

**CHEAP, SAFE, AND EASY:
ALTERING HOMES IN PHILADELPHIA, 1870s to 1920s**

by

Amanda B. Casper

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in History

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“...some of the most charming houses in the world have grown with the growth of the families occupying them, their added wings and stories indicating the creased number and strength of the household.”¹

—”Builder,” 1884

¹ “Builder,” pseud., “Making Over Old House,” *Massachusetts Ploughman and New England Journal of Agriculture* 43, 39 (June 28, 1884): 4.

PREFACE

This project was researched and written amidst my own renovation. Like many of my historical actors, I felt a romantic admiration for old houses. Like them, I also believed it was economically advantageous to spend less money and buy an old house that I could fix up slowly as time and money allowed. For small changes, I painted, restored woodwork, and removed layers of carpet, wallpaper, and a drop ceiling. In an expensive sweep of necessary repairs, I replaced the roof, installed new windows, and reframed damaged joists. I also added new plumbing, electrical wiring, central air, and renovated the kitchen and bathroom, which added or improved a myriad of domestic technologies. I did some work myself, which provided time for rumination and experiential learning that complemented my research and writing. Professional contractors did other projects, an experience that was often stressful. In addition, my familiarity with the building laws meant that I “pulled” a full set of permits, at the time still a rare practice in my section of the city. Not surprisingly, the overall process was messy, hard on personal relationships, often distracting, but at the same time satisfying and rewarding (and yes, financially beneficial). Though the road to it was long and bumpy, my old house cost far less than new when “mended.”

My renovation project helped me understand the emotional and physical experience of my historical actors who altered their homes. It also helped me appreciate the nuances of home alteration that people parsed out in letters, catalogs, plan books, and laws. Contemporaries understood alteration broadly, defining it as “the change made or the loss or acquisition of qualities not essential to the form or

nature of a thing.”¹ To alter was a matter of degree. For the purposes of this study, I join my historical actors by using a far-reaching definition of alteration as an effort made by occupants to change selectively their built environment. This includes renovations: making over a preexisting structure to seem (or feel or appear) new, as it literally means to make new again. It includes remodeling: changing a preexisting structure (or part) to update the space in some way. It also includes additions: adding on new spaces to preexisting structures. To complicate the discussion, repairs, which at times can be large and border on remodeling, periodically appear in this study. Regular maintenance I omit, although the cultural history of repairs would be equally worthy of a separate study.

While it might seem counterintuitive, I pass over some of the most obvious approaches to updating an old home. As I did in my own house, many people changed finishes, fixtures, and furniture when they want to improve their house.² For instance, when Anne Chew acquired Cliveden in 1857, she quickly redid the public entertaining rooms with a fresh coat of plaster and new window panes (both arguably repairs); she also changed paint and wallpaper.³ These features were less invasive and expensive to

¹ The first definition listed for “alter” in 1872 Webster dictionary: “to make some change in; to make different in some particular; to vary in some degree without an entire change.” Noah Webster, *American Dictionary of the English Language* (Springfield, Mass.: G. & C. Merriam, 1872).

² By home fixtures, I mean the terminus to a utility, including appliances, light fixtures, and bathroom fixtures.

³ E. Richards, *Cliveden: The Chew Mansion in Germantown* (Philadelphia: Cliveden of the National Trust, 1993), 45-46. During this update she also added new stoves, a technological improvement.

add to a house.⁴ This project hovers over the blurry line between architecture and decorative arts, and between home improvement and interior decorating. However, I attempt to focus on architectural improvements that read as construction projects and not interior decoration.

This approach mirrors the ways that architects and engineers often conceptualize the layers of a building, which all change at different paces. Building on these, Stewart Brand developed a useful model for a building's layers that I rely on here. Site is the geographic setting, including legal boundaries, which he argues is eternal. Structure is the foundation and load-bearing components that rarely change. Skin is the exterior finish, which changes every couple decades. Space plan is the interior layout, which might change once every generation. And Brand's "stuff" or otherwise called "set" is the furniture, appliances and other components that change most frequently and with very little inconvenience.⁵ My study excludes "stuff" and finishes.

I also narrow this study on the city of Philadelphia. As a long-time resident, it made strategic sense. However, the community study approach also allowed deep digging into political dynamics and personal experiences that enlivened this history and tested observations gleaned from elite prescriptive literature and Progressive legislation. Philadelphia was typical of urban centers at the time: it experienced rapid

⁴ For scholarship on these matters, see: Kenneth L. Ames and Gerald W.R. Ward, eds., *Decorative Arts and Household Furnishings in America, 1650–1920: An Annotated Bibliography* (Winterthur, DE: The Henry Francis du Pont Winterthur Museum, 1989).

⁵ Stewart Brand, *How Buildings Learn: What Happens After They're Built* (New York, NY: Viking, Penguin Books, 1994), 13.

population growth from immigration and migration, it had Progressive reformers, it had an old city center and sprawling periphery, it had an upper and upper-middle class, a comfortable working class (the middle majority), and vocal labor groups that challenged class complacency.⁶ In addition, vibrant immigrant and African-American communities contested the elite hegemony of old Philadelphia. Philadelphia had a strong government body that was known for corruption and bossism, the like of which was periodically challenged by a vocal set of activists and reformers. Because of private investment in water, gas, sewage, and electricity, many Philadelphia residents had access to the latest utilities, and their living conditions were often informed by prescriptive requirements set by city officials. In many ways, Philadelphia typified American cities in the late nineteenth century.

By focusing on Philadelphia, this project nonetheless becomes an urban story. Philadelphia displays the complications of human density, private investment, big city “boss” corruption, Progressive reform, and municipal bureaucracy. Outside of urban centers, Americans lacked access to many new technological systems and escaped municipal oversight. But conversely, suburban and rural residents from the period shared many of the commercial and intellectual changes taking place to home alterations in Philadelphia. Americans with access to libraries, mail carriers, and railroad depots could read the same books and materials as their Philadelphia counterparts. Rural subscribers to periodicals like the *Massachusetts Ploughman*, which published the essay written by the anonymous builder, could read features about

⁶ I employ the phrase middle majority shared by Thomas Hubka in his presentation: “The Transformation of Working Class Housing and Domesticity: 1880-1940,” Vernacular Architecture Forum Annual Conference, June 4, 2016.

home alteration. A network of commerce brought the products and projects of home alteration to Americans around the country. In many ways, the experience of nineteenth century Philadelphia foreshadowed the emerging American landscape of the twentieth century.

Even in a city rich with records, uncovering home alteration had its difficulties. Home alteration exists in a realm of the built environment that exposes the frustrating gap in evidence for architecture history: old work was covered up or removed, rendering it invisible; home alteration was so ubiquitous that it escaped mention by homeowners; or, home alteration seemed so mundane that it was rarely recorded. Frustratingly, matching up extant evidence from field work (or even projects captured in photography) with documentary records, and visa versa, proved a challenge, which perhaps explains why so few scholars have explored the topic of home remodeling.⁷ When physical material was missing, I relied on other evidence. In Philadelphia, fire insurance maps document the changing footprints of buildings. Historic and documentary photographs captured single buildings and entire whole blocks.

In addition, this project relied on two key bodies of evidence for detailed data about home alteration patterns in Philadelphia. One was a database compiled by Jeffrey Cohen of fire insurance surveys housed at the Historical Society of Pennsylvania (HSP) from which I could parse out resurveys, which were recorded when the home owner substantially improved their property. The second major resource was building permit applications at the Philadelphia City Archives (PCA).

⁷ Author conducted site visits to open houses for a period of four years in two neighborhoods, canvassed many blocks to assess exterior changes, and conducted investigations at three homes.

However, neither resource is truly representative of the full extent that home alteration occurred, and the sources are skewed towards the wealthier residents of Philadelphia.

Tackling the history of home alteration was a difficult task supported by many to whom I owe a great debt. Several institutions and organizations generously supported research and writing for this project. The Winterthur Museum, Garden, and Library provided support for a short-term research trip and semester dissertation writing residency as well as invaluable assistance from staff and librarians. Hagley Library and Museum supported research of business and trade sources. The Delaware Public Humanities Institute at the University of Delaware supported a summer of fieldwork and city-wide research. The Philadelphia Area Center for the History of Science provided a dissertation writing fellowship with residency at their stimulating office and access to institutions in Philadelphia and beyond. In addition, staff at the Historical Society of Pennsylvania, the Philadelphia City Archives, the Athenaeum of Philadelphia, and the Philadelphia Electric Company Corporate Archives provided invaluable assistance during research trips.

I also had several opportunities to share pieces of this project with scholarly audiences. The Ephemera Society featured my dissertation project abstract in their journal. The Vernacular Architecture Forum provided an opportunity to share nascent ideas, and my trip was supported by a VAF Presenter's Fellowship and University of Delaware Professional Development Award. The University of Delaware Department of History workshop was also a wonderful opportunity to receive feedback on a draft of Chapter Three. Sandy Isenstadt and Josh Probert both provided significant comments during my presentation of dissertation-based research paper, which helped shape Chapter One and Three as well.

Many individuals generously gave their time, energy, and mentorship to me during this project. Ritchie Garrison encouraged this project from the beginning, and it would not have been possible without his generous support, insight, and guidance with each step. Arwen Mohun and Kasey Grier both helped me hone my historian craft. Jeffrey Cohen steered me to invaluable sources. Thomas Hubka provoked me to think critically about my middle majority Philadelphians. Richard Harris generously shared a draft of *Building a Market* before its publication. Aaron Wunsch facilitated access to the Philadelphia Electric Company archives. Mellisa Blair, Elise Ciregna, and Lucas Clawson also provided insightful comments and much needed graduate camaraderie during the dissertation process.

Staff at the National Park Service have provided a constant source of professional and personal encouragement. My work for the agency has kept me grounded to the field of historic preservation and allowed me to connect my historical research with contemporary professional practice. Particularly, I was fortunate to have the support and mentorship of Bonnie Halda and Bill Bolger.

