Engraven for the Regular Disposition Or Placing the Various Dishes and Courses. And Also Bills of Fare for Every Month in the Year. To Which Is Added, a Collection of Above Three Hundred Family Receipts of Medicines; Viz. Drinks, Syrups, Salves, Ointments.*

kitchen, unlike its predecessors, displays the new chinaware and kitchen technologies on shelves so impractical that their display seems to be intended for the viewer and not the practical kitchen work. The fire is kept in a far more confined space than the sixteenth-century kitchen with a fuel source that looks more like coal. The kitchen floor is uncommonly pristine, although the presence of cats and dogs as well as the kitchen boy dropping pans does illustrate more of the realities of the kitchen space. In analyzing this image food historian Kyri Claflin believes that the presence of the kitchen boy and the animals is a deliberate act meant to reflect the disorder that the housewife must oversee and control.⁵⁶⁶ This point –of the role of the housewife as the overseer and imposer of order over a once male domain --can also be found within the cookery books.

Women appear to have assumed these roles by choice, and not social coercion. In fact, I would argue that this is a strong example of what Diane Boyd and Marta Kvande characterize as an ‘everyday revolution’ wherein women gained power by both accepting and defying the cultural roles placed on them to gain power.⁵⁶⁷ While manuals for housewives portrayed the housewife as expert and overseer of the domestic space, and cookbooks afforded her access to privileged knowledge and oversight of the connected social and economic spheres, there was no larger cultural push restrict women to the kitchen space. The housewife not only had authority over her staff, but she also had authority over the previously male-dominated space of the kitchen, and by extension the scientific and technological processes within. An important power attributed to the eighteenth-century housewife, for example, is the ability to alter recipes to best

⁵⁶⁶ Claflin, “Representations of Food Production and Consumption: Cookbooks as Historical Sources,” 124.

⁵⁶⁷ Women of middling classes managed the public and the private as a matter of daily life. Boyd and Kvande, *Everyday Revolutions: Eighteenth-Century Women Transforming Public and Private*, 23–24.

suit the needs of her household.⁵⁶⁸ This ability would have required a number of technological, agricultural, scientific, and political judgments, as we shall see in the following chapters.

The power shift is subtle for the modern reader, as we are accustomed to examining the repercussions regarding gender roles that came with the nineteenth-century domestication of the household and the assignment of the kitchen as a woman's domain. Yet in the eighteenth century the very scientific and technical art of cookery, and the power to oversee this realm that could very readily extend into the family's economic welfare, was an opportunity for women to have a wider capacity to engage with a changing public sphere rather than be confined to a diminishing role imposed upon them. Indeed, in eighteenth-century France the new science of cookery was aggressively structured as a male scientific pursuit. While there were certainly female French cooks, men retained the power both in cooking guilds and apprenticeships and in the publication of cookbooks to set norms and establish cultural values that legitimized a heavily gendered set of dynamics.⁵⁶⁹ As the scope and efficacy of female authority in the English kitchen increased over time, authority in aligned and connected fields, such as agriculture and chemical sciences was also strengthened.

A Space in Flux: Contextual Actors and the Kitchen

To gain insight into how everyday practices rather than elite imperatives could comprise a scientific and technological system within a domestic setting, it is important first to recognize

⁵⁶⁸ Glasse includes substitutions in some of her recipes introduced by “if you have” to cover not only optional ingredients, but to indicate which pan or pot to use. Her instructions take into account the possibilities of not having certain items like silver pans and the availability of fresh or pickled foods. An example of this kind of substitution comes from ‘A breast of veal in hodge-podge’: “If you have no pease, pare three or four cucumbers, scoop out the pulp, and cut it into little pieces...” (Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 33.).

⁵⁶⁹ Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*, 72.

the ambiguous nature of mid-eighteenth-century kitchens. Although philosophers during this period debated conceptions of how public and private spaces ought to be properly constituted - with the home potentially being designated as a private domain -the truth is that those boundaries were far more fluid than can be captured by either/or categorizations. Even the home itself was far more public than later Victorian cultural constructions were prepared to acknowledge. The kitchen, located within the fluidly shifting lines of where public and private began, moved into the home and while the kitchens should therefore be viewed as a private domains, their reliance upon the outside world in terms of both ingredients and information was a major way in which the two were enmeshed.

Even as the kitchen was physically being transplanted from occupying an external space to being enclosed within the walls of the house, the kitchen's ties to the outside world remained. The kitchen, like the dining room or the receiving room, required some public interactions as part of its base functions. Supplies were brought in and out, along with servants, staff and members of the household itself. Information too passed both ways through the kitchen's boundaries, with matters of politics, economics, and sociability all playing prominent roles in what was cooked, how it was cooked, and how the housewife managed her supplies.⁵⁷⁰ So while the kitchen was certainly a *domestic* space, in many ways it was more public than private.⁵⁷¹

⁵⁷⁰ On subjects considered public at the time. Boyd and Kvande, *Everyday Revolutions: Eighteenth-Century Women Transforming Public and Private*, 19.

⁵⁷¹ Although domestic and private are often used interchangeably, the two can, in fact be separated (Eibach and Lanzinger "Introduction: Continuities and transformations in the history of the domestic sphere"). Much of the historiography centers around the nineteenth-century when Davidoff and Hall in 1987 noted the privatization of family life and established the existence of separate spheres, however historians have since noted that even this nineteenth-century bourgeois rhetoric of a private, domestic sphere was not as absolute (Davidoff and Hall, *Family Fortunes: men and Women of the English Middle Class 1780-1850*; Maynes, "Class Cultures," 201, Segalen, "Material Conditions of Family Life," 30; Vickery, *Behind Closed Doors: At Home in Georgian London*). This dissertation follows the lead of Eibach and Lanzinger defining the domestic sphere loosely as relating to the "daily practices of actors within the interior or dwelling space" (Eibach and Lanzinger "Introduction: Continuities and transformations in the history of the domestic sphere").

Although scholars have observed a separation between the public and private sphere during the eighteenth century, a firm divide seems to be planted more in philosophical pronouncements, literary rhetoric and cultural idealization than in actual practice.⁵⁷² More recent historical cohorts have adopted the perspective, as Boyd and Kvande have, that this public sphere was permeable and changing, and as such it was neither “as unitary nor as functionally exclusive as originally painted.”⁵⁷³ In light of this perspective the kitchen could be both a sphere in flux as a site of public engagement and a domain that accommodated the entry of women into that hybrid space as generators of knowledge. The entry of women into the kitchen and their publication of cookery books aimed at controlling this hybrid space indicates the kind of “everyday revolutions” in which women both worked within cultural norms governing gender roles, and when necessary defied more restrictive norms to gain power.⁵⁷⁴ Stepping into the kitchen was not an act of defiance, but rather a quiet extension of active roles that eighteenth-century women used to their advantage in a space where the mixture of public and private allowed for less constrained expectations of gender regulation.

Women of the middling ranks managed the public and the private as a matter of daily life.⁵⁷⁵ Their “web of influence,” as Boyd and Kvande call it, extended from the parlors and dining rooms into the gardens and estate lands, and thus well beyond the physical walls of the house into wider areas of political, social, and economic import.⁵⁷⁶ This can be seen in the act of shopping for kitchen ingredients. Jon Stobart’s book *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830* highlights the social nature of shopping for groceries during the

⁵⁷² Boyd and Kvande, *Everyday Revolutions: Eighteenth-Century Women Transforming Public and Private*, 19.

⁵⁷³ Boyd and Kvande, 22.

⁵⁷⁴ Boyd and Kvande, 23–24.

⁵⁷⁵ Boyd and Kvande, 17.

⁵⁷⁶ Boyd and Kvande, 24.

early-eighteenth century. He explains that shopping was an act of sociability during which consumers actively constructed their social identities as they interacted with shopkeepers and other shoppers.⁵⁷⁷ When buying fine sugar -- or sending one's servant to purchase it -- the lady of the house was subtly announcing her household's wealth and standing to a public audience.⁵⁷⁸ Every choice the housewife made, including every purchase, and every dish she cooked could ostensibly be an opportunity to wield some power, especially in advancing either her or her family's cause and standing. This is not to say that culinary purchases alone can be sole proof of her household's class and rank. For example, members of the middling-to upper-ranked households still purchased coarse sugar, which would normally be viewed as only fitting for those in the lower ranks. A 1720 account book belonging to Grace Nettleton, for example, contains an entry for two pounds of coarse loaf sugar and one loaf of fine sugar.⁵⁷⁹ Decisions about purchasing ingredients were not made solely upon their representation of apparent social class or public displays of wealth; they were also as much a part of the overall "kitchen oeconomy" or the efficient running of the kitchen system.⁵⁸⁰ The running of the kitchen required the housewife to understand very public theories of market and budget, as well as be attentive to her family's public social or political standing.

Knowing and working within a budget, however, did not necessarily mean that households ate or consumed only the food 'appropriate to their station', whatever that might be.

⁵⁷⁷ Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830*, 213; Berry, "Polite Consumption: Shopping in Eighteenth-Century England," 377.

⁵⁷⁸ It is worth noting that it was indeed the lady of the house who tended to purchase the sugar. Stobart notes that "female account holders were far more likely to buy tea and sugar, while their male counterparts were over-represented in purchases of rum, tobacco, and, to a lesser extent, coffee" (Stobart, 196.).

⁵⁷⁹ Stobart, 200.

⁵⁸⁰ Oeconomy first appeared in the sixteenth century as a term related to "householding" and agriculture. It was considered a source of human happiness and covered "the roles of prudence, not only by rational and well-structured Christian direction, how to acquire possessions, how to prudently make use of what has been acquired, storing it with practical thrift and increasing it, which is even a greater art than that of acquisition itself." (Tribe, *The Economy of the Word: Language, History and Economics*).

Yet the purchase of fine sugar was by no means limited to the more affluent consumers. In spite of the condemnation by eighteenth-century pamphleteers of the growth of luxury among the poor, the demand for sugar was so great that even the “poor wretches living in almshouses will not be without it.”⁵⁸¹ Sugar was rapidly being domesticated, and not just in the less expensive form of coarse sugar. Store ledgers reveal that lower-ranked customers still bought items such as powdered sugar or brown and white sugar candy, just in small quantities.⁵⁸² Stobart states that over half of the debts owed to grocer shops were for tobacco and sugar, items that had only become available to more modest consumers towards the end of the seventeenth century.⁵⁸³ The purchase of more expensive and refined sugars instead of coarse sugars, when for many uses they could both suffice, reveals the presence of external social factors influencing the cooking process. Indeed, the desire to purchase the more fashionable and expensive luxury of fine sugar did not arise from any culinary necessity. The omnipresent use of fine sugar for more affluent recipes indicates, therefore, that the cookery book authors are playing into the constructed social identity of their middling-to upper-ranked readers, knowing full well that coarse sugar would suffice to melt over pancakes.

Social display was also an essential factor that went into maintaining other aspects of the kitchen economy. While daily family fare may consist of pancakes, rice puddings or cold meats, serving guests required more formal fare.⁵⁸⁴ By the mid-eighteenth century hospitality among

⁵⁸¹ Sheridan, *Sugar and Slavery: An Economic History of the British West Indies, 1623-1775*, 26.

⁵⁸² Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830*, 202.

⁵⁸³ Stobart, 30.

⁵⁸⁴ Ellis mentions pancakes 41 times, not including fritters, which he also includes in the same section (Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 27-33). Glasse seems to prefer the term fritters but still mentions the term pancake 9 times (Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 158-161).

landed families extended not only to hosting members of similar social standing and housing travelers, but also permitting them to tour one's home.⁵⁸⁵ And although hospitality was often an espoused ideal, the Grand Tour and the frequency with which Ellis visited other country estates and ate there indicates that this type of hospitality that extended to feeding guests was put into practice. The house itself, its decorations in rooms that were publicly accessible, and the food that was produced by the kitchen to feed guests, all were opportunities to visually display one's taste, means and rank. Budgeting, therefore, needed to take into account the degree to which the household and even the kitchen might be expected to quite literally act as a public showcase, and the likelihood of hosting, based on the proximity and status of other families in the area.

While this was true for the country house or country estate, urban culture played by slightly different rules. Eating at a hotel or buying hot food in the city was not uncommon. A German traveler in the eighteenth century complained about the uneven nature of hospitality in that on the Continent visitors were "showered with courtesies" but when they visited England they were invited to dinner at a hotel and had to pay for their own meal.⁵⁸⁶ Alexander Kelly defends against this misunderstanding of British hospitality by explaining that "it is more customary in London than elsewhere to dine at a hotel, since many do not keep their own house there, but go, year in, year out, to a public inn for their meals."⁵⁸⁷ Indeed, Kelly asserts that by dining at an inn there are more available options that may better-suit the preferences of the visitor.⁵⁸⁸ Yet having the means and capital to eat at an inn, and possessing liquid funds in a

⁵⁸⁵ Anderson, "Touring and Publicizing England's Country Houses in the Long Eighteenth Century," 42.

⁵⁸⁶ Kelly, *England and the Englishman in German Literature of the Eighteenth Century*, 73.

⁵⁸⁷ Kelly, 73.

⁵⁸⁸ Kelly, 73.

society still running on a mix of money and credit also spoke to one's social position.⁵⁸⁹ Annual income was significantly harder to fake than cooking dishes with less expensive ingredients.

While families could probably survive without a financially conscious housewife, managing the budget was certainly an opportunity for a ranked woman to assert and gain more political, social, and financial power in public and private spheres. The mix of the credit and capital system made it entirely possible for families to be in debt and still have an annual income to work with.⁵⁹⁰ Yet how far did those incomes really go? Economic historian Robert Hume explains that “by 1688 more than 80 percent of families had no more than £50 per annum, ...[so] a middling family with two servants and a total income of £200 probably had something like £16 of discretionary spending power for the year.”⁵⁹¹ The housewife, by substituting ingredients, networking with merchants, preserving excess food and working within the estate's lands or her kitchen garden, could increase that discretionary spending budget. Even when in London, the housewife would need to work within a budget that took into account not only shifts in market prices and demand, but also the likelihood that during the social season many members of the household might be purchasing meals rather than eating what the kitchen provided.

That economical management could become a potential source of power for mid-eighteenth-century women was made possible by larger agricultural and economic changes that occurred during the first half of the eighteenth century. Self-sufficiency had long been the standard for household economy. Through the early-eighteenth century, the upper-ranked households with numerous land holdings were able to produce more than enough food to live off

⁵⁸⁹ Olsen, *Daily Life in 18th-Century England*, 2nd Edition, 188; Whitlock, *Crime, Gender and Consumer Culture in Nineteenth-Century England*.

⁵⁹⁰ On an example of families continuing into debt see Christie, *The British Country House in the Eighteenth Century*, 7.

⁵⁹¹ Hume, “The Value of Money in Eighteenth-Century England: Incomes, Prices, Buying Power—and Some Problems in Cultural Economics.”

and could easily afford to sell the rest. Middling-ranked households survived off their economic and intelligent use of the produce of their lands, supplementing this foundation with outside purchases.⁵⁹² This is not to say that upper and middling-ranked households did not make any food purchases before the eighteenth century, for many luxury goods were imported.⁵⁹³ Instead, the shift that occurred was seen in the amount of bought items compared to homegrown items. Even as farming techniques and yield improved during the eighteenth century, the majority of the produce was sold outright rather than just selling any surplus.⁵⁹⁴ This transition to a more market-based economy was not an isolated incident; this trend can be seen in many areas of the eighteenth-century British economy.