Finally, I owe my friends and family gratitude that surpasses words I could express here, all of whom supported me in every possible way through this long process. My parents unequivocally supported my pursuit of a doctorate, the first for both families. Loved ones provided support and comments. Madeline Orr spent every day of her life thus far with this project: She has attended field work, library visits, archival trips, and conferences; tolerated writing weekends; and earned an incredible collection of stickers with my growing word count. Without her patience and cooperation this project would have been far more difficult. With her excitement about old buildings, books, and objects this project was enriched.

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LIST OF ABBREVIATIONS

BBI	Bureau of Building Inspection
BHA	Better Homes in America
CMA	Citizens' Municipal Association
DIY	Do-It-Yourself
GE	General Electric
HABS	Historic American Building Survey
HADV	Housing Association of the Delaware Valley
Hagley	Hagley Museum and Library
HSP	Historical Society of Pennsylvania
MBE	Master Builders' Exchange
NELA	National Electric Light Association
NHA	National Housing Act
PCA	Philadelphia City Archives
PECO	Philadelphia Electric Company
TVA	Tennessee Valley Authority
UGI	United Gas Improvement Company
Winterthur	Winterthur Museum, Garden, and Library

ABSTRACT

This dissertation investigates the shift in American conceptualizations of home alteration between the 1870s and 1920s. During this period, the experience of home alteration shifted from a mundane aspect of everyday life, to a process that was defined in law, regulated by authorities, commodified in the marketplace, and understood as a distinct process. This was in large part due to popular perceptions of old homes as a problem, and a new set of emerging solutions that solved those problems, all of which aimed to make home alteration cheaper, safer, and easier. This shift reflects the material and social changes of the period, during which complicated technologies, new construction methods, increased urban population density, aging housing stock, and expanding standards of living all provoked a reorganization for the ways in which people conducted changes to their homes. Increasingly, home alteration became an identifiable aesthetic, economic, and cultural activity that pulled people into regulatory and economic arenas in new ways. This changed the framework within which most Americans conducted their home alteration. These changes modernized home alteration in America and set the stage for the home remodeling experience of the twentieth century.

To assess the ways in which ideas about home alteration changed, this project relies on conversations observed in prescriptive and trade literature as well as legislation and personal papers, and contrasts that information with the local alteration practices in Philadelphia. Philadelphians' alteration habits were gathered from

building permits, insurance surveys, maps, photographs, and field work. Philadelphia, a city well-known for its single-family homes, but with a majority of renters, embodies the opportunities of new technological systems and cultural ideas with the socio-economic limitations of urban working-class life.

Chapters explores the new solutions that people developed that ultimately transformed the experience of home alteration. Chapter 1 surveys the economic, legal, and cultural status of home alteration in the first half of the nineteenth century, and it serves as a baseline with which to measure the changes after 1870. Home alteration was mundane and overlooked; so long as people's building practices and living habits remained relatively consistent, there was little need to give much thought to changing old homes, and the subject of home alteration is absent from craft sources, architectural treatises, personal papers, and laws.

Chapter 2 examines the first efforts to sell home alteration solutions through plans and products. Architects and manufacturers who portrayed the old house as a problem offered cheap and tasteful ways to transform outdated buildings. At the same time, letters reveal that many upper- and upper-middle class Americans embraced a more nuanced understanding of home alteration, and conceived of home alteration projects as something discrete from regular building, and a process that was to be planned, given careful thought, and even shared with family and friends as a matter of social interest. In Philadelphia, few people did the changes prescribed in plan books; rather, most families preferred to expand the footprints of their homes when money allowed, thus gaining living space on tight city lots.

Chapter 3 illustrates the effort to regulate home alteration and make it safer. As modern domestic systems complicated home building and population density

challenged traditional building practices, people increasingly endangered themselves and neighbors with unsafe alterations. This chapter illuminates the transformation of home alteration into a matter of public safety. It tests the threshold to which Philadelphians would tolerate government intervention into their personal lives. After accidents, municipal officials, trade leaders, and reformers successfully pushed regulation only after it became an obvious threat to public safety. According to proponents, the new laws would make alterations safer, and prohibit dangerous and hidden projects, encourage proper maintenance, and protect homeowners from unscrupulous builders.

The final chapter illustrates the Philadelphia Electric Company's (PECO) use of full-service alteration projects to sell house wiring. Reflecting a corporate, vertically-integrated model, PECO offered to design, plan, install, and even finance people's house wiring projects. In a decade-long effort, marketers and other industry promoters honed their advertising approach to owners of preexisting homes. Wiring an old home was much harder than one in the process of construction. House wiring was expensive, and landlords and owner-occupants needed to balance the capital investment with their potential return. The investigation highlights the economic threshold that technology needed to cross for many practical homeowners. To help encourage wiring, PECO identified and attempted to solve a number of possible apprehensions that kept homeowners from purchasing house wiring. People's ability to buy house wiring on credit from PECO led to a dramatic increase in house wiring after World War I.

Few scholars have given much attention to people's home alteration practices, and even fewer have explored the intellectual and political aspects of home

alteration—the external forces that complicated people’s private choices. This study demonstrates how the social-construction of home alteration changed in the late nineteenth century for many middle-class Americans amidst rapid material, social, and economic change. This study’s effort to periodize home alteration aligns it with other fields of scholarship, setting out a timeline with which to compare continuity and change within broader frameworks. This study contributes to a large body of literature on the built environment and domestic architecture. It connects the most mundane aspect of building with important broader technological, social, political, and cultural narratives. It also fills a significant gap in the scholarship.

INTRODUCTION

...men persist in renovating, remodeling, rebuilding, enlarging and otherwise attempting to rejuvenate their old houses. They are likely to continue to do this as long as a love of home exists, as long as families increase in numbers and men improve their own worldly condition or find the houses of their fathers inadequate to their own wants.¹

—“builder,” 1884

Buildings experience entropy: they decay and they lose functionality.² This is an inevitable part of all buildings, and a certainty that transcends time and geography.³ Addressing this problem is a mundane and expected part of the human experience.⁴ Throughout history, people altered their built environment when constructing anew was undesirable or unfeasible. People developed new expectations that surpassed those “of their fathers.” They expanded structures to house growing families. They

¹ “Builder,” pseud., “Making Over Old Houses,” *Massachusetts Ploughman and New England Journal of Agriculture* 43, 39 (June 28, 1884): 4.

² Samuel Y. Harris, *Building Pathology: Deterioration, Diagnostics and Intervention* (New York, NY: John Wiley & Sons, Inc, 2001).

³ Stewart Brand, *How Buildings Learn* (New York, NY: Viking, Penguin Books, 1994).

⁴ The layers of finishes on ancient ruins, the cascade of additions to buildings, and even renovations in prehistoric kivas illustrate that alteration is a pervasive activity.

also reconfigured, rearranged, transformed and otherwise reorganized their homes. Because most buildings are more durable than the people who live in them, home alteration was necessary architectural renewal.⁵

Two houses on Queen Street in the historic liberty district of Southwark reveal many of the commonplace changes Philadelphians and other Americans made to their homes as families attempted to “rejuvenate” them to fit contemporary needs. (Figure 1) Built around 1815, the houses functioned as tenements. The dwellings housed working-class renters; for instance, in the 1870s a carpenter who worked at the nearby engine company called one building home.⁶ The numerous additions on both buildings exhibit residents’ and owners’ efforts to enclose living space. The three-and-a-half story brick fronts led the cascade of subsequent rooms into the rear yards. Two-story additions, possibly constructed in phases and very likely of frame, provided a kitchen and bathroom. Sheds and other spaces filled the yard even further. By 1979 when these houses were photographed, the additions had been covered with asphalt shingles, a modern material popular after the 1920s, which would have transformed hazardous frame structures into “fire-proof,” legal construction. Today the shape remains under further layers of additions and finishes.

⁵ Thomas Carter characterized this as “architectural renewal.” Thomas Carter, “Introduction,” *Material Culture* 19, 2/3 (Summer/ Fall 1987): 63-65.

⁶ *Annual Message of ... [the] Mayor of the City* (Philadelphia: E.C. Markley and Son, 1875), 344.