The transition to a market-based economy changed who was ultimately considered to be responsible for the household's food budget. Within the seventeenth-century model that combined self-sufficiency with luxury purchases, the success and maintenance of the household's income rested upon the men who oversaw farming and planting. I say men here because although there is historical evidence that women worked in expert positions within farm holds during the eighteenth century -brewing ale, making cheese, keeping chickens or working as dairymaids -they were never in a position of ultimate authority.⁵⁹⁵ As the kitchen started to rely on the market economy instead of the family's landholdings, the responsibility for staying on budget opened to a greater degree, allowing whoever was running the daily activities of the kitchen spaces to weigh in on the household's needs.

A brief overview of household budgeting, credit, and income is necessary to contextualize the housewife's increased responsibilities. The household budget relied upon a

⁵⁹² Rosaldo, Lamphere, and Bamberger, *Woman, Culture, and Society*, 220.

⁵⁹³ Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants*, 18-19.

⁵⁹⁴ Rosaldo, Lamphere, and Bamberger, *Woman, Culture, and Society*, 220.

⁵⁹⁵ Olsen, *Daily Life in 18th Century England*, 33.

number of different income sources. Seasonal income came from the sale of the produce from different land holdings.⁵⁹⁶ Additionally, income came from tenants and renters depending on the property the family owned.⁵⁹⁷ Wealthier families could also expect individual yearly incomes. These incomes were often determined ahead of time, either through marriage contracts or final wills and outlined an annual sum to be given to an individual, their children, and so on.⁵⁹⁸ Households might also have income come in from their investments. The eighteenth century saw the rise of joint-stock ventures as well as the South Sea Bubble of 1720, offering potential profits to investors while warning of the pitfalls of gambling fortunes on unpredictable and unregulated speculation.⁵⁹⁹ Profit from stock investment could make or break many of the members of the middling or lower-upper ranks by boosting or crippling their financial position. These sources of income, while changeable, were somewhat reliable and could be managed by any household member aware of the family's dealings.

The significance of the housewife potentially taking over the kitchen and its budget, however, lies in the more complicated system of credit that continued to exist well through the late-eighteenth century. While the aforementioned sources of income were fairly reliable, especially outside of London, credit relied on the subjective establishment of personal relationships as much as the likelihood that the family would finally pay off their debtors.⁶⁰⁰ The extension of relationship-based credit became increasingly complicated as British society

⁵⁹⁶ Rosaldo, Lamphere, and Bamberger, 220.

⁵⁹⁷ Rental incomes increased from 70 to 90 per cent in the second half of the century (Dickinson, *A Companion to Eighteenth-Century Britain*, 313.). Also see an example table of sources of annual family incomes in Olsen, *Daily Life in 18th-Century England*, 2nd Edition, 14.

⁵⁹⁸ The income for women in the late seventeenth-century was determined through both dowry and jointure, which included what the wife might receive if she survived her husband. Goldberg, *Sex and Enlightenment: Women in Richardson and Diderot*, 52.

⁵⁹⁹ Condorelli and Menning, *Boom, Bust, and Beyond: New Perspectives on the 1720 Stock Market Bubble*, 141–142.

⁶⁰⁰ Finn, *The Character of Credit: Personal Debt in English Culture, 1740-1914*, 9.

became less localized, especially in growing urban centers. Many household records detail the continued relationship between suppliers and the families they furnished with specific items.⁶⁰¹ These relationships often included a combination of monetary exchange and gift-giving, wherein a merchant might bring the household “lamb, oranges and lemons, two lobsters and a barrel of sturgeon” and return with “hares and other game, turkeys, butter, cuts of meat, and promises of some hog puddings.”⁶⁰² It is important to highlight the very personal aspect of the eighteenth-century market economy because it cultivated a culture of networking and sociability built around economic efficiency. While the more formal sources of income relied on a fairly standardized system, the deeply personal and subjective nature of credit required the housewife to cultivate a network that extended far out into the public spheres of life to successfully take over this area of the budget.

As the housewife gained more oversight and responsibility over the household’s financials, at least in terms of stocking the kitchen with both ingredients and technologies, she might be expected to assume many of the social relationships with the merchants and storekeepers. Women in eighteenth-century England were considered to have “considerable freedom” as compared to women in Europe because they frequently took the initiative to go shopping on their own or with other gentlewomen- and notably without male accompaniment or oversight.⁶⁰³ The housewife who decided to take over or contribute to the oversight of the relationships required to keep the kitchen and the rest of the house running was effectively acting with the authority of her family, representing them in these public spheres. The housewife’s control of a kitchen that relied upon a more market-based economy and her corresponding

⁶⁰¹ Robertson, *Illustrated History of the Housewife 1650-1950*, 110.

⁶⁰² Robertson, *Illustrated History of the Housewife 1650-1950*, 110.

⁶⁰³ Berry, “Polite Consumption: Shopping in Eighteenth-Century England,” 380.

impact on the household's budget therefore represents yet another source of power for her and reveals the social significance of her choice to assert authority over this formerly male domain.

Yet to achieve social power through her appropriation of the kitchen's management, the housewife first needed to succeed in her endeavor. Balancing the household budget and making the kitchen as efficient and economic as possible in its everyday operations needed to be balanced against the requirements of sociability: catering food appropriate for the rank and station of guests and using food as a material display of both wealth and taste. However, it is the daily operations of the kitchen, rather than the social events or the times when members of the family dined at London inns is what would ultimately shape the housewife's success. Those operations included not only the cooking, but also overseeing the fetching of fuel, the making of candles, the production of food from the garden, the tending of animals such as chickens for eggs or bees for honey, and the selling of any excess or of "products of her own making."⁶⁰⁴ While the housewife herself, especially if the family were higher ranked, may not be actively participating in these activities, it was ultimately her responsibility to make sure that her staff or servants tended to these areas of everyday life.

While the everyday function of the kitchen may have changed slightly when guests were present, much of the work of the housewife in this domain remained the same. There is little to no written record of what was eaten on a daily basis in the high-ranked households. While correspondence and menus abound, it is important to realize that these entries were intended to showcase a particular lifestyle for the guests and were not necessarily indicative of daily practice. It has been suggested, for example, by historian Arnold Palmer that hot food was only

⁶⁰⁴ Robertson, *The Illustrated History of the Housewife, 1650-1950*, 142.

served while guests were visiting.⁶⁰⁵ Ellis, however, mentions that a farmer's wife, when making pancakes, takes "what care she can that the Family eats them hot."⁶⁰⁶ Ellis serves as an invaluable resource for by sharing what lower-ranked families and farmers ate, he offers a reference point from which to compare the recipes included by cookbooks aimed at more affluent families. If lower-ranked farm families were eating hot food, it is unlikely that their higher-ranked counterparts were refraining from hot meals. In all likelihood, the recommendation that hot food only be served while guests were visiting was probably restricted to hot, fresh meat. With no way to preserve fresh meat, it would need to be cooked and served or preserved and incorporated into recipes at a later date. Purchasing fresh meat or having it delivered in time for notable guests was certainly a practice housewives participated in.⁶⁰⁷ As such, while the daily operations of the kitchen may have remained the same, the days when fresh meat was cooked and preserved could definitely have been influenced by the touring schedule of families within the same social circle.

Within the cookbooks, it remains difficult to pinpoint what exactly was eaten on a daily basis as compared to which recipes were intended for entertaining guests. This can be illustrated by the oh so delicious dishes made from badger. Robert Jocelyn (1688-1758) details an extravagant meal of more than forty dishes that included "badger flame served with cauliflower."⁶⁰⁸ Badger is included in two 1730 cookbooks: Richard Bradley, *The Country Housewife and Lady's Director* (1736) and Charles Carter, *The Complete Practical Cook*

⁶⁰⁵ Palmer, *Movable Feasts: A Reconnaissance of the Origins and Consequences of Fluctuations in Meal-Times, with Special Attention to the Introduction of Luncheon and Afternoon Tea*, 16.

⁶⁰⁶ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 28.

⁶⁰⁷ Robertson, *The Illustrated History of the Housewife 1650-1950*, 110.

⁶⁰⁸ Casey, *The Eighteenth-Century Dublin Town House: Form, Function and Finance*, 120.

(1730).⁶⁰⁹ Yet by 1736, Carter removed badger from his recipes when he published the second edition *The Compleat City and Country Cook* (1736).⁶¹⁰ Inexplicably, by the twentieth-century food journalist Waverly Root announced that only peasants ate badger during the eighteenth century.⁶¹¹ There are a number of reasons why, potentially, badgers seem to disappear from British cookbooks during the mid-eighteenth century. This change may well have been the result of the badger going out of style for the wealthy elite, as their access to a market-economy allowed them to buy beef or chicken to supplement whatever was raised on their lands. With interest in improving agricultural processes, and thanks to acts like the 1566 Act passed in Wiltshire that put a 1 shilling bounty on badgers, it was possible too that badgers were harder to come by in the quantities called for by recipes intended to feed an entire household.⁶¹² Their presence in early eighteenth-century cookbooks could have easily been a reflection of the tendency to plagiarize early recipes to pad one's cookbook.⁶¹³ The removal of badger dishes by so many of the 1750 British authors may remain a mystery. For while their removal during this time could just as easily reflect a shift in having cookbooks reflect more daily fare than feast day menu items, they offer no explanation for why badger was no longer considered daily fare. Indeed, while the cookbooks may have been intended in some cases to create menu-worthy entrees, their coverage of more daily fare, in combination with their attention to preservation techniques, indicates that they were intended to outline dishes of a more daily nature. That,

⁶⁰⁹ Bradley, *The Country Housewife and Lady's Director, in the Management of a House, and the Delights and Profits of Farm. Containing, Instructions for Managing the Brew-House ... Directions for the Dairy ... the Ordering of Fish, Fowl, Herbs, Roots*, 145–146.

⁶¹⁰ Carter, *The Compleat City and Country Cook: Or, Accomplish'd Housewife. Containing, Several Hundred of the Most Approv'd Receipts in Cookery, Confectionary, Cordials [etc.] ... Illustrated with Forty-Nine Large Copper Plates, Directing the Regular Placing the Various Dishes on the Table ... Also, Bills of Fare According to the Several Seasons for Every Month of the Year*.

⁶¹¹ Davidson, "The Oxford Companion to Food," chap. Badger.

⁶¹² Wiltshire Archaeological and Natural history Magazine, vol 98 *Wiltshire Archaeological & Natural History Society*, 147

⁶¹³ Davidson, chap. Glasse; Olsen, *All Things Austen: A-L. Agriculture*, 277.

combined with the fact that Moxon, Fischer, and Glasse all offer similar recipes to that of Ellis, whose intention was to detail the lived experience and cooking practices of less wealthy country households demonstrates that these recipes are indeed more for daily fare than purely for display and noteworthy occasions.

One of the details that speaks to the inclusion of daily fare and everyday practice is the inclusion of recipes that reuse or repurpose food. While the concept of leftovers remains a modern contrivance, the housewife was expected to transform foods eaten during dinner into a different dish for supper.⁶¹⁴ Roberson explains that even if the family enjoyed a hot dinner this would still be expected to be followed by a supper with cold meats later.⁶¹⁵ These cold meats were likely dishes made that day or the previous day given the inability to appropriately store meats, or were smoked or potted meats.⁶¹⁶ This shift to cold or preserved meats makes a great deal of sense when thinking about the kitchen's larger functions. Slaughtering a hog or buying fresh meat was not and could not be a daily occurrence. With no way to store the food short of salting or potting it, once fresh meat was bought and delivered it would need to be cooked or preserved immediately. This tendency can be seen in recipes for pickling and potting an assortment of produce and meat, as well as directions on how to restore preserved ingredients to make them usable within a recipe.

Meat was not the ingredient that housewives transformed in an effort to improve its "shelf life" and improve kitchen economy by preventing waste. A perfect period example of transforming one dish into another to prevent waste and create a new taste comes from bread puddings. Bread puddings represent the ultimate expression of kitchen economy. A bread

⁶¹⁴ Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*, 22.

⁶¹⁵ Robertson, *The Illustrated History of the Housewife, 1650-1950*, 141.

⁶¹⁶ Conran, *The Kitchen Book*, 185.

pudding transformed leftover or stale bread into a sweeter, spiced pudding, transforming not only its taste but its form. The bread base provided an excellent opportunity to cut costs or re-use partially eaten or stale loaves. Recipes call for “three jills of milk....a penny loaf sliced thin,...five eggs beat very well,... a little nutmeg,... some lemon-peel,... a quarter of a pound of butter or beef-suet, and as much sugar as will sweeten it.”⁶¹⁷ The penny loaf could have been bought so cheaply because it was stale or could be a description of the quality of the bread, namely any bread in the house that could have fetched a penny or less at the market. The bread pudding, a staple in eighteenth-century cookbooks, therefore provided an excellent opportunity to save money, reuse old or inedible ingredients, and transform the aforementioned ingredients into something entirely new in both taste and texture.

The popularity of bread-based puddings in the recipe books, along with indicators from Ellis that these were foods that even farmers ate, indicates that they may very well have made up some of the daily fare of an eighteenth-century household. I say bread-based puddings, but that does not mean the traditional bread pudding. By bread-based puddings I mean any pudding that must be tied loosely to let the larger chunks of bread soak up the batter and expand. While these puddings are named after the added flavors found in them, they still constitute bread puddings. Examples of these from Moxon’s *English Housewifry* (1764) are an almond pudding that uses two ounces of grated bread, a recipe for roasting “a Pike with a Pudding in the Belly,” and a liver pudding that also uses grated bread.⁶¹⁸ While these recipes do not specifically mention the age of the bread used, older, stale bread is significantly easier to grate than fresh bread. The salient point remains that the wide range of flavors and added ingredients made these bread-based

⁶¹⁷ Moxon, *English Housewifry: Exemplified in Above Four Hundred and Fifty Receipts Giving Directions in Most Parts of Cookery ... with an Appendix Containing Upwards of Sixty Receipts*, 81.

⁶¹⁸ Moxon, 10, 82, 95.

puddings a versatile staple of daily life. The popularity of the bread pudding in England was made possible in part from cultural expectations that leftover bread be put to use, and culinary aesthetics that privileged the complete transformation of leftovers.

As these bread-based puddings became staples of daily life, there were admittedly some strange variations that missed the original economic value of these transformative dishes. Glasse's *The Art of Cookery* includes recipes for a boiled plum pudding that uses both flour and a grated penny loaf to thicken it, and a pith pudding that uses grated bread or grated Naples biscuit.⁶¹⁹ The substitution of biscuits (akin to shortbread cookies) and flour for these recipes indicate that these are finer puddings, using the grated bread or mixture to act as a filler and bind the ingredients together. These more expensive ingredients lose the original emphasis on reuse of bread that these puddings were initially based on, but also signify that the family's financial standing is so secure that they can afford to buy fresh biscuits expressly to use for puddings. Furthermore, the pudding's more expensive ingredients would have been clearly identifiable when it was served. The flour would have produced a more-dense texture, while the biscuits would have created a thinner, sweeter pudding. With this opportunity for social display, the housewife needed to find some middle ground between displaying wealth and social rank and being overly wasteful.

Household economy was not only an opportunity for women to free up money to spend elsewhere and to assert her authority upon this formerly male, still very public domain: it also held political ramifications. British social commentary often associated French cooking with waste and inefficiency, criticizing the French for extracting numerous ingredients into the tiniest

⁶¹⁹ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 130–131.

of dishes.⁶²⁰ Much of this culinary critique was rhetorical because the very cookery book authors who espoused such anti-French sentiments were at the same time plagiarizing French recipes and methods. The outstanding critique of French food was that it used a mass of ingredients to create a relatively meager end product. While this helps to explain the chunky British stews where the bulk of ingredients remained identifiable, the use of Naples biscuits or fine grated stale bread is reminiscent more of French ‘concealment’ of ingredients. This discrepancy perhaps can be explained by the complicated mix of social display, furtive appropriation of French culture and pudding cook times, consistency, and form. To navigate between the public rhetoric of the cookery book authors and the political ramifications and associations with culinary methods, a housewife needed to cook and serve food in a manner that remained fashionable, yet still stayed true to the growing national focus on British household’s production of hearty, ingredient-conserving meals.

⁶²⁰ Lehmann, *The British Housewife: Cookery-Books, Cooking and Society in Eighteenth-Century Britain*, 283–286; Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, iii–v.

Chapter 6- Everyday Science and Technology: Experiential Knowledge-making in the Kitchen

As kitchen architecture changed, and with it, kitchen practices, an entire epistemology for kitchen instruments, tools and ingredients emerged. Although few kitchen instruments were truly invented during this time, the ways in which they were used, both individually and as part of the larger kitchen process, were impacted by their mid-eighteenth-century context. From the material that pans were made of, to the number of kitchen instruments recommended for a middling-ranked household, kitchen practices evolved from the relatively uniform and low-knowledge system of the single-pot spit roast to an increasingly advanced repertoire of techniques, tools, and instruments.

I believe that it is critical to recognize that the kitchen space arguably extended beyond the kitchen proper to any rooms or areas of the house and lands dedicated to food preparation. This wider ambit would include, for example, still rooms for confectionary, pickling, and potting; small kitchen gardens; and even the expensive “refrigerators” where small hills were hollowed out and filled with ice for the British aristocracy’s pleasure -all played a role in the kitchen’s larger functions and remained under the housewife’s purview.⁶²¹ While the housewife certainly would not have been working in each of these areas, as she would have had staff to assist with some of the more laborious tasks, she nevertheless oversaw them and was responsible for their success or failure.

In tackling boiling waters and experimenting with ingredient combinations the domestic and scientific were being engaged with simultaneously. Certainly, there was a clear sense of ingenuity and expertise expected of the exemplary female housewives chronicled in Ellis’ text or

⁶²¹ Sheeran, *Landscape Gardens in West Yorkshire 1680-1880*, 211.

catered to by Carter, Glasse, and Moxon. These women, though they may be overseeing rather than whisking and pickling themselves, were considered capable of critical, expert decisions when it came to ingredient substitution, provisioning by preservation, and the overall health of her family as impacted by what was produced within the kitchen's precincts. The overlap between the experiential knowledge of phenomena such as heat that women needed to make use of mid-eighteenth-century recipes and the documented formal scientific inquiry of the time offers an avenue to not only better understand the transmission of ideas and theories into daily life, most certainly for my purposes here an opportunity to investigate the gendered relationship between women, knowledge, and authority. This chapter considers where to start –and where further investigation might be fruitful in following areas: for history of science within food studies, the presence of scientific ideas in the kitchen beyond those of nutritional sciences; for gender studies, why this area of authority was open to women in England when it was restricted almost entirely to men in France; for history of science and history of technology, how everyday scientific, empirical, experiential and practical knowledge fit in to the larger narrative of how scientific knowledge circulates, is produced, and is adapted and adopted.

Daily Kitchen Technologies: Cooking, Cleaning, Mending

The eighteenth-century kitchen offered the opportunity for middling-to upper-ranked housewives to develop daily technological literacies. Not only could they establish some authority within the more scientific domain of what would come to be known as thermodynamics, but learning how to use, substitute and work with these newer technologies also offered another avenue for establishing expertise and authority. The kitchen system itself operated as a technological entity, requiring housewives to understand and adapt these

technologies to their respective kitchen contexts. While these technologies and even the cookbooks offered idealized scripts, the everyday workings of the kitchen required housewives to adapt the technologies they used to the constraints created by cooking, cleaning, and mending.

The eighteenth-century kitchen system was a mix of old and new technologies. While the previous theories and practices shaped how older technologies were being used in an eighteenth-century kitchen, there were also a great number of new instruments and technologies that had been added during the eighteenth century and contributed to new theories and practices. Not only were a wide range of task-specific pots, pans and devices brought into the kitchen, but the materials with which they were made were also changing. New materials such as copper and brass were used for cookware, which in turn influenced fundamental concepts like cook time, heat dispersion, and chemical interactions, especially for acid-based foods. While these concepts were certainly not phrased in such terms, they were internalized by the housewives and their domestically based inquiries represent an opportunity to master new literacies.

The eighteenth-century kitchen is distinctive from its predecessors just by the sheer number of kitchen instruments and technologies within it. Thanks in part to improved access to materials to make these tools, the demand for distinctive tastes and flavors once all food was no longer cooked within the same pot, supported by access to better-controlled hearth fires, a whole assortment of pots and pans, whisks, gridirons, and other technologies that could be found within an upper-to middling-ranked kitchen. While I recognize the irony in calling these technologies by a French name, I will refer to them as the *batterie de cuisine*, a term that technically refers to the increase in domesticated technologies and cookware that occurred in eighteenth-century France. The *batterie de cuisine* in France represented a very different network of political, economic, and cultural actors that shaped the manufacture, type of metal, availability, and design

of the cookware that comprised it. In England, the eighteenth-century *batterie de cuisine* was impacted by the developments in domestic manufacturing, the complex political relationships with France that resulted in the emulation of and distancing from French cooking techniques, and the distinct cultural developments in taste and cuisine that, for example, favored boiled puddings over pastries. To illustrate the difficulties in not having a single, overarching term for this category, I refer you to Rosemary Weinstein’s chapter “Kitchen Chattels: the Evolution of Familiar Objects 1200-1700” in which she refers to “metal cooking pots,” “cooking vessel shaped like an open bowl on three bow legs,” “circular chafing dishes,” “cooking aids,” “skillets or pipkins,” “pottery cooking pots” and “bronze cooking vessels.”⁶²² One can see how difficult it is to quickly identify all technologies and instruments related to the cooking process within the eighteenth-century context. It is interesting that the British did not opt to formalize all cooking vessels and aids under some overarching term as the French did. While I can only speculate, it could perhaps be linked to a lack of a guild of cooking in England, that might otherwise have regulated not only cooking practices but also instruments of the trade.

While metal cookware was used before the eighteenth century, operating and running a kitchen that used an assortment of pots and pans required the housewife to develop a working understanding of the uses and care of these instruments. By the 1720s even the poorest families could afford tin plate-ware and more than a single pot to cook in.⁶²³ The Peworth house, on the other hand, went from five small brass skillets and nine stock pots in 1632 to twenty-four large stew pans, twelve small stew pans, and nine saucepans.⁶²⁴ This domestication of metal cookware represents the presence of broader industrial and technological processes in the kitchen. As

⁶²² Weinstein “Kitchen Chattels”, 169–171.

⁶²³ Pennell, “Material Culture in Seventeenth-Century Britain”. The Matter of Domestic Consumption,” 73.

⁶²⁴ Wilson, *Consider the Fork: A History of How We Cook and Eat*, 22.

kitchens and cookery books incorporated these new technologies, they became dependent upon the industrial and market practices that made them available. Without a secure or steady supply of replacement pans, technological maintenance such as re-tinning and cleaning cookware became an important and significant part of the housewife's duties.⁶²⁵ Although tinkers and other contracted workers were called upon to fix or re-tin implements, knowing when to have a pan re-tinned, how to care for it to increase its lifespan, and when it was necessary to buy a new one, were all responsibilities of the housewife.

The New Method of Cookery: Domestic Literacies and Kitchen Technologies

The housewife also needed to know how to use the pans in her *batterie de cuisine* that did not need to be repaired. Just as housewives gained scientific knowledge through observation and experience, they also had the opportunity to glean technological know-how when using the various instruments within the kitchen system.⁶²⁶ The increased access to cookware and the creation of different types of pans led to an improved awareness of the processes at work in the kitchen. Although no formal experimental investigations were conducted, through experience an adept housewife or cook noticed small and subtle differences between how long it took water to boil in the different pans they used or how quickly batter in a frying pan burned and adapted their choice of pan accordingly.

As an example of the technological know-how that was being brought into existence, the manipulation of heat is an apt one. Knowing not to touch the hot end of the pan, and pan design

⁶²⁵ Pennell, "Material Culture in Seventeenth-Century Britain," *The Matter of Domestic Consumption*, 78.

⁶²⁶ Take, for example, the impact of volume on heat transference and the rate at which water boiled. Chemists such as Joseph Black in Scotland recognized that the size of a container impacted how quickly water boiled and devised experiments to quantify this observation (Hankins and Hankins, *Science and the Enlightenment*, 86.). The observations that led to these scientific endeavors were equally applicable within the domestic setting

intended to prevent heat from traveling up the handle, certainly was not novel in the eighteenth century, but anyone who has left a metal pan over the fire with the handle sticking over it knows that it not only conducts heat but can get hot enough to burn, necessarily grasping how heat is conducted and dispersed. As I will discuss in this chapter, mid-eighteenth-century women in the kitchen certainly developed a working theory of heat, and one that they would have been able to recognize in scientific explanations of heat if they had been exposed to them in public lectures or through discussion.⁶²⁷ Their tacit understanding of such phenomena was developed through experience, and a working understanding of heat could be acquired even if parts of the “principles” they established were black boxed⁶²⁸.

While there are certain terms that relate to techniques or to cooking, the everyday nature of cooking itself makes it difficult to record. Take the example of frying a pancake. Today, I walk into my kitchen, turn on one of the burners on my electric oven, grab a pan from the cabinet or dishwasher and place it directly on the stovetop. Once it is warm, I pour in the batter (I actually use a measuring cup because I tend to make gluten-free protein pancakes and need to be able to count the amount of protein in each serving), and once it starts to bubble, I use a plastic spatula to flip the pancake. This explanation of how I make a pancake sounds reasonable, and yet at no point do I explain that I pick up the pan by its handle, or that I do not leave the measuring cup in the pan with the batter as it cooks. I leave out the fact that if the batter is particularly lumpy, I pick up the pan by the handle and gently shake it to disperse the batter before returning it to the heat. I could go on. There are myriad ways in which I could make small adjustments or

⁶²⁷ Women did have extra-institutional opportunities for social learning provided through museums, public lectures, and social exchange within coffeehouses, societies or even polite social gatherings.

⁶²⁸ Black boxed is a term used in the history of science and technology (notably Bruno Latour) wherein the scientific or technological knowledge that makes something possible is “made invisible by its own success” Latour, *Pandora’s Hope: Essays on the Reality of Science Studies*, 304.

modifications to the cooking process that I could improve. There are also some key tells in the above explanation that place me within a general twenty-first-century context. My reference to protein pancakes and the counting of macronutrients, the presence of a dishwasher, the plastic spatula and the electric oven, all help to place me in my context, even if they offer little to no help in understanding how I am actually cooking my pancake.

The same is true of an eighteenth-century pancake recipe. The disadvantage, however, is that there is no additional narrative, no prelude to explain why the cook is cooking pancakes or where she grabs the pan. We start, instead, directly in the middle, with the directions included by the recipe.

*The Hertforshire plain cheap Pancakes for Farmers Families, &c—Are made with wheaten Flower, Milk, Eggs, and powder'd Ginger. To a Pottle of Wheat-Flower, they put two Quarts of new Milk, four Eggs, and some powdered Ginger; these they stir together into a Batter Consistence, and fry them in Hogslard; when one Side of the Pancake is fried enough, our Housewife, or her Maid-Servant, turns it in a clever Manner, by giving it only a Toss with the Frying-pan, and when this is dexterously done, it is the best Way of turning them. Thus she goes on frying Pancake after Pancake, and as she lays them one upon another, in a Platter of Dish, she sprinkles some coarse Sugar for their Sauce.*⁶²⁹

There are definitely similarities in terms of technology, which is to be expected given that the frying pan has not changed in form or function over the centuries. The housewife pours the batter into the pan, watches until one side is cooked “enough” and then tosses the pancake in the pan.⁶³⁰ There are no plastic spatulas, no discussion of the fire or the heat. What is notable is the ability to “cleverly” turn the pancakes; notable enough that Ellis devotes an extra line to it and suggests

⁶²⁹ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 28.

⁶³⁰ It is worth noting a transition from “enough” to “well cooked and wholesome” toward the end of the eighteenth century Wolf, *As Various as Their Lands: The Everyday Lives of Eighteenth-Century Americans(p)*, 93–94.

that it is the best way of turning them.⁶³¹ While Ellis' commentary on its own is not enough to support evidence for dating pancake flipping in pans, this passage does reveal how difficult deciphering lived experiences from recipe books can be for historians attempting to understand the technological literacies of daily eighteenth-century life. The degree to which some practices have been black boxed, from how to know when a pancake "is enough", to where or how close to the fire to place the pan, reveals the presence of knowledge without any of its specifics.

Confectionary recipes, on the other hand, offer far greater detail than contemporary mid-eighteenth-century general cooking books. Edward Lambert's recipe "To make Orange-Flower-Cakes" specifies how long to soak orange flower leaves, and explains how to dry them, and offers suggestions on how to grind sugar, as well as how to mold the cakes into a defined shape.

The full recipe for Orange-Flower-Cakes is as follows:

Take four Ounces of the Leaves of Orange-Flowers, put them into fair Water for about an Hour, then drain them and put them between two Napkins, and with a Rolling-pin roll them till they are bruised; then have ready boiled one Pound of Double-refined-sugar to a bloom Degree; put in the Flowers, and boil it till it comes to the same Degree again, then remove it from the Fire, and let it cool a little; then with a Spoon grind the Sugar to the Bottom or Sides of the Pan, and when it becomes white, pour it into little Papers or Cards, made in the Form of a Dripping-pan; when quite cold, take them out of the Pans, and dry them a little in a Stove.⁶³²

Yet once again, the description of how to boil the sugar, or how to regulate the heat of the fire, stove, or water is missing. Does it matter if the spoon is metal or wooden? Thanks to amateur and avocational historians, antique collectors, and academic historians we know that there were

⁶³¹ Flipping pancakes was not a necessity. Ellis includes an "older" recipe for pancakes that are more like modern crepes. The recipe instructs to "spread the Batter as thin as possible each Time you fry" so that it does not need to be turned. Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 30–31.