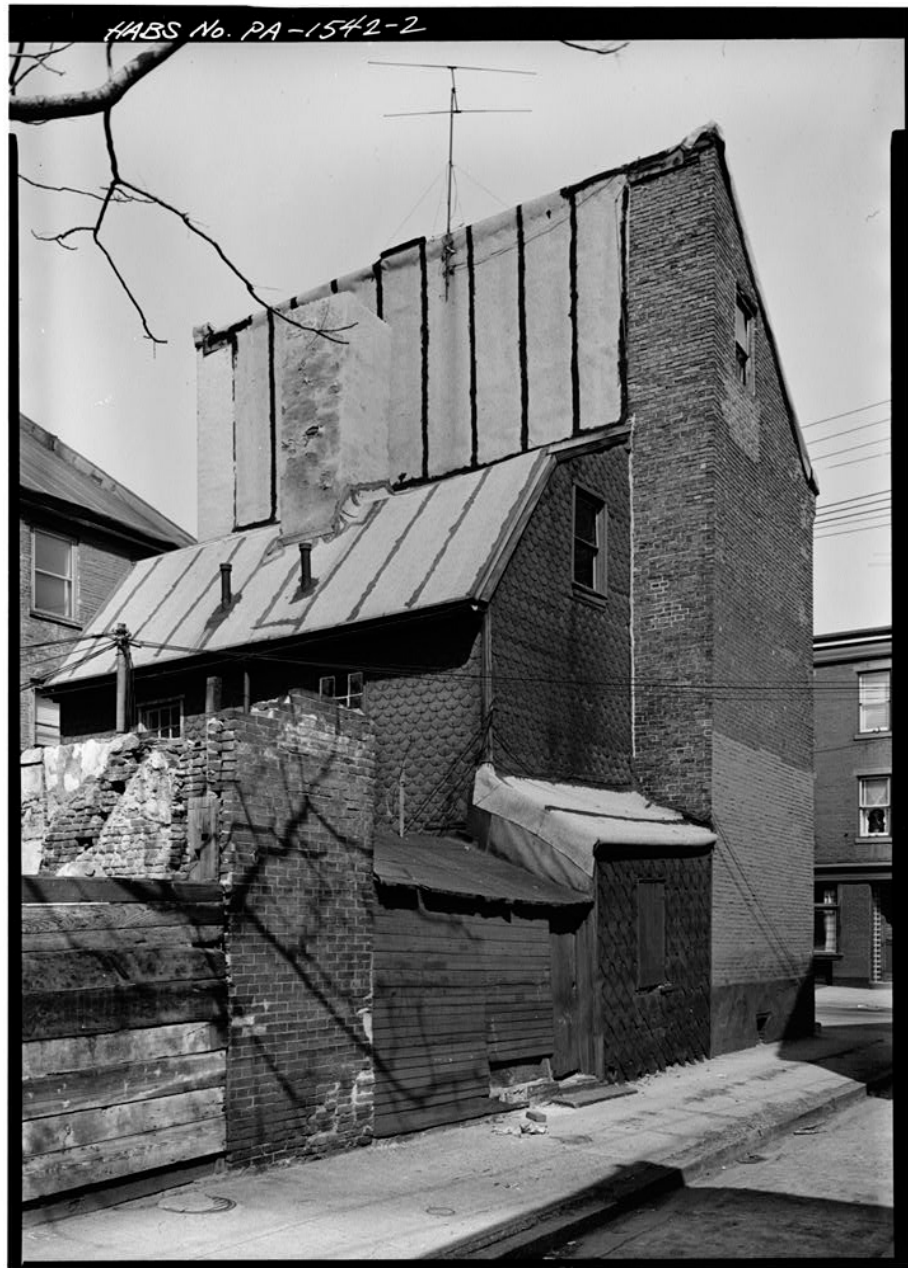


Figure 1 Cascade of additions to 130-132 Queen Street in Philadelphia photographed in 1979 before modern renovations removed or concealed these alterations, HABS No-PA 1542-2. Courtesy *Historic American Building Survey*.

The ways in which people solved this problem is not timeless. People's home alteration practices bend to other historical trends and pressures. The physical processes shifted along with changes to new construction. People's ideas about home alteration also changed and individual socio-economic experience complicated this even further. People's conceptions and expectations of how to change their homes are inherently socially constructed.

Between the 1870s and 1920s, a new set of solutions emerged that dramatically transformed the ways that Americans conceptualized and experienced home alteration. Architects and authors offered plans, manufacturers offered products, reformers expanded policies, and corporations offered full-service alteration programs. All of these solutions sought to mitigate problems of the old home, and proponents argued that they would make home alteration easier, cheaper, and safer. While the impact would have varied in degree based on socio-economic experience of owners and residents, there was nonetheless direct and indirect shifts in the consumption, regulation, and facilitation of home alteration to some degree for all during this period. The mass effort of Americans to stave off, mediate, and otherwise conquer the inevitable problems of their old homes is a palpable moment in which conceptualization of home alteration transformed from only a few decades prior.

During this period, the experience of home alteration shifted from a mundane aspect of everyday life, to a process that was defined in law, regulated by authorities, commodified in the marketplace, and understood as a distinct process. An aging housing stock in the oldest portions of the country, rising population density in urban areas, and new plumbing, heating, lighting, and electrical systems set many of these changes in motion. These technologies linked households to expensive public and

private systems; the systems provided new opportunities, but they also altered the relationships of people and their things. Increasingly, home alteration became an identifiable aesthetic, economic, and cultural activity that pulled people into political and economic arenas in new ways. It changed the framework within which most Americans conducted their home alteration. These changes modernized home alteration in America and set the stage for the home remodeling experience of the twentieth century.

These modern solutions relied upon widely-accepted principles about home alteration that had formed by the nineteenth century. The most heavily reiterated was that home alteration could equal the expense of building new (so one should avoid it). In perhaps the earliest literary reference to home alteration, Colley Cibber quipped in his comedy *Double Gallant* of 1707: “Old houses mended, Cost little less than new, before they're ended.”⁷ It is no coincidence that this economic observation followed the heels of the rebuilding of England at the turn of the seventeenth century, arguable one of the most noticeable periods of remodeling in modern history.⁸ This idea carried through generations of Americans.⁹ In 1884, an anonymous builder summarized: “three house cleanings equal one moving, three moving one fire, and three fires one

⁷ I have attempted to find, unsuccessfully, earlier references to home alteration in the Western classics and the Bible. I have not examined classic Eastern texts. That is perhaps for another project. Colley Cibber, “Prologue,” *Double Gallant*, 1707.

⁸ W. G. Hoskins, “The Rebuilding of Rural England, 1570-1640,” *Past and Present* 4 (November 1953): 44-59.

⁹ I do not assert this idea persisted in western society or beyond; that is for another study. Rather, I examine the origins of American ideas.

remodeling.”¹⁰ In 1910, authors of one alteration guide pleaded with readers, “[pay] no attention to the cynically humorous averment that old houses mended cost little less than new before they’re ended, for this need not at all be the case.”¹¹ Two hundred years later, Cibber’s quip remained relevant, and I would argue it still continues.

For many, this had a ring of truth. The sustained market for new dwellings suggests that for builders and home buyers, new construction seemed like the better investment. Those who could build and buy new often did, and doing so expressed a preference for a modern, turn-key house over a older one in decline; this applied for owner-occupants and investors who rented to the city’s majority. As American cities expanded with new houses, the poor were left to live in old houses in the oldest centers. There were (and still are) many reasons people preferred a new house over an old one—location, neighborhood, utility access—but for many, the decisions boiled down to the undesirable economics of maintaining or improving an older structure.

Underlying this principle was the natural fear of the unexpected and its cost. Unlike the fixed cost and turn-key convenience of new construction, addressing the problems of old buildings was unpredictable. At its worst, the cost to fix deterioration and improve the functionality of a house could cost “little less than new.” Predicting deterioration was (and is) difficult; many problems in old building lie below the surface. Editors of *Phrenological Journal* anecdotally complained, “...you wish to remodel a gable... and think that it is only necessary to take off a few boards there,

¹⁰ Builder, “Making Over Old Houses,” 4.

¹¹ Robert and Elizabeth Shackleton, *Adventures in Home-making* (New York: John Lane, 1910), 12.

and a timber or so here, but when the boards are off, you discover decay and weakness in the framing, and a general lack of adaptation to your design, and what was at first deemed but a small job for carpenter and roofer, expands into a big one.¹² When altering old buildings, one pays for the project and the sometimes unforeseen choices of all owners before them.

Another prevailing belief was that the work of updating, mending, repairing, and keeping up an old house seemed to have no end. The second law of thermodynamics (entropy) tells us this is physically true, but the ways that this manifested anecdotally in sources captures people's frustration (and surprise) at this inevitability. Such response suggests that modern Americans were conditioned to believe that entropy ought not to occur and that old houses ought to be good as new. In new houses built right, the first generation of occupants was unlikely to feel the slow creep of time or perceive their home's deterioration. This was not the case for owners of old homes who needed to prevent deterioration and slow the loss of utility and function.¹³

Today, architects, engineers, and builders allot for this inevitable decline, and their prediction formulas illuminate just how much entropy a building was likely to have. Surprisingly, some professionals estimate a building's lifetime as thirty-five years in North America; Stewart Brand suggests this can actually range from thirty to

¹² In review of Woollett's *Old Homes Made New: "Library," Phrenological Journal* 67, 1 (July 1878):58-59.

¹³ For these observations I am indebted to architect and engineer Michael Henry, whose course on building pathology at the University of Pennsylvania complicated my understanding of aging buildings.

three hundred years, but averages at sixty. The exterior “skin” is changed every twenty years to reflect changing fashion and technology. Services (plumbing, electrical, communication, ventilation, heating) last approximately fifteen years. The interior partitions change according to the turbulence of its occupants; in a quiet house partitions might only be changed once a generation.¹⁴ People changed different parts of their buildings with varied frequency.

People offering up home alteration solutions to the American public exploited these concerns. They positioned the old house as a problem, and they suggested that new products, plans, policies and programs could make home alteration cheaper, easier, and safer. It was suggested that with the right solutions, Americans could hold off the inevitable decline of their building, all the while saving money, reducing inconvenience, minimizing risk, and obtaining modern standards. People’s efforts to mitigate the problems of home alteration during this period provokes questions about the ambition and limitations of those who marketed, reformed, designed, built, and otherwise shaped the landscape.

In Philadelphia, these factors were accelerated and accentuated by forces of building density, population increase, class division, material availability, municipal development, and technological advancement. By 1870, the process of building was enveloped in complex professional relations, complicated by regulation, and informed by the disparate standards of living for rich, poor and those in between. Residents could choose building materials that ranged in quality from scrap piles to far-off

¹⁴ Brand, *How Buildings Learn*, 13.

manufacturers. If homeowners lived near developing systems, they could also gain access to sewer, water, gas, and electricity.

Alteration changes were done amidst close quarters. Many Philadelphia lots were small: fifteen feet wide and fifty feet deep for most working class houses and 25 feet wide and 150 feet deep for those better off in new suburbs. Most Philadelphians lived in brick row houses: the oldest bandbox dwellings were one room on two or three floors with winding stairs; by the 1880s, the average dwelling was two rooms deep and two or three stories high. Until 1880, most of these buildings lacked any domestic services; water closets came slowly as did lighting. Building was not an independent nor isolated process in an urban environment like Philadelphia.