⁶³² Lambert, *The Art of Confectionary ... Also How to Make All Sorts of Biscakes ... The Second Edition*, 37.

both metal and wooden spoons available to an eighteenth-century housewife, yet no mention is made as to which spoon is preferable, whether the metal spoon might conduct heat, or even if it might potentially scrape and eventually damage the pan itself.⁶³³ It is the case that a general working knowledge of the properties of heated metals and how they reacted to acidity became part of a capable housewife's arsenal. Maintenance of pans included a working knowledge of what ingredients were corrosive and how they reacted to different metals. Although fear of corroding a pan is not relevant when boiling puddings in water, cookery-books and household manuals do include warnings against the use of acids within copper pans.⁶³⁴ These are starting

The following forms a complete Set, which will be replaced with new for 2 l. 2 s. per ann.

	l. s. d.		l. s. d.
Tea-kettle	o 5 o	Bread grater	o 1 o
Coffee and Chocolate pots and mill	o 6 o	Flour and pepper box	o 1 6
Set of saucepans	1 1 o	Dripping pan and batter	o 5 o
Set of stewpans	1 5 o	Slice and gravy spoon	o 3 o
Set of soup pots	1 3 o	Skimmer and ladle	o 3 o
Cup or fish-kettle	o 14 o	Set of skewers	o 2 o
Turbot ditto B.T.	o 14 o	Two tart and 12 patty-pans	o 5 6
L. Boiling pot B.T.	o 12 o	Six table, one egg-spoon	o 4 6
Dutch Oven, B.T.	o 4 6	Two scollops, and tinder-box	o 2 o
Cheese-toaster, B.T.	o 3 6		8 8 o
Cullender & beer pot	o 2 6		
Frying-pan and gridiron	o 6 6		
Spice-box and grater	o 3 6		

N.B. The sets of Iron Furniture consist of the same number of articles, and such as are not made of iron are filled up with Block Tin. Families in the country, wishing to be served with any of the above, will have their orders punctually executed, and the Tin Ware will be sent, free of carriage. Warm and Cold Baths to sell and let.

Figure 10 Advertisement for kitchen sets

points for identifying the kinds of particular knowledge that was learned in daily cooking.

Pots and pans were not the only technological items present in mid-eighteenth-century kitchens, as can be seen in this advertisement which offers prices for a “complete Set.” What this list implies is that at minimum a household was expected to stock a number of

different pans, pots, graters, spoons and additional items.

⁶³³ Amateur resources include “Decorative Antiques UK”; Jas Townsend & Son Inc., “Utensils”; “Meb’s Kitchenware”; Bryan, “Some Preservation Work on 18th Century Knives, Spoons, and Thimbles from Byrnside’s Fort”; “Early British Table Silver: A Short History.”

⁶³⁴ Sweden even banned copper cook pots in its armed services McGee, *On Food and Cooking: The Science and Lore of the Kitchen*, 280.

Another example technological literacy demonstrated by eighteenth-century cookbook readers is captured in the following instructions for using a whisk. In a recipe for “whipt syllabubs,” a dish that originated in the seventeenth century, Glasse instructs her reader to “whip it up with a whisk, and some lemon-peel tied in the middle of the whisk.”⁶³⁵ Here, no direction or instruction is given for the technical mastery of the whisk, but Glasse does explain how to infuse the syllabub with lemon by tying the peel to the whisk during the mixing process. In a recipe for making icing (“to ice a great cake”) Glasse instructs her reader to take “a deep earthen pan, and with a whisk whisk it well for two or three hours together till it looks white and thick, then with a thin broad board or bunch of feathers spread it all over the top and sides of the cake...”⁶³⁶ Once again, while Glasse includes a great number of details, from using an earthen pan, to spreading the icing with feathers or a thin board, she does not explain *how* to whisk. As I described in the prologue to the dissertation, amateur re-creation accounts of mixing or whisking the twenty-four eggs required by this recipe is a strenuous activity, and one that was apparently spread over two to three hours. The sheer quantity of ingredients, coupled with the physical labor of whisking for so long begs the question as to whether the women the housewives employed were simply massively strong with incredible forearm grip, or whether whisking was conducted slightly differently, perhaps with breaks built in, by taking turns, or in motions that were less strenuous on the wrist.⁶³⁷ What we can know, however, is that whisking, just like frying, had been black boxed to some degree. Housewives and readers of the cookbooks would have learned from

⁶³⁵ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 284. For more about syllabubs see Jaine, *Taste: Proceedings of the Oxford Symposium on Food and Cookery*, 80.

⁶³⁶ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 272.

⁶³⁷ I have no historical evidence to say one way or the other. The women in the kitchen would certainly have needed to be strong to haul water, scrub the giant pots regularly with sand, and conduct any number of laborious activities as part of their daily tasks.

experience or through observation how to use these technologies that were a crucial part of the mid-eighteenth-century kitchen system.

The everyday production of food within an efficient kitchen required the development of a variety of domestic literacies. Cookery books, although they mention techniques or even cook times, did so with the expectation that these times were more on the order of general suggestions than exact guidelines. The cook or housewife was expected to know how to adapt the recipes for the idiosyncrasies of their own kitchen technologies. A housewife could not substitute an iron frying pan with an earthenware pan if she was to make pancakes, just as she may not want to substitute a whisk with a spoon if she was planning on creating a whipped, airy texture. Substituting one technology for another, therefore, was not only a matter of which instrument was clean and available, and which were already being used, but it drew upon a working understanding of the function, role and purpose of that technology.

Order in the Kitchen

While substitution in theory would have allowed the housewife to trade one pan for another, in reality not all items were available at all times. The demands of cooking, cleaning and upkeep also required the housewife to develop a nuanced understanding of the kitchen as a system. The modern view of cooking misses the larger ecosystem of the kitchen itself because adapting kitchen practices is so easy. The bowls are dirty? Turn to the sink, a measured and optimized distance away from your counter, and rinse one off. You need to bake a pie? Preheat the oven and then set a timer for when it is done. Better yet use the cook time feature and have the oven turn itself off. Machine-regulated temperatures, the immediate availability of running water, and the existence of modern appliances designed to make cooking almost instantaneous, all are features of a twenty-first-century kitchen that lead us to overlook the ways in which

cooking in the eighteenth-century was heavily dependent upon a more laborious and complex set of daily functions of the kitchen system.

The kitchen was more than just a place for cooking, it was also a space on display. Visitors to country estates could visit the kitchen and see the hearth and *batterie de cuisine*. The interior of the kitchen would be compared to those of other middling-to upper-ranked households and would also be compared to idealized depictions of kitchens found in paintings and printed texts. Pennell mentions the difficulties of eighteenth-century kitchens actually meeting their literary and illustrated archetypes. The imagined clean surfaces would have required constant cleaning even without the chaos that was planning and managing the cooking of multiple meals with a mass of utensils.⁶³⁸ This expectation of a clean kitchen was nonetheless present. Cleland reminds the reader that when making pickles “Let your Brass Pan for any Pickles be very bright and clean, and your Pan for white Pickles well tinned.”⁶³⁹ As mentioned above, while cleaning or re-tinning would not have been the housewife’s direct responsibility (it would have fallen to servants or tinkers respectively) ensuring the kitchen and its *batterie de cuisine* was clean and in working order was. Kitchen order, and the management of kitchen functions which included cleaning, mending, and planning all would have impacted the way in which the eighteenth-century housewife cooked.

The upkeep of the kitchen would have determined the base availability of different kitchen utensils and technologies. While mending is perhaps self-explanatory, cleaning took more time and kept items out of commission for far longer than by modern standards. Cleaning pots was neither quick nor efficient. To keep the iron in the kitchen from rusting, housewives

⁶³⁸ Pennell, *The Birth of the English Kitchen, 1600-1850*, 34.

⁶³⁹ Cleland, *A New and Easy Method of Cookery: Treating, I. Of Gravies, Soups, Broths, &c. II. Of Fish, and Their Sauces. III. To Pot and Make Hams, &c. IV. Of Pies, Pasties, &c. V. Of Pickling and Preserving. VI. Of Made Wines, Distilling and Brewing, &c.*, 164.

also needed to regularly take lead filings or “dust of lead” and mix it with “oil of spike” to then oil the items.⁶⁴⁰ It is likely that oiling pots or pans was done in the evenings since they would be needed during the day. Even if they were already oiled, pots and pans needed to be cleaned. To clean them with water, water would need to be fetched, or the pots would need to be taken to a water source.⁶⁴¹ To clean with hot water, a place at the hearth would need to be made to heat the water for cleaning. As an alternative, sand was often used to clean these large pots.⁶⁴² Granite powder, straw, wood ashes and bran were also used, the latter three especially in the countryside. A 1755 poem describes the washing of plates using bran and hot water:

...but now her dish-kettle began
 To boil and blubber with the foaming bran.
 The greasy apron round her hips she ties
 And to each platelet he scalding clout applies
 The puring bath each glowing dish refines,
 And once again the polish'd pewter shines⁶⁴³

Such maneuvers were linked to other ends as well, as feminist historian Bridget Hill explains, not only did the bran absorb grease, but it could be fed to the pigs once the cleaning was done.⁶⁴⁴ Whether or not a middling-ranked household opted for heating water, or used sand or bran for cleaning, what is important in this context is the requisitioning of the pot to wash the dishes in. In less affluent households the large iron or copper pots used to cook were also used for washing clothes.⁶⁴⁵ The cleaning tasks of the household, let alone the cleaning process for the pots

⁶⁴⁰ Glasse “to keep arms, iron, or steel from rusting” Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 366.. Spike oil is a kind of lavender oil. It is worth noting that this would need to be done almost every time they were used. After recently getting into armored combat, even one fight in armor requires that the armor be oiled to prevent rust.

⁶⁴¹ Hill, “Women, Work and Sexual Politics In Eighteenth-Century England.”

⁶⁴² Olsen, *Daily Life in 18th-Century England, 2nd Edition*, 86.

⁶⁴³ Black et al., *The Broadview Anthology of British Literature: Volume 3: The Restoration and the Eighteenth Century - Second Edition*, 92.

⁶⁴⁴ Hill, “Women, Work and Sexual Politics In Eighteenth-Century England.”

⁶⁴⁵ Hill.

themselves, meant that not all of the *batterie de cuisine* was actually available to the housewife to use for the daily cooking preparations.

Even if the entire *batterie de cuisine* was somehow available, the housewife's daily tasks were inextricably linked to and restricted by the oven's natural heat cycle. Food preparation needed to be planned in an orderly fashion around the behavior of ovens in varying circumstances. The temperature of the oven played a significant role in determining what could be cooked in it. The oven, as such a large fuel burner, could not easily be cooled and heated at will, and so the natural cycle of the oven's heating and eventual cooling needed to be used to the cook's advantage. While the heat and cycles of ovens ranged based on their design and fuel -- brick ovens heating "sooner and better" than stone ovens -- there were still some general characteristics of ovens that housewives needed to take into consideration.⁶⁴⁶ When the oven was cooling or warming items like cakes or rolls could be inserted to diminish their risk of burning and allow for their gradual cooking. These items could also be baked at the oven's mouth or in a "little oven."⁶⁴⁷ The little ovens were more or less Dutch ovens- the bread was put in a large kettle, placed on the hearth, and then covered with straw which was burned around the kettle to create an even heat on all sides.⁶⁴⁸ The cooling and warming period of the oven, however, was likely more efficient for the baking of these smaller items than constantly creating Dutch ovens with the household's kettles.

⁶⁴⁶ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 187.

⁶⁴⁷ Ellis, 192–193.

⁶⁴⁸ Ellis, 197.

Once the oven was hot enough, pies, meat items or large bread loaves could be added and baked for a few hours.⁶⁴⁹ Of course, as Ellis points out, heating the oven caused “Expense and Trouble”, so it is for these more substantial items that the oven would have been lit in the first place.⁶⁵⁰ As such the housewife needed to determine if use of the oven was even necessary, and then plan her cooking accordingly to ensure not only that the preparation of food would fit the oven’s heat cycle, but that the food was cooked in an order that would make it available when it was expected. For feast days, therefore, or when the household was entertaining guests, the nuanced kitchen system needed to be planned, organized, and prioritized.

Of course, the oven wasn’t used for baking alone. The oven and hearth had secondary uses in daily kitchen maintenance and practices as with meat being hung in the chimney so that it could be dried and smoked.⁶⁵¹ Ellis also instructs the housewife to regularly heat a stick at the fire and insert it into her sacks of grain so that they may stay dry and not spoil.⁶⁵² The hearth itself would need to be lit for a Dutch oven, even if the larger oven itself were not lit. It is here we come to the question of the nature of “daily” when it comes to the eighteenth-century kitchen system. For while the oven was likely used on a weekly basis, there is nothing to say it was used every day, nor even any evidence it was used weekly. For households with access to a nearby urban center, it may have been just as easy, and even more cost-efficient, to purchase their bread

⁶⁴⁹ Ellis, 192. Ellis also mentions a moderate heated oven for apple pye. Ellis, 42.

⁶⁵⁰ By substantial, I mean dishes that were key staples within the diet. This also would have extended to any kind of meat to be served to guests. Side dishes or pancakes, however, probably would not have been worth the effort. Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 197.

⁶⁵¹ Ellis, 96.

⁶⁵² Ellis multi use of ovens :“And that this Piece of good Housewifery may be performed the more effectual (drying a sack of wheat with a stick in it that she turns twice a week), my Advice is, that every Time our Housewife bakes, and a soon as the Bread is drawn, she take the Stick out of the Sack, and heat it in the Oven, and when it is hot, that she thrust it down again into the Middle of the Sack, as before” Ellis, 5.

rather than making it themselves. So, while the oven certainly would have regulated the order of dishes, and which pans or pots were used for the pies, and later for the cakes or rolls, it did not always dictate the availability of what kitchen instruments needed to be at the ready.

One truly daily dish that helps to illuminate the need for flexibility within the use of eighteenth-century kitchen technologies is the pudding. Puddings were a staple of the eighteenth-century daily diet, suitable for “richer” households as well as “poorer” archetypes such as the Yeoman farmer.⁶⁵³ Puddings today continue to be dishes that are linked to British culture and heritage, with Yorkshire puddings, sticky toffee puddings, and even bread and rice puddings continuing to be a classic symbol of British food.

Puddings were one of the few dishes that were cooked for multiple different meals. Breakfast was taken around 9:30 or 10:00 am and usually consisted of tea or chocolate, breads, or muffins in Northern England and oatmeal for the lower-ranked households.⁶⁵⁴ Dinner, taken around 4:00 pm or later was often the main meal of the day.⁶⁵⁵ The foods served for this meal were hot and were frequently the ones focused on entertaining. Supper, later in the evening, often consisted of cold dishes, or leftovers that had been transformed until they were not readily recognizable from the earlier meal.⁶⁵⁶ For the middling-to upper-ranked households, puddings were served either as side dishes, prepared to accompany other made dishes from the kitchen, or they were prepared as the sole meal for staff or seasonal workers.⁶⁵⁷ Puddings, however, could be

⁶⁵³ . Wilson, Wilson, and Wilson, *England's Apprenticeship, 1603-1763*, 15.

⁶⁵⁴ Christie, *The British Country House in the Eighteenth Century*, 293.

⁶⁵⁵ Christie, 293.

⁶⁵⁶ Christie, 293.

⁶⁵⁷ Ellis notes that this victualizes a buckinghamshire farmer's family. Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 36.

served at any of these meals -- at breakfast baked in place of spiced bread, at dinner as a side dish, or for supper, or with the meats or fruits served earlier in the day mixed into the batter and transformed into a new dish with new flavors.