Philadelphia was renowned for its low population density, thriving building industry, and its typical row houses, making it known as the “city of homes.”¹⁵ By the time of the Centennial, Philadelphia was home to over 800,000 residents, and contained 130,000 dwellings; with 6 people per dwelling, it had one of the lowest urban population densities in the country.¹⁶ Increased development after the 1880s meant that thousands of two- and three-story row houses filled in Philadelphia borderlands of farms and fields. These houses were cheap and quick to build, and they

¹⁵ Amanda Casper, “The ‘City of Homes:’ Advertising Philadelphia Home Ownership and the Building Industry after Reconstruction,” Presented at Pennsylvania Historical Association, October 19, 2013. For history of the Philadelphia building industry prior to 1850, see: Donna J. Rilling, *Making Houses, Crafting Capitalism: Builders in Philadelphia, 1790-1850* (Philadelphia: University of Pennsylvania Press, 2001).

¹⁶ James D. McCabe, *The Illustrated History of the Centennial Exhibition...* (Philadelphia: National Publishing Co., 1876), 27.

could be purchased for as little as \$2000 or rented for \$15 a month. In Philadelphia, the small, single-family dwelling prevailed, but like the national average for urban residents during this period, most rented instead of owned; in 1890, seventy-seven percent rented and 23 percent owned.¹⁷ (Table 1)

Many contemporaries believed that Philadelphia was a unique city that could provide an “American” way of living. Contemporaries heralded Philadelphia for its triumph over the housing problems, labor strife, and other social issues that plagued urban centers in the late nineteenth century.¹⁸ Although exaggerated, civic boosters, city officials, and reformers repeatedly suggested that the availability of single-family houses to rent or own made a more “contented and conservative” working class than in more troubled cities like Chicago and New York.¹⁹ Singing praises for the city in 1893, Robert Porter, Superintendent of the US Census, declared Philadelphia “the most American large city of the union.”²⁰ Unlike the unsanitary, and implicitly un-American, tenements of New York, the single-family houses of Philadelphia supposedly allowed its urban residents to maintain an American way of life. Summarizing a common sentiment of the time, Porter explained, “The very core of

¹⁷ This was the urban national average as well. For non-farm residents not living in cities greater than 100,000 residents, the ownership rate was 36 percent. U. S. Census, *Report on Farms and Homes: Proprietorship and Indebtedness... 1890* (Washington, D.C.: Government Printing Office, 1896), 27-32.

¹⁸ McCabe, *Illustrated History*, 27.

¹⁹ Rhode Island State Board of Agriculture, *Annual Report* 9 (1894): 414.

²⁰ Robert P. Porter, “Extracts from Article,” as reprinted in: Frank H. Taylor, *The City of Philadelphia as It Appears in the Year 1893* (Philadelphia: George S. Harris for the Trades League of Philadelphia, 1893), 92.

this nation is its homes and its families. By this I mean its separate dwellings, occupied and owned or rented by single families.” Less radical than Chicago, less prosperous than New York, Philadelphia represented an idealized material, political, and cultural landscape for the time.

Table 1 Philadelphia Tenancy Distribution by Percent ²¹

Year	Dwellings-total	Rented	Owned-total	Owned-free
1890	204,292	77.2	22.8	61.29
1900	265,880	77.9	22.1	54.7
1910	327,263	73.4	26.6	43.7
1920	402,946	60.5	39.5	29.8

Philadelphia offered opportunities for stable family life, but its landscape reflected the social and economic inequalities rampant during this period. The housing market of Philadelphia is a useful landscape for testing questions about technology, consumption, reform, and regulation. In particular, the experience of alteration illuminates the ways in which people navigated their physical environment to balance

²¹ US Census did not record tenancy status of respondents before 1890. “Owned-free” represents homes owned free of a mortgage. 1890: U. S. Census, *Report on Farms and Homes: Proprietorship and Indebtedness... 1890* (Washington, D.C.: Government Printing Office, 1896), 27-32; 1900-1920 from: Bernard J. Newman, *Housing in Philadelphia* (Philadelphia: Philadelphia Housing Association, 1921), 33.

out these two realities. Of the recorded building permit applications in the city, alterations accounted for twenty-two percent on average.²² (See Appendix B)

This study contributes to a large body of literature on the built environment and domestic architecture. It connects the most mundane aspect of building with important broader technological, social, political, and cultural narratives. It also fills a significant gap in the scholarship. Few scholars have given much attention to people's home alteration practices, and even fewer have explored the intellectual and political aspects of home alteration—the external forces that complicated people's private choices. This study's effort to periodize home alteration aligns it with other fields of scholarship, setting out a timeline with which to compare continuity and change within broader frameworks.

This study demonstrates how the social-construction of home alteration changed in the late nineteenth century for many middle-class Americans amidst rapid material, social, and economic change. Like so many other aspects of daily life and culture, including leisure time, shopping, family privacy, and even love and death, the ways in which Americans conceived and realized home alteration changed. This reconceptualization was also not inevitable, but instead reflects the complexity of the period. Like John Crowley's comfort and Richard Bushman's refinement, scant examples of a cultural shift about home alteration emerged amongst few elite in the eighteenth century.²³ By the late nineteenth century, these ideas were spreading to

²² Based on survey of building permits filed between 1886 and 1925. Building Permit Applications, Record 83-4.4, Bureau of Building Inspectors, Philadelphia City Archive. Hereafter: Permits, BBI, PCA.

²³ For example, Horace Walpole relished in the experience of making Strawberry Hill into his Gothic castle, and he wrote many times on his alteration project. His elite

middle-class Americans. Like many things, these changes were also not universal, but rather, bound up with socio-economic status, technological aptitude, and material access.

The history of home alteration intersects and connects with the history of technology and consumption, testing and building upon previous research, particularly studies that have used domestic life as a lens for examination.²⁴ The dramatic material and technological changes during this period challenged owners of preexisting homes who wanted to adopt modern standards of living, or at least not fall too far behind developing standards. Their choices illuminate the priorities and strategies they thought necessary to modernize a home and domestic life during this period.²⁵

status gave him the time, inclination, and leisure to savor such a process: Walpole to Mann, June 7, 1748 and Walpole to Williams, June 27, 1748, in W. S. Lewis, ed., *The Yale Edition of Horace Walpole's Correspondence* (New Haven: Yale University Press, 1983). Richard L. Bushman, *The Refinement of America: Persons, Houses, Cities* (New York: Alfred A. Knopf, 1992); John E. Crowley, *The Invention of Comfort: Sensibilities and Design in Early Modern Britain and Early America* (Baltimore: Johns Hopkins University Press, 2001).

²⁴ Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983). My focus on users and social construction of technology is grounded in the works of: Ruth Schwartz Cowan, "Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology," in *The Social Construction of Technological Systems* (Cambridge, Mass: MIT Press, 1987), 261-280; Nelly Oudshorn and Trevor Pinch, "How Users and Non-Users Matter" in *How Users Matter: The Co-Construction of Users and Technologies* (Cambridge, Mass: MIT Press, 2003), 1-28; Roger Silverstone and Leslie Haddon, "Design and the Domestication of Information and Communication Technologies: Technical Change and Everyday Life," in *Communication by Design: The Politics of Information and Communication Technologies* (Oxford: Oxford University Press, 1996), 44-74.

²⁵ Cowan reveals some of this, but without explicitly looking at the problems of getting technologies into the house in the first place. Ruth Schwartz Cowan, *More*

This study also adds a new dimension to our understanding of technological systems during this period. Domestic technological systems complicated home alteration like never before. As one architect in 1885 noted, “The aesthetic taste of the people has been cultivated, and very much more is demanded (beyond what was quite satisfactory in the old times) in this respect, as well as in the more practical points of increased comforts and conveniences, to say nothing about such entirely modern sciences as sanitation, electricity, etc.”²⁶ Self-interest may have prompted this architect to comment on the need to help clients cultivate taste, but he also addressed a late nineteenth century challenge: the problem of materializing an increasing array of conveniences—plumbing, sewage, gas, and eventually electricity—in their domestic lives. Inserting these systems into preexisting structures added new complications for builders and homeowners. This study illuminates this challenge, expanding existing scholarship on technological systems, which have missed or overlooked this aspect of the building process.

More broadly, the commodification of home alteration demonstrated the flexibility of the building industry to ride out economic slumps by creating new markets. Despite a series of recessions and depressions, the construction industry overhauled its marketing to treat existing homeowners as a new segment of consumers; their approach of selling products and projects illustrated the

Work for Mother (New York: Basic Books, 1983); Susan Strasser, *Never Done: A History of American Housework* (New York: Pantheon Books, 1982).

²⁶ Wilson Brothers & Co., *Catalogue of Work Executed* (Philadelphia: Lippincott Company, 1885), 43.

complications of commercializing, selling, and buying during this period.²⁷ In addition, builders, jobbers, architects, and other professionals also adjusted to new modes of buying and selling home alteration.²⁸ These changes in the nineteenth century set the stage for the twentieth century “Do-It-Yourself” (DIY) Movement that has gained popular and scholarly attention in recent years.

In addition, this history of home alteration provides new perspectives on the history of Progressive reform and modern regulation.²⁹ In Philadelphia, reformers identified home alteration as a persistent problem, particularly when it resulted in subdividing homes.³⁰ Efforts on the part of reformers and bureaucrats to regulate home alteration—a private and often hidden aspect of domestic life—met palpable resistance from builders and homeowners. However, after a tragic fire, public consensus emerged that accepted home alteration as a problem for public safety.

²⁷ Richard Harris explores this same activity in the twentieth century, focusing on the home improvement industry and the “do-it-yourself movement.” Richard Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914-1960* (Chicago: University of Chicago Press, 2012).

²⁸ Burton J. Bledstein, *The Culture of Professionalism...* (W.W. Norton and Company, Inc., 1976); Dell Upton, “Pattern Books and Professionalism...,” *Winterthur Portfolio* 19, no. 2/3 (1984): 107-150.

²⁹ Maureen A. Flanagan, *America Reformed: Progressives and Progressivisms, 1890s-1920s* (New York: Oxford University Press, 2007); Michael McGerr, *A Fierce Discontent: The Rise and Fall of the Progressive Movement* (New York: Free Press, 2003); Daniel T. Rogers, *Atlantic Crossings: Social Politics in a Progressive Age* (Cambridge, Mass: The Belknap Press of Harvard University, 1998), Olivier Zunz, *Why the American Century?* (Chicago: University of Chicago Press, 1999).

³⁰ Emily W. Dinwiddie, *Housing Conditions in Philadelphia* (Philadelphia: The Octavia Hill Association, 1904).

Afterwards, progressive reformers, trade groups, and city employees successfully brought it into building codes. Previous attempts to regulate home alteration had challenged a pervading ideological division between the domestic and the communal, the private and the public, and the individual and the commonwealth. Any successful regulation demonstrated the tipping point that American homeowners had for such invasiveness. Exploring this tension challenges traditional historical narratives of modern building reform that have primarily focused on tenants in tenements or progressive promotion of homeownership.³¹

Finally, a study of home alteration illuminates subtle yet important aspects of urban growth and urban planning during this period. A rise in urban population density challenged the market for affordable housing as demand outstripped supply, sparking people to find creative solutions. The existing urban landscape and the old houses that comprised it served as malleable resources for landlords and other absentee owners hoping to make a profit by turning the oldest and least desirable housing stock into apartments. This process created previously unknown levels of

³¹ John F. Bauman, Roger Biles, and Kristin M. Szylvian, eds., *From Tenements to the Taylor Homes: In Search of an Urban Housing Policy in Twentieth-Century America* (University Park, PA: The Pennsylvania State University Press, 2000); Paul Boyer, *Urban Masses and Moral Order in America, 1820-1920* (Cambridge, Mass.: Harvard University Press, 1978); Robert R. Fairbanks, *Making Better Citizens: Housing Reform and the Community Development Strategy in Cincinnati, 1890-1960* (Chicago: University of Illinois Press, 1988); Margaret Garb, *City of American Dreams: A History of Home Ownership and Housing Reform in Chicago, 1871-1919* (Chicago: University of Chicago Press, 2005); Roy Lubove, *The Progressives and the Slums: Tenement House Reform in New York City, 1890-1917* (Pittsburgh: University of Pittsburgh Press, 1962). For scholarship on Philadelphia reformers, see: John F. Sutherland "A City of Homes: Philadelphia Slums and Reformers, 1880-1918," (Thesis, Temple University, 1973).

density in American urban centers, squalid conditions, and contributed in part to the rising call for housing reform. It is this period that saw the rise of court cases and reform reports that documented landowners' shoddy home alterations for maximum return on investment. It also benchmarks a rise in city planners' efforts to stop the delaying tactics and lawsuits with more regulation.³² In the urban landscape, home alteration choices sparked a moral and social commentary on good and bad housing maintenance during this period.

Historiography

This project relies on an interdisciplinary body of ground-breaking work and methodologies from scholars. It builds upon several areas of historical inquiry: architectural history, history of technology, consumer history, business history, cultural history, legal history, and urban history. Many of these fields overlap and intersect. Few scholars have explored home alteration as a cultural or material phenomenon. Of the few, perhaps most well-known (and contested) is W. G. Hoskin's article, "The Rebuilding of Rural England," which traced the wide-spread modernization of medieval housing.³³ The 1987 issue of *Material Culture* included several articles that explored the different manifestations of home renovation.³⁴ More

³² Ann Mackin, *Americans and Their Land: The House Built on Abundance* (Ann Arbor: University of Michigan Press, 2006), 46-48, quote 47.

³³ W. G. Hoskins, "The Rebuilding of Rural England, 1570-1640," *Past and Present* 4 (November 1953): 44-59. For a reassessment of this classic piece, see: Robert Machin, "The Great Rebuilding: A Reassessment," *Past and Present* 77 (November 1977): 33-56.

³⁴ Elizabeth Mosby Adler, "Personalization and Conformity in Expansion Architecture," *Material Culture* 19, 2/3 (Summer-Fall 1987): 127-138; Thomas Carter, "Introduction," *Material Culture* 19, 2/3 (Summer-Fall 1987): 63-65; Bernard

recently, the provocative *How Buildings Learn* by Stewart Brand challenged the professional architectural field and the myth of permanence in architecture by demonstrating the ways in which people shape and reshape structures, bending them to fit changing needs. Brand argued that, despite built-in inhibitors to change such as design, construction, regulation, and taxation, buildings and their owners nonetheless adapt to changes “in and around them.”³⁵ This study looks more closely how people adapt to changes in their homes.

Other architectural studies have explored home alteration implicitly: while not looking for home alteration, they nonetheless demonstrate trends in design or “rebuilding” that help us understand changes to the built environment over time and across generations. Thomas C. Hubka’s classic study of New England farm complexes, *Big House, Little House, Back House, Barn: The Connected Farm Buildings of New England*, explains how farmers connected their homes and work spaces over time, resulting in a cascading structure of additions.³⁶ Architectural historian Bernard Herman notes in his study of early urban houses in Massachusetts the generational transformations people made to preexisting homes, as they rearranged

L. Herman, “Architectural Renewal and the Maintenance of Customary Relationships,” *Material Culture* 19, 2/3 (Summer-Fall 1987): 85-99; Michael Ann Williams, “‘Homeplace’: Abandonment, Alteration, and its Multiple Purposes,” *Material Culture* 19, 2/3 (Summer-Fall 1987): 101-112.

³⁵ Stewart Brand, *How Buildings Learn*, 2.

³⁶ Thomas C. Hubka, *Big House, Little House, Back House, Barn: The Connected Farm Buildings of New England* (Hanover, NH: University Press of New England, 1984).

spaces, adopted new heating methods, and incorporated fashionable finishes.³⁷ Many other examples follow a similar methodology, exploring isolated building practices through extensive field work and documentation. Together, they weave together countless examples of people changing their houses over time to make them more convenient and accommodate new needs. In this approach, altering homes and landscape is the story, though the process of home alteration is not consciously considered.

Two areas of research have consciously looked for process of building outside of conventional new construction and they closely relate to this project. The first is exploration of “self- building” among the working class, in which people with skill would circumvent the professional building industry to building and change their own houses. Richard Harris pioneered this concept in his study of urban building, which found through building permits and property assessment records that nearly a third of homes were owner-built in the twentieth century.³⁸ Building on this concept, Anne Krulikowski highlights working-class families who leveraged building skills to obtain homes at a lower cost in the Southwest suburbs of Philadelphia.³⁹ Michael Doucet and

³⁷ Bernard Herman, “Smaller Urban Houses of the North Shore, 1630-1830,” *Perspectives in Vernacular Architecture* 10 (2005): 3-14.

³⁸ Richard Harris, “Self-Building in the Urban Housing Market,” *Economic Geography* 67, 1 (Jan., 1991): 1-21.

³⁹ Anne Krulikowski, “A Workingman’s Paradise” The Evolution of an Unplanned Suburban Landscape,” *Winterthur Portfolio* 42, 2 (Winter, 2008): 267-268.

John Weaver found similar situations in Detroit and Pittsburg, where working-class rates of homeownership were high.⁴⁰

The second process to receive scholarly interest is the twentieth-century “Do-it-Yourself (DIY) Movement.” In 1998, Carolyn Goldstein, at that time a curator at the National Building Museum, created an exhibition catalog on the do-it-yourself movement. It was an exciting survey of sources and quick narrative history on the topic.⁴¹ Steven Gelber also focused on the do-it-yourself movement in his broader analysis of hobbies in America.⁴² More recently, Richard Harris documents the emergence and growth of the home improvement market of the twentieth century in *Building a Market*. The modern home improvement industry depended on the DIY movement, yet the efforts to commodify and sell home alteration have longer roots. This project serves as the prelude to these studies on DIY.

Historians of technology have been adept at explaining the ways in which people use and incorporate tools and technologies, and I rely heavily on their work. I follow the footsteps of many scholars who, inspired by the mid-twentieth century work of Siegfried Giedion, have explored the complicated technologies that

⁴⁰ Michael J. Doucet, and John C. Weaver., “Material Culture and the North American House: The Era of the Common Man, 1870-1920,” *Journal of American History* 72 (December 1985): 560-587.

⁴¹ Carolyn M. Goldstein, *Do it Yourself: Home Improvement in 20th-Century America* (Washington, D.C.: National Building Museum; New York: Princeton Architectural Press, 1998).

⁴² For connections of DIY to other hobbies, see: Kathleen Franz, *Tinkering: Consumers Invent the Early Automobile* (Philadelphia: University of Pennsylvania Press, 2005); Steven Gelber, *Hobbies: Leisure and the Culture of Work in America* (New York: Columbia University Press, 1999).

transformed American life.⁴³ In her study of technology in the home, Ruth Schwartz Cowan illustrated the ways in which industrialization changed domestic work by looking at tools, appliances and spaces. Cowan challenged the assumption that technological changes shifted the household from a unit of production to consumption, and provoked a nuanced consideration of work and production in the domestic sphere.⁴⁴ Outside of the home, many scholars have examined the adoption of technological systems. Roger Silverstone suggested that the integration of technology into daily life is a process that involves familiarization and transformation, or what he calls “domesticating” technology.⁴⁵ Ronald Kline’s *Consumers in the Country* studies outsider’s efforts to “modernize” the home, and contrasts those initiatives with

⁴³ Siegfried Giedion, *Mechanization Takes Command* (New York: Oxford University Press, 1948). Many of the following scholars cite Giedion as the provocation for their research. For the bathroom and plumbing: Elle Lupton and J. Abbott Miller, *The Bathroom, Kitchen and the Aesthetics of Waste* (New York: Princeton Architectural Press, 1996); Maureen Ogle, *All the Modern Conveniences: American Household Plumbing, 1840-1890* (Baltimore: Johns Hopkins University Press, 1996). For lighting and electricity: Ronald R. Kline, *Consumers in the Country: Technology and Social Change in Rural America* (Baltimore: Johns Hopkins University Press, 2000); David E. Nye, *Electrifying America: Social Meanings of a New Technology* (Cambridge: MIT Press, 1990).