Puddings were particularly versatile, not only because they could be made appropriate for any occasion, but because their nature allowed them to work into the housewife's planning of the larger kitchen system. Recipes for puddings, while they may recommend boiling or baking, start out with the same ingredients, and often also include the choice for the housewife to boil or bake as she sees fit. The choice between boiling or baking a pudding is instructive. While the ingredients for an apple pudding are the same (indeed Ellis offers a number of pudding recipes "to bake or boil") the choice between baking or boiling required the housewife to launch an assessment and make a number of decisions.⁶⁵⁸ To even contemplate making a pudding, the housewife needed to be sure that either a pot was available, or that the oven was in working order. This requirement meant that pots had been checked for damage and re-tinned as required and that the oven, if the household had one, worked well enough to maintain a relatively steady heat and that there was enough fuel available to maintain it. The cooking of a pudding also relied upon the rest of the activities occurring within the kitchen. The availability of the pot hinged upon how many pots the household owned and how many were already being used. Pots that had recently been used were also unavailable because cleaning pans often involved scrubbing them down with sand, and could take a considerable amount of time.⁶⁵⁹ Additionally, drawing upon the French culinary tradition, certain pots or saucepans were only considered appropriate for

⁶⁵⁸ Ellis, 34.

⁶⁵⁹ Seymour, *The National Trust Book of Forgotten Household Crafts*, 50; Olsen, *Daily Life in 18th-Century England*, 2nd Edition, 86.

cooking specific dishes.⁶⁶⁰ While in practice, the rules for which pot or saucepan was appropriate for what dish was probably adapted for what cookware was readily available, the mixing of multiple flavors as had been common in single-pot cooking was now avoided. Combining dishes of distinct flavors, therefore, would not have been an option and would have limited cookware availability. The choice to bake or boil a pudding therefore was by no means a simple one. The housewife would need to survey her kitchen, determine what she was cooking, for whom, and at what meal, and then prioritize the use of her available cookware for main dishes or dishes that required a hot oven, working down to the remaining *batterie de cuisine* to see if she had the necessary technologies in working order for either baking or boiling the pudding. It is this allowance for decision making, the need for domestic technological and scientific literacies, that makes the housewife's role in eighteenth-century cooking so interesting. She was not just following recipes. She could not just wash off a pot and boil a pudding. Her actions required knowledge, foresight, and experience.

Theories for Cooking: The Kitchen as a Laboratory⁶⁶¹

In determining what, exactly, were eighteenth-century kitchen practices, the historian encounters a number of methodological obstacles. Cooking theories and practices did not

⁶⁶⁰ Pots or pans for a particular purpose can be seen throughout history, however the notion of a saucepan requires the distinct separation of sauce as a concept Jaïne, *Oxford Symposium on Food & Cookery, 1988: The Cooking Pot : Proceedings*, 172.

⁶⁶¹ The laboratory analogy works well for the eighteenth-century kitchen, for while many of the instruments of a chemical or natural philosophical laboratory had not changed significantly, the questions enlightenment philosophers asked, their methodologies and subjects of inquiry were certainly products of their context. There is no question that although eighteenth-century natural philosophers were working with equipment that may have been invented in earlier centuries, their theories and work was firmly rooted in questions and ways of thinking indicative of their Enlightenment context. So too, I argue that while eighteenth centuries were composed of a mix of older and newer technologies, the method of cooking conducted within them was firmly rooted in its eighteenth-century context. Theories of cooking and the mix of experience and theory that impacted practice transformed the mid-eighteenth-century kitchen into an area of inquiry and a source of knowledge for both the women managing it and for historians looking back.

undergo some kind of overarching or all-encompassing revolution that might provide a clearly distinguishable timeline. While mid-eighteenth-century kitchen practices were a product of their mid-eighteenth-century contexts, defining what the rationales and motivations for deploying them must also incorporate which external contextual actors influenced kitchen literacies.⁶⁶² As mentioned earlier, another problem that impacts historians' work in contextualizing mid-eighteenth-century cooking practices lies in the fact that there was a strong continued presence of older technologies and systems. The spit roast, for example, where meat was hung over a roaring fire pit and turned on occasion, had changed little from the middle ages.⁶⁶³ The presence of the spit roast in cookbooks might signify that households had not yet adopted the new framework that the hearth-based newer method of cooking proposed. Spit roasting could take place quite literally outside the kitchen space.

The complicating aspect of the continued presence and use of older technologies and systems is one that comes from a revisionist approach to the history of technology, and one that historians of technology have addressed. If we assume, according to conventional thinking, that technological change is always progressive and linear, then the new method of cookery would need to be better, to supersede the old system and to wipe it out in some kind of Darwinian evolution. However, historians of technology have demonstrated that this kind of narrative is the

⁶⁶² It is also worth noting another historiographical issue mentioned in the second chapter: namely that of the reliability of the cookbooks. The audience for these cookbooks was very broad, for the middling sort they were intended for covers a great range of British social ranks, who depending on their capital and means may not have had the luxury to swap over to the "new method of cookery" espoused in these period cookbooks. Authors had to assume that while it was perhaps fashionable to have twenty-four stew pans and nine saucepans, not all of their audience would have so many pans and may have to re-use or get creative with what and when they cooked. There was no standard minimum for kitchens, no guarantee that their audience had made the full shift to an enclosed indoor fireplace and chimney set up. So, while the recipes call for certain pans or states of flame that suggest an enclosed fireplace, a particularly smart and resourceful cook could probably adapt the older firepit system to working within this new method of cookery.

⁶⁶³ Beeton, *Mrs Beeton's Book of Household Management: Abridged Edition*, xxviii–xxix. It is worth noting that Benjamin Franklin did attempt to improve upon spit roasting. In 1749 he proposed an electrical spit that would kill a turkey by means of an electrical charge (Hoyt, *A Short History of Science: Modern Science: From the Middle Ages to the Present*, 155.)

outlier and not the norm.⁶⁶⁴ It is actually quite common for older technologies to coexist with the new, for the adoption of technologies to be slow and fitful, and for change to happen not because the new system is necessarily better, but due to the impact of a number of actors deciding in favor of one option over another (whether due to availability of resources or to public opinion and beliefs).⁶⁶⁵ Fitting examples from the present day are micro-brewing and molecular gastronomy. Although both are inventions of the past century that have been considered revolutionary --and certainly require modern technologies such as liquid nitrogen or food dehydrators --I do not know a single person who only eats food and beverages prepared this way. The truth is even a molecular gastronomist is exposed to non-deconstructed food and may very well eat less “scientific” foods as well. The presence and adoption of medieval and even seventeenth-century technologies therefore, from spit roasts to tea kettles or frying pans, does not mean that there was not a system of cooking specific to the mid-eighteenth century.

Not only were older technologies still pervasive, but many of them were used to make uniquely mid-eighteenth-century dishes.⁶⁶⁶ When analyzing kitchen inventories from this period, it would appear that almost nothing had changed, short of an increase in the number of pots and pans. This surface level lack of change is not problematic if the historian can identify a new method or rationale that influenced kitchen decisions. The process of creating a hermetic seal, for

⁶⁶⁴ Cozzens et al., “The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology,” 69.

⁶⁶⁵ Example of a- electric lighting and the mess of coal, to b, the microwave adoption people’s fears about it and how it was domesticated in a way other than was intended, also maybe the evolution of plastic

⁶⁶⁶ Technologies were not the only example of the presence of older and competing theories. Medical uses of the kitchen also share this strange relationship, for while kitchens and eating have inextricably been linked to science, yet their relationship waxes and wanes. Within Galenic medicine, the kitchen and one’s diet was paramount for the maintenance of good health. With the professionalization of medicine and rise of chemical solutions and apothecaries, some medicine and science moved out of the kitchen, but home remedies remained, and can even be found in these mid eighteenth-century cookbooks. Even today diet is considered a key part of a treatment plan for Diabetes as insulin and medication (Blackburn, “Diet, Exercise, and Behavioral Treatment of Obesity.”).And yet kitchen practices and theories are seen as secondary, influenced by the trickling down of medical and scientific knowledge rather than helping to construct and support them in their own right.

example, had not changed from the sixteenth century to the eighteenth century, but newer theories of a vacuum differentiated the use of the seal within eighteenth-century practice. It is incumbent upon the historian, therefore, to piece together the theories and rationales behind daily kitchen operations to determine whether the “new method of cookery” was indeed new.

When using this lens to examine kitchen practices, it is important to realize that not all kitchen technologies and instruments will be significant. Today, a modern kitchen may be identified by a microwave, dishwasher, refrigerator, and an assortment of electronic kitchen gadgets such as blenders, slow cookers, or crock pots. However, that kitchen is no less modern for the presence of a wooden spoon or a hand whisk. The way in which the kitchen operates, the dependency on the microwave to reheat food, the use of Tupperware to store it in the refrigerator, and the tendency of the “chef” to look up slow cooker recipes on Pinterest all help to characterize the kitchen and its practices within its twenty-first-century context. The same can be said for the continued presence of wooden whisks, assorted jars, the gridiron or the tea kettle, the use of which changed little from their first introduction before the eighteenth century until long after the 1750s.

The truth is that the beauty of the kitchen in terms of its fluidity in negotiating the boundaries between public and private also happens to make it particularly difficult to pinpoint and assign to it any single theory of operation. The nature of the kitchen itself is perhaps to blame. At the end of the day (and the beginning) the purpose of the kitchen is to feed the household, to provide food that they will eat, no matter what theory or theories govern its preparation. The very concept of daily practices is suspect, for what was cooked on any given day was likely to change based on seasonal ingredient availability, the family’s credit and access to the market, tradesmen or grocers, and the tastes and preferences of both the household and any

guests they may be entertaining.⁶⁶⁷ In urban centers, customers could even bring food to an inn to prepare.⁶⁶⁸ The overall system of cooking for the mid-eighteenth century relied on an assortment of technologies, practices and concepts.

Specifically, for the eighteenth century, the adoption of the ‘new method of cookery’ did not need to happen. With the antagonistic relations with France, the British could have in truth stuck with the Roast Beef of Ye Olde England and continued to boil, steam, and roast the majority of their foods. They could have continued to eat seasonally, buy imported ingredients, and cook in kitchens unattached to the main house. Indeed, in America, the older method of cookery prevailed until the nineteenth century. Nonetheless there are factors that set mid-eighteenth-century cooking apart from what came before and shaped what came after, particularly changes in how certain dishes were cooked, and the larger theories and operation of the kitchen system as a whole that influenced these changes. These changes in the mid-eighteenth-century kitchen practice tend to be linked to these three important features: heat, transformation, and preservation.

Heat

Theories of heat were heavily impacted by eighteenth-century Enlightenment philosophical and scientific inquiry into thermodynamics. The study of heat and its byproducts (including smoke) was the subject of numerous treatises and discussions. In the kitchen, not only was heat relevant in terms of cooking and cook fires, but heat also impacted boiling points and

⁶⁶⁷ Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830*, 215.

⁶⁶⁸ Olsen, *Daily Life in 18th-Century England, 2nd Edition*, 237.

times, and required a greater discussion of gasses, the nature of states (solid, liquid, gas) and the classification not only of ingredients but of mixture of ingredients into these categories.

While heat was the subject of inquiry of many Enlightenment natural philosophers, the



Figure 11 *Experiment on a Bird in the Air Pump* (1768)

extent to which theories of heat “trickled down” or entered the kitchen are less clear. The audience that ranges in age and gender displayed in “An Experiment on a Bird in the Air Pump,” for example, reveals that even members of the Lunar Society believed that scientific discussion and experiments were appropriate for mixed company and might

possibly be re-created at one’s home, perhaps after supper.⁶⁶⁹ Science was pervasive, from the 1755 statue by Roubiliac of Newton at Trinity College, Cambridge, to public experiments and lectures, to the popular visitation of curiosity cabinets, and there was no lack of opportunity to glean some understanding of the core Enlightenment scientific principles and questions.⁶⁷⁰

This exposure of women to science was by no means a new or novel outcome of the eighteenth century. In the seventeenth century, scientific ideas were discussed in public coffee houses, museums like the Ashmolean in Oxford were opened to the general public (including women) and some degree of public lecturing also was present.⁶⁷¹ Women went on geological excursions with their families and looked for fossils by the coast.⁶⁷² They visited private

⁶⁶⁹ Joseph Wright of Derby “An Experiment on a Bird in the Air Pump” 1768

⁶⁷⁰ For more on public opportunities see Blondel, “Science and Spectacle in the European Enlightenment.” The introduction as well as a number of essays included in this edited volume look at spectacle opportunities related to public audiences and to some degree education.

⁶⁷¹ Porter, “Science, Provincial Culture and Public Opinion in Enlightenment England,” 33; Fyfe and Lightman, *Science in the Marketplace*, 276-280.

⁶⁷² O’Connor, “Facts and Fancies,” 31.

curiosity cabinets and frequented public museums. They may even have borrowed scientific books from lending libraries (although on the whole, the libraries tended to be filled with novellas).⁶⁷³ And while literacy rates were not historically high, the middling-ranked ladies for whom the cookery books were advertised certainly could manage to read Algarotti's *Newtonianism for Ladies* (1737) if they could read Glasse or Ellis.⁶⁷⁴ Nor was Algarotti's book the only text on physics and science aimed at a popular audience and published during the eighteenth century.⁶⁷⁵ So, while we cannot easily trace the routes by which scientific ideas entered the kitchen, the eighteenth-century middling households certainly had opportunities to be exposed to them.

The occupying presence of women in mid-eighteenth-century kitchens fits comfortably with a wider context of women as participants in popularized science. Britain did not see the formal establishment of salons as in France, where women oversaw and patronized great scientific minds and debates, but instead saw women acting in a custodial or facilitating capacity and less as experts in their own right.⁶⁷⁶ Conversely, in France there was less of a presence of women managing kitchen operations. Perhaps it was the fact that in France scientific cooking, with its connection to thermodynamics and questions of the senses, was quickly taken over by natural philosophers, creating a community of scientifically-minded male French chefs.⁶⁷⁷ Perhaps in their political rhetoric against French aristocracy and celebration of Ye Olde Roast Beef of England, the British inadvertently created a less hierarchical community of inquiry in opposition to the more regulated avenues for inquiry of France. Regardless, British cooking

⁶⁷³ Allan, *A Nation of Readers: The Lending Library in Georgian England*, 7, 106.

⁶⁷⁴ Miller, *Reading Popular Newtonianism: Print, the Principia, and the Dissemination of Newtonian Science*.

⁶⁷⁵ Miller, *Reading Popular Newtonianism: Print, the Principia, and the Dissemination of Newtonian Science*.

⁶⁷⁶ David M. Stewart Museum, Pyenson, and Gauvin, *The Art of Teaching Physics: The Eighteenth-Century Demonstration Apparatus of Jean Antoine Nollet*, 71–77.

⁶⁷⁷ Takats, *The Expert Cook in Enlightenment France*, 119; Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830*.

offered areas of open inquiry, accessible to middling-ranked households to confront natural phenomena that were akin to those under scrutiny by the learned elite and their fellow enthusiasts.