⁴⁴ Ruth Schwartz Cowan, *More Work for Mother...* (New York: Basic Books, 1983).

⁴⁵ While Silverstone largely concentrated on information and communication technologies, his idea of domestication is very influential. For an example of his work, see: Roger Silverstone and Leslie Haddon, “Design and the Domestication of Information and Communication Technologies: Technical Change and Everyday Life,” in *Communication by Design. The Politics of Information and Communication Technologies* (Oxford: Oxford University Press, 1996), 44–74.

homesteader's select consumption of technologies.⁴⁶ Ruth Schwartz Cowan and Ronald R. Kline have applied social history methods to the study of technology and industrialization, and I build on their work.

Studies of changes to manufacturing, processing, and production also help contextualize the many new products that emerged to ease home alteration. David Hounshell's classic *From the American System to Mass Production* described the changes to methods of production through the late nineteenth and early twentieth century, as industries shifted from a system of factory production with interchangeable parts to Ford-style mass production.⁴⁷ Philip Scranton's study of small-batch producers in *Endless Novelty* complicated Hounshell's narrative of modern production, as he focused on the scale of manufacturer who would have comprised the architectural component industry I explore in this project.⁴⁸

Home alteration is also an act of consumption, so I turn to the large body of literature on the consumer revolution, consumer society, and mass consumption to contextualize this project.⁴⁹ Several theories for studying consumption guide this

⁴⁶ Kline, *Consumers in the Country*, 88.

⁴⁷ David Hounshell, *From the American System to Mass Production, 1800-1932: The Development of Manufacturing Technology in the United States* (Baltimore: Johns Hopkins University Press, 1984).

⁴⁸ Philip Scranton, *Endless Novelty: Specialty Production and American Industrialization, 1865-1925* (Princeton: Princeton University Press, 1997).

⁴⁹ For viewing home alteration as consumption, I follow the example set by Richard Harris: Harris, *Building a Market*, 6. For general discussion on consumption during this period, see: Regina Lee Blaszczyk, *American Consumer Society, 1865-2005: From Hearth to HDTV* (Wheeling, Illinois: Harlan Davidson, Inc., 2009); Priscilla J. Brewer, *From Fireplace to Cookstove: Technology and the Domestic Ideal*

project, particularly those developed by historians of technology. Theories emphasizing the social construction of technology allow me to explain home alteration project choices when little evidence remains but the project itself.⁵⁰ I also treat home alteration projects as a “consumption junction” to examine people’s select consumption of home alteration products and projects.⁵¹

To understand consumer motivations, I rely on scholarship that examines the confluence of buying with politics, morality, and middle-class values. Lizabeth Cohen showed the ways in which consumption can reaffirm political beliefs and enact political strategy.⁵² In his study of consumption, Daniel Horowitz demonstrated how people’s consumption patterns became the object of outsider influence, and were contested terrain in debates about morality, frugality and excess.⁵³ Historian Marina

in America (Syracuse, N.Y.: Syracuse University Press, 2000); Simon Bronner, ed., *Consuming Visions: Accumulations and Display in America, 1875-1970* (New York: W. W. Norton and Company, 1989); Clifford E. Clark, Jr., *The American Family Home, 1800-1960* (Chapel Hill, NC: University of North Carolina Press, 1986); Daniel Miller, *Material Culture and Mass Consumption* (New York: B. Blackwell, 1987).

⁵⁰ Pinch and Bijker, “The Social Construction of Facts and Artifacts,” 17-50.

⁵¹ Cowan, “Consumption Junction,” 261-280.

⁵² Lizabeth Cohen, *A Consumers Republic: The Politics of Mass Consumption in Postwar America* (New York, Alfred A. Knopf, 2003); Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (New York: Cambridge University Press, 1990); Lizabeth Cohen, “Embellishing a Life of Labor: An Interpretation of the Material Culture of American Working-Class Homes,” in Dell Upton and John Michael Vlach eds., *Common Places* (Athens, GA: University of Georgia Press, 1986), 261-280.

⁵³ Daniel Horowitz, *The Morality of Spending: Attitudes Toward the Consumer Society in America, 1875-1940* (Chicago: I.R. Dee, 1992).

Moskowitz examined the changing standard of living at the turn-of-the-twentieth century.⁵⁴ Similarly, Lawrence Glickman demonstrated the political consequences of a widely-accepted “standard of living.”⁵⁵ These authors show the cultural and political complications of buying.

Finally, I incorporate the work of scholars who have looked at changes to the process of consumption. Susan Porter Benson’s study of department stores illustrated the social and economic complexities of everyday consumption during this period.⁵⁶ I also relied heavily on scholars’ efforts to document and analyze the mail-order catalog, a new means for selling and buying that emerged during this period and facilitated the selling of goods and plans to homeowners for the first time. Daniel Reiff traced the evolution of architectural design dissemination in America from the earliest design treatise books of the eighteenth century up through to mail-order catalogs of the twentieth century.⁵⁷ In his study of mail-order house plans, architectural historian James Garvin asserted that late-nineteenth-century pattern book publishers served an increasing client base through horizontal integration and standardization.⁵⁸ Linda

⁵⁴ Marina Moskowitz, *Standard of Living: The Measure of the Middle Class in Modern America* (Baltimore: Johns Hopkins University Press, 2004).

⁵⁵ Lawrence B. Glickman, “Inventing the ‘American Standard of Living.’” *Labor History* 34, 2 (1993): 221-235.

⁵⁶ Susan Porter Benson, *Counter Culture* (Urbana: Illinois University Press, 1986).

⁵⁷ Daniel D. Reiff, *Houses from Books: Treatises, Pattern Books, and Catalogs in American Architecture, 1738-1950: A History and a Guide* (University Park: Pennsylvania State University Press, 2000).

⁵⁸ James L. Garvin, “Mail-Order House Plans and American Victorian Architecture,” *Winterthur Portfolio* 16 (Winter, 1981): 309-334.

Smeins also studied the influence of pattern books on national taste, suggesting that pattern book authors promoted middle class ideologies.⁵⁹ My study expands this body of work by looking at how homeowners used this mail-order material.

Business history scholarship contextualizes this project with research on the construction industry—a group that features prominently in this study and includes manufacturers, dealers, builders, architects, and publishers. Few scholars have focused on the business of building, which historian Richard Harris humorously though accurately describes as “back-of-the-envelope calculations, muddled and malleable sub-contracting, and general air of disorder.”⁶⁰ Predating this period, Donna Rilling’s *Making Houses, Crafting Capitalism* illuminates the messy business of urban speculative building. Continuing after this period, Richard Harris and Michael Buzzelli look at house building in the twentieth century. The methods used in both studies aid my own.⁶¹ Few sectors of the building industry adopted corporate models akin to those outlined in Alfred Chandler’s *The Visible Hand*, but his study was nonetheless useful for setting the building industry against other emerging business models. I also relied on it for my analysis of the Philadelphia Electric Company.⁶²

⁵⁹ Linda E. Smeins, *Building an American Identity: Pattern Book Homes and Communities, 1870-1901* (Walnut Creek, CA: AltaMira Press, 1999).

⁶⁰ Harris, *Building a Market*, 6; Richard Harris, and Michael Buzzelli, “House Building in the Machine Age, 1920s–1970s...,” *Business History* 47, 1 (2005): 59-85.

⁶¹ Rilling, *Making Houses, Crafting Capitalism* (Philadelphia: University of Pennsylvania Press, 2001); Richard Harris and Michael Buzzelli, “House Building in the Machine Age, 1920s-1970s” *Business History* 47, 1 (2005): 59-85.

⁶² Alfred Dupont Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass: Belknap Press, 1977).

The construction industry depended heavily on credit, loans, and later, realtors, and for that business historians also provide a wealth of information.⁶³ To bolster sales, those in the construction industry also increasingly employed more sophisticated marketing and advertisement strategies; although business scholars for these topics have overlooked the building sector, their work nonetheless contextualizes my findings.⁶⁴ Finally, to understand the efforts those in the building industry made to cultivate new consumers, I rely on Regina Blaszczyk's *Imaging Consumers*.⁶⁵ This project illuminates the existence of broader economic and business trends in the overlooked sector of the construction industry.

⁶³ Most of these studies look at the twentieth century: Lendol Calder, *Financing the American Dream: A Cultural History of Consumer Credit* (Princeton, NJ: Princeton University Press, 1999); Marc Weiss, "Marketing and Financing Home Ownership: Mortgage Lending and Public Policy in the United States, 1918-1989," *Business and Economic History* 2, 18 (1989): 109-118. Not enough scholarly attention has been paid to building and loan associations, which played prominently in the Philadelphia real estate market: Kenneth A. Snowden, "Building and Loan Associations in the US, 1880-1893: The Origins of Localization in the Residential Mortgage Market," *Research in Economics* 51, 3 (1997): 227-250; for contemporary perspective: Henry Morton Bodfish, *History of Building and Loan in the United States* (Chicago: United States Building and Loan League, 1931).

⁶⁴ Priscilla J. Brewer, "'We Have Got a Very Good Cooking Stove': Advertising, Design, and Consumer Response to the Cookstove, 1815-1880," *Winterthur Portfolio* 25, 1 (Spring, 1990): 35-54; Stephen R. Fox, *The Mirror Makers: A History of American Advertising and Its Creators* (University of Illinois Press, 1984); Pamela Walker Laird, *Advertising Progress: American Business and the Rise of Consumer Marketing* (Baltimore: Johns Hopkins University Press, 2001); Roland Marchand, *Advertising the American Dream* (Berkeley: University of California Press, 1985).