In terms of the chymistry of the kitchen, heat is especially significant when it comes to discussions of boiling. With the increase in the number of kitchen instruments, the size, volume, and material of pots and pans also started to vary. Rather than the single pot system of the sixteenth century, wherein the majority of boiled items were boiled together, cooks could now start to compare how long an ingredient took to cook or how quickly water reached a boil in one pot over another. While cooks and housewives did not turn these observations into the same kind of rigorous scientific experiment that Joseph Black was conducting during this period in Scotland, they would have noticed that a larger volume of water took longer to boil than that in a smaller pan, or that certain ingredients cooked faster than others.⁶⁷⁸ Although Black's findings likely did not impact mid-eighteenth-century cooking as a whole, the nature of his inquiries demonstrates a need to quantify observations about boiling liquids that were as accessible within kitchens as they were in breweries or alchemical laboratories.

Indeed, boiling was a nuanced form of practical knowledge that eighteenth-century housewives were expected to master. Keep in mind that while thermometers were invented during the eighteenth century, their use of mercury and high degree of combustibility made them utterly unsuitable for domestic or culinary use.⁶⁷⁹ As such, mastery of boiling required observation, as well as the accumulation of experience to know which ingredients required more time to cook. At this point I should address the commonplace belief that, thanks in part to some

⁶⁷⁸ Hankins and Hankins, *Science and the Enlightenment*, 74.

⁶⁷⁹ Fahrenheit invented the thermometer in 1714, while in 1741 Celsius proposed the 100-degree scale. It was only in 1866 however that a thermometer was used on people by Thomas Allbut (Haven, *100 Greatest Science Inventions of All Time*, 67.).

questionable historiography, the modern historian can find commentaries that claim that the British overcooked their vegetables, boiled them to death, or “sapped food of its taste.”⁶⁸⁰ In part, this speculation has been that due to the incredibly long boiling times listed in eighteenth- and nineteenth-century recipes, that the food must certainly have been overcooked. Food historians have since concluded that these long boiling times take into account different sized pans and low fire temperatures, and therefore produce well-cooked but not overdone vegetables.⁶⁸¹ (This is not dissimilar to modern recipes that emulate this long duration, low fire method to make delicious, flavorful vegetables).⁶⁸² Although cooks and housewives may not have subjected their preparation of vegetables to the exacting standards of scientific studies to determine the exact boiling times, they nevertheless gained through practice facility in working with heat, heated bodies, and their effects, in solid, liquid and gaseous states.

Initial evidence about expectations regarding the practice of bringing items to a boil and controlling its use to produce particular outcomes is found in Glasse’s inclusion of a recipe *To make Scotch barley-broth*, in which a leg of beef is boiled with barley, celery, onions, sweet-herbs, parsley and marigolds for over an hour:

The thick flank (about six pounds to six quarts of water) makes good broth; then put the barley in with the meat, first skim it well, boil it an hour very softly, then put in the above ingredients, with turnips and carrots clean scraped and pared, and cut in little pieces. Boil all together softly, till the broth is very good; then season it with salt, and send it to table, with the beef in the middle, turnips and carrots round, and pour the broth over all.⁶⁸³

First, observe that the beef is cooked with the barley for a good hour before the vegetables were added. One could argue that as this is a broth, the vegetables could have just as easily been added

⁶⁸⁰ An example of propagating the myth in an attempt to dispel it: Hechinger, “Five Myths about British Food.”

⁶⁸¹ There is even late-eighteenth century proof that vegetables were still eaten crisp. John Farley warns against boiling too much in 1783. Porter and Roberts, *Pleasure in the Eighteenth Century*, 43.

⁶⁸² Stanek, “Be a Rebel: Cook Your Vegetables to Death.”

⁶⁸³ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 126.

from the beginning. However, since the carrots and turnips are to be displayed around the beef, they would need to be cooked, but not to such an extent that they would be broken down and disintegrate into the broth. As such, adding them after the meat has already started cooking indicates instead an awareness of the different cook times for boiling meat as compared to boiling vegetables. That combined with the “soft” descriptor, implies that the entire process had been cooked on relatively low and steady heat. This recipe presumes that the housewife understands that certain ingredients take longer to cook than others and that the success of the dish depends upon being able to differentiate amongst forms of boiling.

In contrast, Glasse offers a way *To make Norfolk dumplings* that are ready in a matter of minutes. This batter and egg-based recipe has low-density ingredients, already mixed into a paste and cooks uniformly:

MIX a good thick batter, as for pancakes; take half a pint of milk; two eggs, a little salt, and make it into a batter with flour. Have ready a clean sauce-pan of water boiling, into which drop this batter. Be sure the water boils fast, and two or three minutes will boil them; then throw them into a sieve to drain the water away, then turn them into a dish and stir a lump of fresh butter into them.⁶⁸⁴

This recipe demonstrates a counterpoint to the soft boil of the broth recipe, whereby the fast boil is presumably hotter. Unlike the lack of clear directions in terms of when the pot should be ready for the first recipe, in this one Glasse is very clear that the water already needs to be boiling before these dumplings are dropped in. Given the modern understanding of ingredients, the pancake-like batter, bound with eggs, would have created doughy dumplings that cook quickly and evenly. As a counterpoint, in a recipe on the next page for apple dumplings (where the batter is lumpy) Glasse explains that if “the apples [pared into quarters] are too large, half an hour will boil them; but if the apples be large, they will take an hour’s boiling.”⁶⁸⁵ This confirms the

⁶⁸⁴ Glasse, 221.

⁶⁸⁵ Glasse, 222.

presence of a working knowledge of heat whereby different ingredients and their size will impact how long it takes to cook them.

While direct lineages of investigations of heat by natural philosophers are difficult to trace in relation to domestic cooking, some knowledge about heat, boiling points and ingredients was circulating. The system for differentiating between different types of boiling, from soft to fast, also indicates a nuanced and practical understanding of heat and temperature, even without access to a thermometer. In Glasse's attempt to quantify these actions, rather than telling cooks to boil for a set time, she recommends they cook all manner of dishes from stewed eels and roasted veal to pancakes and tansy "till it is enough."⁶⁸⁶ Both Ellis and Glasse use this phrase, which highlights the experiential knowledge their readers are expected to have, and which establishes a literacy of heat within middling-ranked eighteenth-century households.⁶⁸⁷

Transformation

The concept of substance transformation in the eighteenth century, especially when related to food, was closely linked to theories of heat. Not only did cooks, housewives, brewers, and natural philosophers notice a difference in cook times depending on the density or type of substance, but they noticed a difference in weight, appearance and even substance state (solid, liquid, gas) as food was transformed by the heat. The baking process was very similar to the process of transmutation in alchemy. Although the cook may have followed the recipe in terms

⁶⁸⁶ Glasse, 2; 160;164;175.

⁶⁸⁷ In a recipe for a boiled plain pudding, for example, Ellis says "in about half an Hour's Time it will be enough" (Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Œconomy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 35.).

of combining ingredients, once committed to the oven, the cook could not truly tell what was happening inside the pie, and had to rely on experience, smell and color to know when it was appropriate to remove with all ingredients having been fully cooked within. Transformation, and the theories used to explain what occurred to the food when subjected to heat, helps to place these cookbooks and method of cookery firmly in the mid-eighteenth century.

The most readily observable transformation is that of the expansion or contraction of cooked substances, even to the degree that they changed their physical state. The example above of boiled pudding is relevant here as well: the *liquid* batter is poured into a cloth and put into the boiling water, yet what emerges after two hours is a *solid* pudding. Another example is that when throwing spinach into a pot a great volume of spinach will produce a very small, albeit denser final product. The transformations that occurred when these elements were subjected to heat were inseparable from theories of air during this period, as can be seen in Stephen Hale's *Vegetable Staticks* (1727) which discussed this very phenomenon, explaining that heat causes substances to expand and to release air.⁶⁸⁸ In 1732 Herman Booeerhave produced a definitive explanation of heat whereby it is proportional to temperature and volume, and by 1760 Black concluded that different substances held different affinities for heat.⁶⁸⁹ Both formal inquiry into the nature and affinity of gasses, heat and air, and the conduct of daily operations within the kitchen were concerned with the same phenomena.

Descriptions in cookbooks of common transformations offer clues to the experiential, scientific knowledge mid-eighteenth-century women utilized in the kitchen. As mentioned above, when boiling meat and greens or apples a greater cook time was required for more dense ingredients. The transformation of an ingredient when boiled from edible to soft and mushy is

⁶⁸⁸ Hankins and Hankins, *Science and the Enlightenment*, 52.

⁶⁸⁹ Hankins and Hankins, 74.

part of the reason why the less dense vegetables were added later after the barley and the meat. However, cooks could use this knowledge to their advantage to create the appropriate transformation of a given ingredient. In the case of potatoes, Ellis explains that a country cook can remove skins before boiling them “because it better prevents the Water getting into them, and makes them eat the firmer and sweeter.”⁶⁹⁰ In essence, this direction points the cook to consider changing the density of the solid to be cooked to achieve better results.

Not only did an object’s density impact the boiling process, but so too did adding salt. Ellis’s recommendations for boiling potatoes also include the recommendation that the housewife add salt and Jamaica spice in the water “for the better hardening and relishing them... but if they are to be used for puddings or any other luscious way, the salt must not be put into the water.”⁶⁹¹ While today we know that adding salt raises the boiling point of water and that it limits the starch gelatin, thereby reducing its stickiness, it is more likely that the cook has clearly observed that her potatoes cook more uniformly and taste better when salt is added and they have been peeled.⁶⁹² Interestingly the country cook in Ellis’ account opts not to use salt for potatoes that will be mashed or used for puddings.

Glasse makes infrequent use of adding salt to cooking vegetables, a substance she reserves primarily for pickling. She does have a recipe, however, “to dress French beans” where she not only soaks the beans in water and salt, but she also boils them and adds more salt to the pan when they go in.⁶⁹³ It is unclear therefore what properties salt was thought to have, but it is

⁶⁹⁰ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 227.

⁶⁹¹ Ellis, 227.

⁶⁹² Joachim David And, “The Science of Salt: The Kitchen’s Most Popular Seasoning and How It Works.”

⁶⁹³ Glasse says to “Lay them into water and salt, and when your pan boils put in some salt and the beans” (Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 17.).

very clear that attention to the solidity and state of boiled vegetables, and the impact that boiling and heat had on them was significant. If the housewife needed to substitute turnips for potatoes or carrots for French beans, she would need to know how each of her substituted ingredients would react to salt and how long or what method was appropriate to cook them.

Knowledge of transformative processes occurred not only in relation to specific circumstances but was also embedded within alchemical language, and techniques. In part the overlap in how to think about and manipulate transformations was aided by the interchangeable nature of brewing, cooking and chemical apparatus. It is also due to the fact that not only did housewives cook daily meals, but they also oversaw some degree of distilling of summer wines and vinegars, the creation of basic home remedies for cough, colic or even gout, and the making of liquors. It was also not uncommon for natural philosophers or burgeoning chemists of the eighteenth century to recruit their sisters or wives to assist them in the laboratory.⁶⁹⁴ Meredith Ray argues that even in the seventeenth century women “incorporated alchemical practice into their lives, most especially with regard to the management of the household and the care of their own bodies and their family members.”⁶⁹⁵ The alchemy of everyday life, from scientific preparation, distillation, fermentation and the application of heat and the inquiry into “marvelous secrets” all were common enough that a middling-ranked housewife might recognize some degree of alchemical process at work in her kitchen.⁶⁹⁶

In terms of creating a working theory for an understanding of how to substitute ingredients intelligently and successfully, alchemical language served as a common foundation.

⁶⁹⁴ For a fairly extensive list of women in England involved in recognized scientific pursuits see Creese, *Ladies in the Laboratory? American and British Women in Science, 1800-1900: A Survey of Their Contributions to Research*, 29–36.

⁶⁹⁵ Ray, “Experiments with Alchemy: Caterina Sforza in Early Modern Scientific Culture 1,” 141.

⁶⁹⁶ Ray, 145.

In a recipe for “Elder-berries distilled” Ellis not only includes alchemical directions, but he also includes alchemical equipment.

When the Fermentation is over distill in an Alembick by a gentle Fire, till it taste sourish. Keep this for a Fortnight close stop in a Vessel and rectify it by a second Distillation. This rectify'd Spirit of Elder cannot be taken alone, therefore must be mixed with a proper Vehicle.⁶⁹⁷

The alchemical terminology here cannot be missed. The housewife not only is expected to know how to distill a liquid, but she is to have access to an alembic, a place to store the substance for a fortnight and the time to distil it a second time. Alchemy, therefore, even if the more complex theories did not permeate into the kitchen, certainly made its way into the kitchen space.

How common was this alchemical terminology? While one could potentially write off Ellis' inclusion of such a scientific recipe to his formal academic and agricultural studies and association with philosophical societies, talking about cooking in these terms occurred in other accessible ways. A 1717 poem published in *The Art of Dress: A Poem* and reprinted in Ellis's section on apple pies makes a number of deliberate comparisons between baking an apple pie and alchemy.⁶⁹⁸ The poem starts with an elaborate history of apple pies, tracing their origins to King Coll and King Edgar and explaining how they improved with the discovery of spices and sugar.⁶⁹⁹ It continues to tell “Nellie” the housewife to use her rolling pin to make a thin crust, and to use eggs and butter to produce a puff pastry. But after explaining that she should stuff her

⁶⁹⁷ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 244.

⁶⁹⁸ Breval, *The Art of Dress: A Poem*, 27–35.

⁶⁹⁹ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 39.

pie with two types of apples, sugar, a tincture of Vermil for color, candied Peel and orange water, the poem touches upon the baking process and descends towards alchemy.⁷⁰⁰

Oft let your Bodkin thro' the Lid be sent,
 To give the kind imprison'd Teasure Vent;
 Let the fermenting Liquors, mounting high
 Within their brittle Bounds, disdain to lie;
 Insensibly by constant fretting waste,
 And over-run the Tenement of Paste.

...

Oh! First infuse the luscious Store of Cream,
 And change the Purple to a Silver Stream;
 That smooth balsamick Viand first produce,
 To give a Softness to the tarter Juice.⁷⁰¹

(I've left out the section where the poem warns of the dangers of untrustworthy bakers stealing apples from the pie or breaking the crust.)⁷⁰² Here, though, the poem alludes to the need to vent the lid of the pie, to allow for the liquids released from the cooking apples to escape and recommends pouring cream into the pie to change its color and take away some of the apples' acidity. Yet it is the description of the transformation that occurs in the oven, with the apples

⁷⁰⁰ Ellis, 39–41.

⁷⁰¹ Ellis, 39–41.

⁷⁰² To chuse your Baker, think and think again, / You'll scarce one honest Baker find in ten: / Adust and bruis'd, I've often seen a Pye / In rich Disguise and costly Ruin lie; / While the rent Crust beheld its Form o'erthrow'n, / Th' exhausted Apples griev'd their Moisture flown, / And Syrup from their Sides run trickling down. / O be not, be not tempted, lovely *Nell*, / While the hot piping Odours strongly swell, / While the delicious Fume creates a Gust, / To lick th' o'erflowing Juice, or but the Crust: / You'll rather stay (if my Advice may rule) / Until the hot is temper'd by the cool; (Ellis, 40-41).

creating juice and the juice itself rising that speaks volumes to the scientific phenomena happening during the baking process. While anyone who has ever baked a pie can tell you that they are apt to leak, the eighteenth-century explanation that the rise in juice came from an unseen process of fermentation and fretting, moving, and potentially boiling that forces them out of the pastry's confinement is not obvious and requires further examination. Here then, the housewife not only observes the final transformation of the pie but is given a sort of explanation whereby the ingredients within become agitated, and thus undergo something akin to an alchemical process.

One final transformative culinary process that housewives were exposed to that required some scientific or philosophical explanation was the process of leavening. With women baking bread and cakes within their own homes rather than outsourcing this task to a baker, they were able to see firsthand how yeast and eggs worked to increase volume and decrease density. There were three types of common leavening agents available during the eighteenth century, the two most common of which were yeast from beer or ale and eggs. Yeast was the best-known leavening agent since it had traditionally been used in bread, while using eggs alone had really only come to the fore in the eighteenth century for baked cakes. Yeast and egg cakes were still made in England and France (there was even a controversy in France between pastry cooks and bakers as to who had the right to make yeast-based Twelfth Night cakes to send to the King up until the 1740s) but mid eighteenth-century cookbooks all contain recipes for cakes made entirely without yeast.⁷⁰³ It is worth noting that Ellis does not offer many recipes for cakes, but the plum and seed cakes he does mention are yeast-based⁷⁰⁴. Glasse on the other hand offers

⁷⁰³ Toussaint-Samat, *A History of Food*, 219.

⁷⁰⁴ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice*

twenty cake recipes, only three of which contain yeast.⁷⁰⁵ While Ellis' inclusion of only yeast-based cakes may be indicative of country practices, it may also indicate that turning to egg-only based cakes was a product of the 1750s that perhaps started in the cities and eventually became more fashionable.

Egg based cakes without the yeast are significant because they demonstrate an awareness of the transformative nature of heat and eggs without the need for any additional ingredient. Even the poem above has a section that says, "of eggs and butter, see you mix enough;/ For then the Paste will swell into a Puff."⁷⁰⁶ The observation that eggs and butter alone will create a fluffy pastry when mixed enough is echoed again in Glasse's recipe for pound cake.

To make a pound cake

TAKE a pound of butter, beat it in an earthen pan with your hand one way, till it is like a fine thick cream, then have ready twelve eggs, but half the whites; beat them well, and beat them up with the butter, a pound of flour beat in it, a pound of sugar, and a few carraways. Beat it all well together for an hour with your hand, or a great wooden spoon, butter a pan and put it in, and then bake it an hour in a quick oven.⁷⁰⁷

Not only is there a great deal of beating occurring in this recipe, but it is also being done with the cook's hands, or with a wooden spoon if necessary. The high volume of ingredients, paired with the expectation that it be beat for an hour not only would smooth the consistency (and incorporate air into the batter) but would also take a great deal of physical strength. Glasse and

of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience, 76–77, 368, 372.

⁷⁰⁵ "Of making Cakes, &c." Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 271–278.

⁷⁰⁶ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 39.

⁷⁰⁷ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 272.

Ellis' ale-based cakes by comparison say only to mix the ingredients very well.⁷⁰⁸ With seventeen similar recipes for cakes, albeit some with fewer ingredients and less time spent beating, the salient point is that the time spent beating the batter is clearly considered important and worth the labor to produce this ale-free cake.

According to Ellis, there was a third leavening agent that could substitute for yeast. In preparing pancakes Ellis recommends the use of ginger as a way of making them more hollow.⁷⁰⁹ For pancakes, yeast is an impractical leavening agent because it requires the dough to sit by the

⁷⁰⁸ Ellis instructs to "work the whole well till it swells" (Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 78.). Glasse "you must rub the butter into the flour very well..."

⁷⁰⁹ The medicinal use of ginger in mid eighteenth-century cookery books and household manuals ranges from cures for a sore throat, or purging ozymels, to remedies for the Itch. The ginger, mixed with other medicinal ingredients was either drunk in a thickened liquid for the former two cases, or was mixed into an ointment for the latter. Colborne's *The Plain English Dispensatory* (1753) offers a particularly illuminating definition and description of Ginger, or *Zinziber*. After describing what ginger looks like and how it is grown and cultivated, Colborne observes how the native peoples of the East Indies and India make use of ginger. Colborne finishes his entry by listing the contemporary English medicinal uses of ginger.

Ginger is good against the Wind, effectual in Cholics, prevents the griping Quality of Purges, and is a Friend to the Stomach: Besides its Use in Cookery, it is an Ingredient in Electuary of Scammony, *London* Philonium, Discordium, Aromatic Powder, Syrup of *Ginger*, compound Powder of Sena, Syrup of Bucjthorn, of Qunices, of Squills, Aromatic Tincture, Venice-treacle, and Mithridate. (Colborne, *The Plain English Dispensatory*, 110).

Colborne's list of the uses of ginger includes remedies that could be made at home such as syrups, cholics and purges, as well as remedies clearly bought from apothecaries, distinguished by their official names. While Colborne recognizes that ginger was indeed frequently used in cooking, both in England and in the East Indies, the presence of ginger in so many remedies that Colborne's title suggests are "Principal Simples Now in Use" suggests that the medicinal qualities of ginger were, by the mid-eighteenth century, known and accepted at least by the reading public who constituted Colborne's audience. Colborne's audience can be placed in and around London because he distinguishes between London and Scottish apothecary compounds (Colborne, *The Plain English Dispensatory*, 222.) Colborne's audience is also interested but not necessarily knowledgeable about medical natural history. In his preface Colborne provides a very brief overview of the history of medicine and its natural history, focusing primarily on Hippocratic medicine, but also touching upon Arabic, Galenic and ancient Egyptian influences.[#] This overview would not be necessary if Colborne was speaking to an expert audience, however since his book clearly is designed to offer natural historical insight and his preface also includes a history of venereal disease, a history of the discovery of the circulation of the blood, and a rather detailed history of the London College of Physicians, his audience is clearly more interested in routine apothecary medicine than in everyday housewife remedies (Colborne, *The Plain English Dispensatory*, xxxv.) Even though Colborne writes for a more specialized audiences than do the cookery book authors, the knowledge of and presence of ginger in so many remedies does make its medicinal qualities accessible even if the knowledge of how its medical properties fit within a history of the medical canon were not.

fire to rise. Pancakes are, by design, much faster to cook and prepare. Although pancakes are, even today, fast to make the convenience of modern ovens and microwaves makes it difficult to appreciate how relatively fast they were compared to other recipes within eighteenth-century cookery books. Even puddings, which Ellis thinks are equally appropriate for feeding staff and poor farmers, could take two to three hours to cook.⁷¹⁰ Quick pancakes, therefore, had to rely on eggs or an alternative leavening agent.

The alternative leavening agent for pancakes, which uses eggs but more yolks than whites, was ginger. This is not to say that all eighteenth-century pancake recipes used ginger as a leavening agent. Many pancake recipes do not have any kind of leavening agent, but the use of ginger set apart from the use of other spices can be found in recipes from Ellis, Cleland, Glasse, Fisher and Carter.⁷¹¹ Only Ellis feels the need to explain why ginger is used within a recipe, either because ginger's properties were thought to be common knowledge by the other authors, or its use in pancake recipes had been appropriated to the degree that its presence was no longer in question. The existence of pancake recipes with and without ginger side by side indicates that it plays a role as a leavening agent and in producing an expected taste. Ellis' explanation for the use of ginger, even in pancakes for a poor man's family, is that "Ginger hollows the Pancakes, gives them a good Relish, and warms the Stomach."⁷¹² Here, one can see that ginger's leavening quality is only one of the favorable qualities Ellis lists.

⁷¹⁰ Ellis, 226.

⁷¹¹ Lambert does not include recipes for pancakes in his confectionary-focused cookery book. Lambert, *The Art of Confectionary ... Also How to Make All Sorts of Biscakes ... The Second Edition*.

⁷¹² Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Œconomy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 26.

The flavor, or relish, the ginger lends to the pancakes was popular during the mid-eighteenth century which its presence in the other cookery books certainly corroborates. Yet its use as a leavening agent is less substantiated. Even if the nature of ginger's leavening properties was not common knowledge within every middling-to upper-ranked household, the fact that this information was provided in an accessible cookery book and by an author well-known and respected for his agricultural scientific theories indicate that the theoretical framework on which Ellis' ideas about ginger rested was viable. When cooking pancakes, or deciding how to bake a cake, the housewife not only considered the ingredients available to her or took into account the preferences of household members, but she also drew upon a framework of knowledge that included theories of leavening to determine not only what to cook, but how to cook it.

Preservation

With the shift towards a market economy and the enclosure of land, the concept of generating a surplus over subsistence gained favor. Not only did this mean that excesses could be taken to market for a profit, but it also meant that excess ingredients may need to be preserved to last longer. Not only was meat preserved, but fruits, vegetables, and all manner of edible items were pickled, potted, or candied. While preservation was by no means new or novel, the scale of preservation and the techniques and theories that cooks employed placed these kitchens firmly in their pre-industrial revolution and pre canning era, while still new enough that eating non-seasonal ingredients due to the fact they could be preserved was fashionable.

The hows and whys of preservation in the mid-eighteenth century also revolved heavily around contemporary understanding of the nature of air. In a mix of Galenic humoral theory and

corpuscular theory, air was thought to carry or produce disease. In the eighteenth century, scholarly inquiry into air, steam, and “effluvia” or corpuscles combined with older theories of “bad airs” to make air a potentially hazardous and unreliable substance.⁷¹³ Ellis, for example, recommends that eggs be stored tightly packed in a wicker basket with their ends down because if their ends are up, “the Air has a greater Contact with the Wind-bladder in the large End of the Egg, so as to waste and exhaust it much the sooner thro’ the Pores of the Shell”.⁷¹⁴ Air here, with its apparently negative ability to permeate through the shell of the egg, is ultimately assigned blame for why the eggs go bad. Cookbook authors also often included explicit instructions against letting air in pickling or potting mixtures. The frequency with which ‘air’ exposure is warned against should serve as an indicator that air played a key role in understanding eighteenth-century theories of disease and decay.

In order to improve the shelf life of ingredients in an increasingly market-oriented economy, housewives turned to pickling, salting, candying, and potting. Salting and candying had long been practiced; however due to the salt taxes of the late-seventeenth century, wet pickling even of meat grew in popularity.⁷¹⁵ Pickles essentially consisted of three key items: salt, vinegar, and a container. In spite of their simplicity, pickles stored and safeguarded ingredients of all types for later use and were therefore of utmost importance.⁷¹⁶ Glasse offers advice on the

⁷¹³ Tullett, *Smell in Eighteenth-Century England: A Social Sense*, 80.

⁷¹⁴ Ellis goes on to explain that The Wind bladder is apparently what keeps the yolk from sinking and running into the egg white. Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 168.

⁷¹⁵ Robertson, *The Illustrated History of the Housewife, 1650-1950*, 103–104.

⁷¹⁶ The cookery book authors of the 1840s and 50s often include explicit rules for pickling but don’t place these rules at the beginning or even at the start of the section on pickling. In Glasse, for example, the rules for pickling come about halfway through the book, after she has already included a number of recipes for pickling. I am unsure whether she assumed that her book would be read in its entirety or whether these standards were common or logical enough that she did not see fit to add the comment till about halfway through.

best ways to pickle that are clearly influenced by her understanding of how preservation works.

Glasse alerts her readers as to why the type of jar matters in her “rules to be observed in pickling:”

Always use stone jars for all sorts of pickles that require hot pickle to them. The first charge is the least, for these not only last longer, but keep the pickle better; for vinegar and salt will penetrate through all earthen vessels, stone and glass is the only thing to keep pickles in. Be sure never to put your hands in to take pickle out, it will soon spoil it. The best method is, to every pot tie a wooden spoon full of little holes, to take the pickles out with.⁷¹⁷

The warning against using one’s hands to remove the pickle is particularly important. Here the hands and presumably the air that comes with them put the contents in the jar at risk. It is also worth observing that the wooden spoon full of holes has yet to be given a formal name, but presumably something about its design works around the theory of bad airs in a way that plunging one’s hand into a pickle does not. The material of the jars is also interesting in that Glasse believes air can “penetrate” china or stoneware. The idea that air can penetrate an eggshell may also apply in regard to vinegar, if it can penetrate the confines of a jar, air could also do so. Glasse is not alone in her express instructions to pay as much attention to removing items from the pickle as pickling them in the first place. Cleland is blunter, telling the reader “Don’t put your hands in them.”⁷¹⁸ While today we can explain these warnings as an unconscious understanding of bacteria and sterilized containers, they arose instead from observation and contemporary theories of decay and disease.

Thankfully Ellis, in his typical fashion, goes further than the other cookbook authors and explains why air was believed to be so dangerous for pickling. Cleland, Fisher and Ellis all

⁷¹⁷ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 271.

⁷¹⁸ Cleland, *A New and Easy Method of Cookery: Treating, I. Of Gravies, Soups, Broths, &c. II. Of Fish, and Their Sauces. III. To Pot and Make Hams, &c. IV. Of Pies, Pasties, &c. V. Of Pickling and Preserving. VI. Of Made Wines, Distilling and Brewing, &c.*, 165.

recommend using a weight to seal pickle jars, seemingly as an extra precaution. They propose a weighted apparatus be set on the top of the jar, since apparently sealing the jar with a lid is not effective enough. Ellis explains that “the Weight presses down the Pork into the Brine, and the Cloth keeps out the Air; for it is the Air that corrupts and breeds a nasty Film on the Top of the pickled Pork. N.B. In salting down a Porker to pickle, there must be Salt enough made use of to raise a Brine, as the *Kentish* Housewives do, or else the Porker will be in danger of corrupting.”⁷¹⁹ In both of Ellis’ instructions it is clear that air is considered the source of the corruption. Not only must air be kept out of the pickle, but the pork itself must not hold any air pockets that might later cause corruption. It becomes clear that it is air itself that seems to hold the seed of corruption, rather than any quality of the meat or ingredients.

While air was clearly a problem for eighteenth-century preservation techniques, pickling produced its own set of problems, because the strong brine would greatly impact an ingredient’s flavor. Candying also worked well to preserve fruits and meat; however, the very sweet flavor caused the same, if opposite problem of changes in flavor as pickling. Even salting took some time to reverse. For “salt-fish” Glasses instructs, “lay in water twelve hours, then lay it twelve hours on a board, and then twelve more in water.”⁷²⁰ The day and a half it would take to soften and de-salt the fish seems extravagant. Thankfully an alternative to pickling or salting arose during the seventeenth century: potting.⁷²¹ Potting was similar to pickling and used butter rather than brine to cover the food and remove the air.

⁷¹⁹ Ellis, *The Country Housewife’s Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman’s, the Yeoman’s, the Farmer’s, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 59.

⁷²⁰ Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 178.

⁷²¹ Robertson, *The Illustrated History of the Housewife, 1650-1950*, 105.

Potting recipes remain fairly similar to pickling recipes in terms of function and theory. Cooked meat is seasoned and then laid in a pot. Butter is then melted by the fire and poured over the meat until it covers them completely. It is also the case, however, that often the meat to be potted is laid on a cloth to “suck up all the gravy” and that the butter too is carefully separated from any gravy or sauce.⁷²² Although Glasse has fifteen potting recipes, all for cooked meat, her potted fish recipes come before her section on potting fowl and hams. As such, she actually includes a warning to cooks “N.B. Always take great care that no gravy or whey of the butter is left in the potting; if there is, it will not keep.”⁷²³ The butter alone, therefore, was not considered foolproof against bad airs or preventing food from going bad. The gravy or whey, presumably still containing some degree of bad air, needed to be removed entirely. To this end Glasse also not only instructs her reader to lay the meat on a cloth, but also to raise the meat and put a weight on it to “press out the gravy”.⁷²⁴ The working theory for preservation here gets a little more complicated. While air is clearly the perpetrator for the ruin of pickles, and presumably is the main reason for potting, the presence of other actors that could potentially spoil the potted meat either are there to explain why sealed meat still went bad, or because these elements held some kind of corpuscular relationship to decay and rot.