⁶⁵ Regina Lee Blaszczyk, *Imagining Consumers* (Baltimore, Md.: Johns Hopkins University Press, 2000).

Cultural historians have enthusiastically embraced the home in their studies, and I relied on their work to explain the cultural and intellectual currents underlying home alteration. Two significant works explore periods preceding this study, but nonetheless help explain the cultural currents that took hold in the nineteenth century and informed so many decisions about home alteration. Historian John Crowley's investigation of "comfort" transforms a seemingly "natural" concept into a revealing and complicated discussion of the connections between goods and ideologies; his approach heavily influenced my investigation into the conceptualization of home alteration. In addition, his study explained one of the key motivating factors for home alteration.⁶⁶ Richard Bushman's work on refinement and gentility illuminates the growing cultural emphasis on investing in the house as a social symbol; this insight helped explain why so many people sought to update their out-of-fashion homes.⁶⁷ Kasey Grier explores a similar dynamic in Victorian parlor making, and uncovered the intellectual and cultural currents that informed the ways in which people fitted out their parlors.⁶⁸ Motivations for home alteration are nuanced and often missing from archival record, but these studies contributed to the explanations for why people altered their homes.

This project intersects architecture with American legal history in new ways, but builds upon broad legal scholarship to do so. Little has been written on building

⁶⁶ Crowley, *The Invention of Comfort*, 142.

⁶⁷ Bushman, *The Refinement of America*, 239.

⁶⁸ Katherine C. Grier, *Culture and Comfort: Parlor Making and Middle-Class Identity, 1850-1930* (Washington, D.C.: Smithsonian Institution Press, 1997).

regulation in this country, and I know of no study that considers the regulation of home alteration.⁶⁹ Only scant discussions of permits appear, usually within the context of avoiding accurate property assessment.⁷⁰ For my investigation of building regulation, I have relied heavily on William J. Novak's survey of nineteenth century regulation, although he paid scant attention to building.⁷¹ This project expands on his research and fills a significant gap in scholarship.

Finally, this project draws upon urban history and city planning studies to place home alteration within the Philadelphia urban context. Most significant for my project was scholars' examination of the Progressive movement and urban reformers.⁷² While aiming to avoid portraying city government as an antagonist to reform, I also

⁶⁹ In Britain, scholars have expressed interest on the topic: Anthony Ley, *A History of Building Control in England and Wales 1840-1990* (Coventry, UK: RICS Books, 2000); S. Martin Gaskell, *Building Control: National Legislation and the Introduction of Local Bye-laws in Victorian England* (London: Published for the British Association for Local History by the Bedford Square Press: NCVO, 1983).

⁷⁰ Harris, *Building a Market*, 7.

⁷¹ William J. Novak, *The People's Welfare: Law and Regulation in Nineteenth-Century America* (Chapel Hill: University of North Carolina Press, 1996).

⁷² Paul Boyer, *Urban Masses and Moral Order in America, 1820-1920* (Cambridge, Mass.: Harvard University Press, 1978); Robert B. Fairbanks, *Making Better Citizens: Housing Reform and the Community Development Strategy in Cincinnati, 1890-1960* (Chicago: University of Illinois Press, 1988); Robert B. Fairbanks and Patricia Mooney-Melvin, eds., *Making Sense of the City: Local Governments, Civic Culture and Community Life in Urban America* (Columbus: Ohio State University Press, 2001); Margaret Garb, *City of American Dreams: A History of Home Ownership and Housing Reform in Chicago, 1871-1919* (Chicago: University of Chicago Press, 2005).

build upon scholarship that examines city bureaucracy during this period.⁷³ Within this field is significant work on the racial and class dynamics of nineteenth-century cities.⁷⁴ This literature helps understand the pressures of a city setting and population density on home alteration.

Chapters

This project looks at the ways that Americans of the late nineteenth and early twentieth century reconceptualized home alteration. The notion that through the right goods, policies, and services one could mitigate the burden of home alteration was revolutionary, and I explore the historical contexts within which these ideas emerged.

Chapter one surveys the building industry to demonstrate the lack of consideration for home alteration before the Civil War. A survey of builder guides and pattern books found nearly no mention of alteration, revealing the mundane role of alteration amidst traditional building practices. Manufacturers who made tools for

⁷³ John William Crum, “The Citizen VS. the City: Municipal Bureaucracy in Nineteenth-Century Philadelphia” (Dissertation, University of Delaware, May 1980); Peter McCaffery, *When Bosses Ruled Philadelphia: The Emergence of the Republican Machine, 1867-1933* (University Park, Pa.: Pennsylvania State University Press, 1993); Sam Bass Warner, Jr., *The Private City: Philadelphia in Three Periods of Its Growth* (Philadelphia: University of Pennsylvania Press, 1968).

⁷⁴ Stuart Blumin, *The Emergence of the Middle Class: Social Experience in the American City, 1760-1900* (Cambridge, New York: Cambridge University Press, 1989); William W. Cutler and Howard Gillette, *The Divided Metropolis: Social and Spatial Dimensions of Philadelphia, 1800-1975* (Westport, Conn: Greenwood Press, 1980); Allen F. Davis and Mark H. Haller, eds., *The Peoples of Philadelphia: A History of Ethnic Groups and Lower-Class Life, 1790-1940* (Philadelphia: Temple University Press, 1973); Theodore Hershberg, *Philadelphia: Work, Space, Family, and Group Experience in the Nineteenth Century : Essays Toward an Interdisciplinary History of the City* (New York: Oxford University Press, 1981).

batch production of building components functioned within the realm of the tradesmen. Legal regulations for building lacked any consideration for home alteration until 1855. By reviewing the omission of something as ubiquitous as home alteration this chapter illustrates and sets up the context for the changes that took place in the following decades.

Chapter two traces the ways in which home alteration was commercialized after the Civil War. Previously an overlooked part of the market, architects, manufacturers, and publishers worked to define and sell home alteration products and projects. I begin with the first plan book sold for alteration in 1878. From there, I follow a growing body of prescriptive sources in the 1880s that focused on home alteration, with a close reading of the projects and products authors prescribed. I combine this close study with a consideration of manufacturers' efforts to tap into the home alteration market.

Chapter three examines efforts to regulate home alteration between the 1870s and 1890s. In the 1870s, city officials reinterpreted new construction codes for home alteration projects, resulting in several court cases that restrained early enforcement efforts. It was only after a house fire and the ensuing intervention of reformers and professional builders in the late 1880s and 1890s that the regulation of home alterations finally gained traction, long after reform for new construction provoked by fires in London, Boston, Chicago and even Philadelphia. By that time, the pressures of density and technology finally provoked enough concern about the threat to public safety posed by poor or illegal alteration. With new legislation in the 1890s, public officials codified and incorporated home alterations into bureaucratic oversight. What

had been mundane and overlooked in the 1850s was by the 1890s a standard part of the building regulation process.

The final chapter examines how the Philadelphia Electric Company (PECO) encouraged home alteration by developing a full-service program for house wiring. PECO enveloped nearly every stage of a home alteration project into its business model and embarked on an advertising campaign about house wiring that described the process as a clean, friendly experience. Key to this process was a deferred payment plan, which allowed customers to buy a wiring project on credit just as they would a piano or automobile. The marketing approach reflects the corporation's efforts to mitigate prevailing concerns about home alteration.

Each chapter investigates the new solutions that marketers, authors, architects, and reformers developed to mediate the challenges of home alteration. Most of these trends were national in scale and promoted by upper and upper-middle class professionals and elites, who had a myriad of motivations for improving the experience of home alteration. Much of it was economically driven, but not always. The experience of home alteration by Philadelphia residents, the majority of whom were working-class and rented, tests national prescriptive literature and the middle-class ideals authors promoted. People negotiated new ideas, products, and policies in strategic ways as they constructed lives and homes amidst changing landscapes and tumultuous socio-economic opportunities and constraints.

Chapter 1

HOME ALTERATION IN EARLY AMERICA

Philadelphia was by many measures a thriving, modern city in the early nineteenth century. Home to technological innovation, cultural and artistic institutions, manufacturing, investment, and international trade, ideas and goods flowed through her early American ports and streets. In 1810, Philadelphia, which at that time ran from present-day South Street to Vine Street and river to river, had 15,814 houses and 53,722 residents.¹ The settlement of Philadelphia spread far beyond its formal boundary into outlying wards, which were quickly filling up. That year the surrounding districts of Northern Liberties and Southwark were home to an additional 33,581 people.² The city settled along the Delaware River like a crescent moon that slowly filled up with each coming wave of immigrants and each new generation of residents. (Figure 2) With international commerce and booming industry, Philadelphia was the second largest urban center in the United States after New York City. (Appendix A for population and housing statistics)

¹ James Mease, *The Picture of Philadelphia* (Philadelphia: B and T Kite, 1811), 32-35.

² Campbell Gibson, "Population of the 46 Urban Places: 1810," 1998. Available at <https://www.census.gov/population/www/documentation/twps0027/tab04.txt> (Accessed July 30, 2016).