What is particularly interesting, given the warning against leaving gravy in the potted meat, is that butter was used to seal pies for traveling and longevity. By the mid-eighteenth century it was common practice to re-fill a cooked pie with butter or with a caudle or lear (nutmeg, vinegar, butter, egg yolks and sack), presumably to keep the air out of the pie as much

⁷²² Glasse, *The Art of Cookery Made Plain and Easy: Which Far Exceeds Anything of the Kind Yet Published*, 251.

⁷²³ Glasse, 232.

⁷²⁴ Glasse, 232.

as to season it.⁷²⁵ Caudles tended to be slightly sweeter, using egg yolks, spices and sugar if for a fruit pie, whereas lears were somewhat more savory and might use wine or gravy along with the butter.⁷²⁶ Both caudles and lears not only presumably worked like gravy to moisten the pie, especially if it were a thick standing crust, but the high amount of butter prevented any air from entering the pie as it waited in the kitchen or was transported to the dining room. Here, apparently, the caudle or lear's mixture does not warrant any potential risk, though perhaps it is because these pies were eaten within the same day.

Pies, however, were not always eaten the day that they were prepared. Pork pies in particular could be eaten cold. Once they were baked and cooled, they were filled with melted butter and stored for later.⁷²⁷ Ellis explains that pies can be “kept some Days” if they are to be eaten cold⁷²⁸. More importantly, not all crusts of pies were designed to be easily eaten. Although today we think of pie crusts as the “puff paste” described by our eighteenth-century authors, standing crusts were massively thick brick-like crusts that functioned primarily as carriers for the food inside. Ellis alludes to farmers taking cold pies with them when they worked to be eaten for breakfast or dinner, highlighting their portable nature.⁷²⁹ In the middling and upper-ranked

⁷²⁵ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 373; Carter, *The Compleat City and Country Cook: Or, Accomplish'd Housewife. Containing, Several Hundred of the Most Approv'd Receipts in Cookery, Confectionary, Cordials [etc.] ... Illustrated with Forty-Nine Large Copper Plates, Directing the Regular Placing the Various Dishes on the Table ... Also, Bills of Fare According to the Several Seasons for Every Month of the Year*, 30.

⁷²⁶ Hughes describes the lear as a “seal made from two pounds of butter in a rich hot gravy” (Hughes, *More Small Decorative Antiques*, 134.)

⁷²⁷ Ellis, *The Country Housewife's Family Companion: Or, Profitable Directions for Whatever Relates to the Management and Good Economy of the Domestick Concerns of a Country Life, According to the Present Practice of the Country Gentleman's, the Yeoman's, the Farmer's, &c., Wives, in the Counties of Hertford, Bucks, and Other Parts of England: Shewing How Great Savings May Be Made in Housekeeping ... with Variety of Curious Matters ... the Whole Founded on Near Thirty Years Experience*, 67.

⁷²⁸ Ellis, 65.

⁷²⁹ Ellis, 65.

households, rather than even attempting to eat these crusts, the pastry was instead given to the servants to eat.⁷³⁰ Not only could housewives use pies to serve for another meal later in the week, but pies were also used to transport ingredients. Cold butter-sealed pies were used to transport lampreys across England, for it worked as well as a pot for transport.⁷³¹ Presumably these pies were filled with butter alone, fitting more of the potting requirements. What is particularly salient is that while filling hot pies with butter once they are cooked sounds like a heart attack waiting to happen, the working understanding of bad air and preservation was transferred from pickling to potting not only in earthen jars made for the task, but to homemade pie crusts. This massively expanded the housewife's potential to preserve ingredients and baked dishes, giving her greater leeway not only in terms of being able to reuse out of season ingredients, but in her ability to transform and create dishes that could last a few days in a temperate English kitchen.

⁷³⁰ Norwak, *English Puddings: Sweet & Savoury*.

⁷³¹ Maguire, *Food and Drink in Britain*, 56.

Chapter 7: Conclusion

Over the past two years, the History of Science Society's annual meetings have drastically changed in terms of scope and focus. Last year, with the difficulties of Covid-19 fresh in everyone's mind, a great deal of time was spent discussing online teaching, the state of the discipline and how to begin to address the privileges and inequities brought to light in terms of historical narratives and narrators. This current year, inequities and the narratives of underrepresented, marginalized, and disenfranchised peoples continues to be a theme, along with an exploration of the repercussions of the resilience of the online or hybrid model. While this dissertation should probably have been finished a long time ago, in many ways the past two years have provided insight and clarity into just how the digital humanities aspects of this dissertation truly fit into the larger discussions that historians of science are now having. It is no longer a small group of digital humanists on the front lines, but rather a topic for discussion by the discipline as a whole.

In this year's HSS annual meeting many librarians, archivists and museum directors joined historians of science to share how they have responded to the difficulties, challenges, and opportunities of digital experiences. With quarantines in effect, online searching opens up the possibility of reaching new audiences and makes historians of science start to question and consider digital format. This shift is bringing up interesting questions for our discipline- not just about the digital but also about how we do history in general. Historians are no longer painted as objective. We have been asked to examine our prejudices, biases, and privileges. And although our training has created a sense of some kind of objectivity, we are nevertheless influenced by our own expectations, we become the medium and fashion ourselves into a conduit for information to reflect who we think we should be when doing history. A question that stuck with

me from one panel was What if, instead, we told our stories? We exposed our biases, we talked of the lucky find in the physical stacks or how we apply our own experiences to the subject matter- even if subconsciously. The historians of science at this panel lamented that these narratives have no place in scholarly work, and yet amateurs have no problem using this kind of compelling, humanizing narrative to reach broader audiences.

It is only with a concerted effort on the part of a committed network of trailblazing historians of science in the 1980s that women's narratives and contributions began achieving historiographical significance. There is still much work to be done in correcting the male-centric narratives of the past, as when the work of women such as natural philosopher Margaret Cavendish (1623-1673) or chemist and X-ray crystallographer Rosalind Franklin (1920-1958) is given serious attention. And yet, these narratives tend to center on women within formal scientific pursuits: the history of science as the history of *scientists*. But there is another wide domain to be explored in regard to women's thoughts and actions within the public sphere where scientific knowledge takes shape. This dissertation is a contribution to this more recent historiographic turn, one that places emphasis differently by bringing sources of everyday knowledge and power into view in order to gain insight into contexts of co-constructed scientific applications.

Admittedly, popular and everyday histories are difficult to source, frame and conceptualize. Returning to the special edition of *Osiris* on "Food Matters" from 2020, each historian who contributed to this agenda-setting edited volume demonstrates how historians can use overlooked primary sources to start to build a framework to address the complex nature of food as both embodied and culturally constructed. E. C. Spary and Anya Zilberstein demonstrate that within the discipline, we as historians of science are doing better at expanding upon the

areas which are considered significant. Yet the authors in this volume do not stray far from formal scientific fields of inquiry: diet, nutritional science, natural history, and industrial chemistry.⁷³² Even though the kitchen and other spaces of food preparation have been opened up for scholarly scrutiny more generally, only a fraction of the knowledge contained within these spaces has been addressed by historians of science.

In terms of the everyday production of knowledge, historians of science find themselves in a similar position to that of historians of technology at the turn of the century. Histories of technology had, until the period marked by the efforts of scholars such as Trevor Pinch, Nelly Oudshorn, and Wiebe Bijker, traditionally focused on technologies and their inventors. Today, historians of technology work comfortably within a framework that can span the entire technological “lifespan” of objects, systems, and practices- from their conception and production to the ways in which a technology is changed and shaped not only by its users, but also by non-users and implicated actors.⁷³³ This broad framework finds meaning both in traditional concepts of technology as well as in the adaptation and domestication necessary to make a technology an unobtrusive part of daily life. Taking this approach seriously offers historians of science the opportunity to not only expand upon the *areas* that are considered worthy of inquiry, but to also stretch our definition of what is considered *science*.

This is not to say that all historians of science continue to uphold the restrictive definition of science as pertaining to formalized practices. There are a number of notable historians of science who have paved the way for a broader understanding of science that takes into account popular, even vulgar, knowledge and practices. For eighteenth-century England, Jan Golinski opened up the conversation to popular culture with his book *Science as Public Culture*:

⁷³² Spary and Zilberstein, “On the Virtues of Historical Entomophagy.”

⁷³³ Oudshorn and Pinch, *How Users Matter: The Co-Construction of Users and Technology*, 68.

Chemistry and Enlightenment in Britain, 1760-1820.⁷³⁴ More recently, Golinski has been researching the sciences of the environment, including weather and climate- both of which are inextricably linked to everyday experience.⁷³⁵ Pamela Smith's research on craft knowledge and historical techniques also paves the way for inquiry into early modern European empirical knowledge. She has edited a number of volumes that bring together discussions of commerce, scientific practices, and material culture.⁷³⁶ While these studies lay the foundations for future, more in-depth studies, Deborah Harkness has already been working in this field, albeit for sixteenth- and seventeenth-century England. Harkness' book *The Jewel House: Elizabethan London and the Scientific Revolution* focuses on the activities of non-expert communities that were related to science.⁷³⁷ It is telling that Harkness felt the need to include "a note about 'science'" at the beginning of her book to explain that science in sixteenth-century England was "an umbrella term to cover scores of such smaller, more easily described interests in scientific aspects of the natural world as viticulture, alchemy, mining, and mathematics" as opposed to being confined to a formal mathematical and physical study of nature.⁷³⁸ Not only does this note potentially ward off anachronistic ideas about science, but in many ways it is a defense of the subject of her research, which lies beyond the study of traditional endeavors of the history of science. It is clear that scientists or natural philosophers were not the only people engaging with scientific ideas, and yet Harkness is careful to defend her study of these "outliers".

⁷³⁴ Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*.

⁷³⁵ Golinski, *British Weather and the Climate of the Enlightenment*; University of New Hampshire College of Liberal Arts, "Jan Golinski."

⁷³⁶ Smith, *Ways of Making and Knowing: The Material Culture of Empirical Knowledge*; Smith, *Making Knowledge in Early Modern Europe: Practices, Objects, and Texts, 1400-1800*; Smith, *Merchants and Marvels: Commerce, Science and Art in Early Modern Europe*.

⁷³⁷ Harkness, *The Jewel house: Elizabethan London and the Scientific Revolution*.

⁷³⁸ Harkness, *The Jewel house: Elizabethan London and the Scientific Revolution*, xv.

The history of science has become hyper-specialized. Although historians of science initially sought to build our expertise and credentials so that we might gain entrance into coveted libraries and archives, engage in research, and then publish our findings so that those ideas could be accessible to a beyond our discipline, somewhere along the way we have instead become the gatekeepers. In many ways the hyper-specialization of the history of science has not only made it more difficult to expand the scope of our subjects of inquiry; it has also made it difficult for us to share our findings with a larger audience. The truth is that Harkness can impact more people's understanding of history with her *All Souls Trilogy* (a historical fantasy series that combines her historical research with tales of witches and vampires) than she can from publishing multiple books and essays in the academic discipline of the history of science.⁷³⁹ Books published for a scholarly audience tend to go out of print quickly and are significantly more expensive than a work of fiction, and certainly more expensive than a self-published blog. Beyond cost, there is the issue of circulation: the impact factor for the *History of Science* journal is 0.915 while the *New England Journal of Medicine* boasts an impact factor of 74.699.⁷⁴⁰ Although we do important, meaningful work, we must ask ourselves who we truly engage with beyond the specialized world of academic expertise.

I believe that the history of science is on the verge of being able to embrace new techniques and forms of evidence and re-conceptualize our definition of science to take into account marginalized people and practices. Part of the great success that Gabaldon and Harkness have had in writing historical fiction is that they make use of their extensive historical research as a foundation for their narratives and fill in the gaps as best they can from a mixture of lived

⁷³⁹ Titles from this trilogy include *A Discovery of Witches* (2011), *Shadow of Night* (2012), and *The book of Life* (2014).

⁷⁴⁰ SAGE Journals "History of Science"; Oseh, "Top 20 Medical Journals for Physicians to Publish In."

experience, archaeology, and historical and literary interpretations. Harkness explains, for example, that with approximately only three pieces of sixteenth-century undergarments extant, no historian or writer will ever be able to truly know how such pieces of clothing were constructed.⁷⁴¹ While the historian of science does not operate under the same demands as does an author of fiction, the techniques and sources available to a diverse body of writers across many genres may prove to be of use in a more nuanced and comprehensive history of science.

This is why the methodological dimension of this dissertation was constructed with SEO optimized, open access source materials. The dynamics of knowledge circulation are changing in ways that are impossible to chart with accuracy while we are still in the emergent stage, but it is clear that a part of those dynamics have provided us today with two quite different knowledge-shaping environments: a hyper-specialized sphere of expensive textbooks, monographs, and edited collections that exist in small numbers, primarily at university research libraries and a digital sphere of search engine-optimized narratives published as blogs, videos, websites and in other media forms accessible to anyone with access to the World Wide Web.⁷⁴² Thanks to institutional and amateur digitization efforts, a large amount of information that was previously inaccessible is now free and available to the public. Amateurs and hobbyists, uninhibited by historiographical expectations, can seek out and access historical sources in idiosyncratic ways for idiosyncratic purposes – their efforts often conducted without strong historical methodology and published in a manner that reaches audiences far larger than those of the historians of

⁷⁴¹ Goodreads, “Interview with Deborah Harkness.”

⁷⁴² While these two spheres illustrate two constructive categories in which to think about the differences between academic and amateur scholarship, there are a number of historians of science and historians of technology whose work forms a spectrum across the middle of this divide. There are historians of science who are experimenting with hybrid forms of engaging with the digital circulation of knowledge through blogs of their own, starting online magazines or podcasts (Lady Science, for example) and contributing to public online discussions, as well as pursuing book projects that are intended for a general audience and so on. It is still a productive question for historians of science, no matter where their work falls on this spectrum, to consider how they might better partner with amateurs or enter into the more general or popular conversations surrounding the topics on which they are experts.

science. If our historical treatments are much harder to find, this not only limits our reach in terms of audiences but also in terms of the potential for the amateur, avocational, and academic literatures to come into closer contact and potentially impact each other.

I should state that I am not proposing that historians of science turn to the subject of daily life so that they can compete with a rising swell in amateur and avocational historical narratives. Certainly, making the entire discipline of the history of science interesting and accessible to a broader audience while simultaneously upholding standards of rigor and scholarship is a daunting prospect. However, historians of science could benefit greatly from further expanding their conceptions of a scientific community to encompass tradespeople, women, and other members of the general public. That open access primary sources can both inspire amateur investigation and, as argued in this dissertation, also serve as a viable foundation for research based in the standards and values of the academy provides an example of how these two communities have meaningful points of intersection that could prove to be productive for both.

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