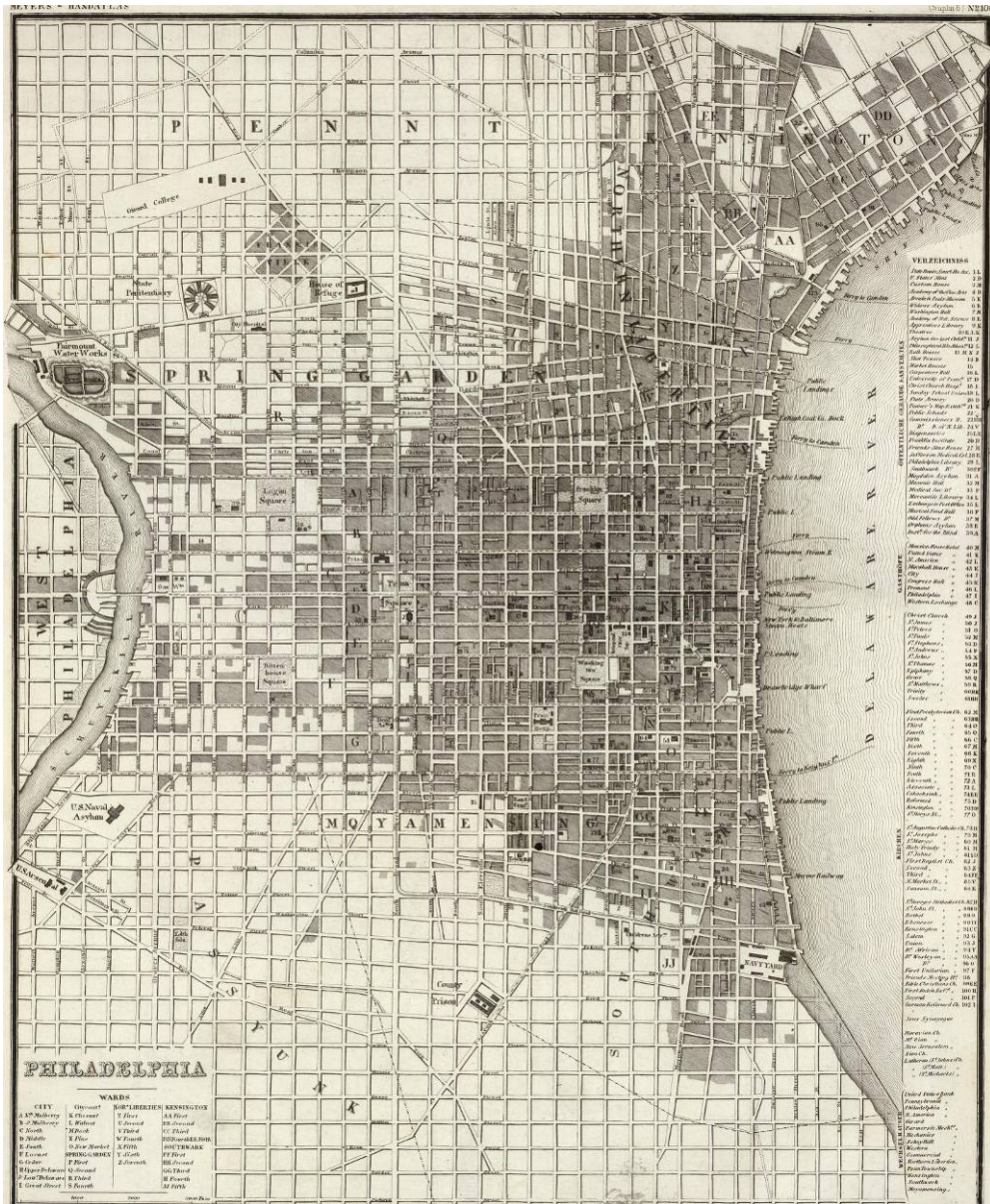


Figure 2 Philadelphia growth showing earliest settlement along the Delaware River, and spreading to the west, north, and south; to the north are Northern Liberties and Spring Garden, and to the south are Southwark and Moyamensing. These outlying townships and districts were incorporated into the City of Philadelphia in 1854. "Philadelphia..." Joseph Meyer, 1860. Courtesy David Rumsey Historical Map Collection, Cartography Associates.

By the time of the 1854 Consolidation of the City of Philadelphia, much had changed on the landscape. The city government enveloped surrounding communities, consequently adding people to its tax rolls and territory to its oversight. Wealthy investors joined with city officials to establish new services such as water, sewage, and gas works. In addition, much of the oldest housing stock, now cheek by jowl with warehouses, exchanges, and manufactories, were rapidly subdividing to house the mass of German, Irish, and later, Jewish and Italian immigrants who joined the city economy. Wealthier Philadelphians pressed outward into newer, more affluent areas to escape the consuming density of urban life. Even the better-off working and lower middle classes expanded their commute to the heart of city industry and commerce. Moving away from the older part of town brought people more comfortable homes with access to new utility systems; it also removed them from the poorer, denser areas of the old city.³ The physical, economic, and technological pressures on Philadelphia's old housing stock, like many other colonial cities, would have been evident by the 1850s.

Despite the many changes occurring in the city, there was a tremendous amount of continuity in the process of building, and in particular, altering old homes. For example, the changes “gentlewoman” Mary Cresson made to her houses (one of the famed Sansom Row houses built in 1800 by Thomas Carstairs) illustrates everyday

³ Stuart Blumin, *The Emergence of the Middle Class: Social Experience in the American City, 1760-1900* (Cambridge, New York: Cambridge University Press, 1989); Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985); Sam Bass Warner, Jr., *The Private City* (Philadelphia: University of Pennsylvania Press, 1968).

changes people made.⁴ One block away from the state house (now Independence Hall), Cresson lived away from the bustling wharves, yet still amidst a busy commercial area. Cresson's house was by 1838 nearly four decades old. That year, Cresson hired William Stansbury to clear her back lot and dig a hole for a privy. Five months later, Cresson settled a bill for building the bathhouse privy with Aaro and E. Roblin. Carpentry work, most likely for the privy, as well as plaster work, came later.⁵ Like many of us who want to update our home, she also reupholstered furniture, hired paperers, and purchased a new floor cloth. Cresson's changes included large investments—a new privy—to improve convenience as well as small changes to update the style of her home. Her knowledge of these alterations would have in large part been informed only by her day-to-day observations of the built environment (particularly pace-setting new construction) around her and the prescriptions offered by carpenters and builders.

An example ten years later demonstrates the dramatic changes that were beginning to manifest in Philadelphia building habits amongst the city's elite. In 1849,

⁴ According to her receipt book, Mary Cresson lived at 30 Sansom Street. Mary Cresson, Receipt Book, Document 485, Winterthur Museum, Garden, and Library. (Hereafter Winterthur) This is correlated with entries for her in local directories. In 1856, houses were renumbered in Philadelphia; in 1863, the same year as her death, Cresson is listed at 730 Sansom Street. *McElroy's Philadelphia City Directory* (Philadelphia: C. Sherman & Son., 1863; *Legal Intelligencer*, February 13, 1863. Cresson's insurance survey with the Philadelphia Contributionship records the same two addresses for her: Philadelphia Contributionship, Mary Cresson, Insurance Survey S07217. For more information on Sansom Row designed and built by Thomas Carstairs for William Sansom, see: Kenneth Ames, "Robert Mills and the Philadelphia Row House," *Journal of the Society of Architectural Historians* 27, 2 (May 1968): 140-146.

⁵ Mary Cresson, Receipt Book, Document 485, Winterthur.

affluent Philadelphia inventor, engineer, and president of the Franklin Institute (1864-1867) William Sellers updated his home near Seventeenth and Race several times in 1849 after being newly married.⁶ From the well-known Cornelius lighting company founded in 1827, he purchased several light fixtures. He also acquired a new \$50 range with an accompanying bath boiler (\$18) and heater (\$18) from Weaver and Volkmar. Sellers acquired a new hot air furnace and had system of pipes and registers installed throughout the house for \$91.55. He also installed a bathroom, which included a large iron tub from Motts, which likely used hot water from the new kitchen range, for \$47.47.⁷ Sellers, who had familiarity with of the latest domestic technological advancements, made dramatic improvements to his home that changed ventilation, heating, sanitation, and lighting.

Sellers's 1849 alterations signal the dawn of many complex changes to house systems. His home, on the western edge of center city, had access to public water systems. With cutting-edge industrial knowledge, he took a risk on new domestic technologies and had the money to do so. Sellers also likely had access to treatises on sanitation, ventilation, and other topics on architecture that were only beginning to enter the public sphere in the 1840s. In short, his experience as a wealthy, industrial entrepreneur set his home alteration project at the technological and design forefront.

⁶ Recorded in receipts as 599 Race (before 1856 renumbering); later bills refer to the property as 1623 Race Street. Other recorded renumberings in the Philadelphia Contributionship archives suggests this is the same house. For instance, a house on the north side of Sassafra St. (later Race St.), east of Schuylkill Sixth St. (now 17th St.) was documented as 1629 Race Street. William Sellers, Folder 1: Bills, 1845-1849, Collection 510, Winterthur.

⁷ William Sellers, Folder 1: Bills, 1845-1849, Collection 510, Winterthur.

Population density facilitated these opportunities for experimentation and innovation by creating a critical mass of consumers, artisans, infrastructure, and capital. At the same time, the city's aging housing stock and rising population also meant that many people were living in houses that were falling behind. Like Sellers and Cresson, many residents continued to adapt and modify their homes rather than move. That experience, combined with contemporary national conversations about building, portray a snapshot of home alteration that palpably lacks many of the considerations and factors that came to shape home alteration experience after 1870.

This chapter reflects on the continuity and change in home alteration during the first half of the nineteenth century (at times going back further). Other scholars have engaged many of these topics but have not focused on the history of home alteration. First, this chapter surveys the craft of building and the relative lack of explicit consideration for alteration in the business of building in early America. Next, it summarizes the mechanization of building, a process that began in the eighteenth century, but primarily took hold after the 1830s. After, it examines the emerging technologies and ideas about plumbing, heating, and sanitation that complicated household living standards. Then, it explains the ways in which topics of architecture and building entered public discourses after the 1840s through proscriptive literature and plan books. Finally, the chapter concludes with building regulation, a minimal effort in early America, but one that grew steadily after 1850, including the first inclusion of home alteration into building codes in 1855.

Before the complexity of buildings increased in the nineteenth century, the techniques for alteration were generally understood and therefore absent from economic, social, cultural and legal discourses. The structure, materials, and processes

of building were predicable, with very little change since antiquity.⁸ Most builders encountered alteration or remodeling at some point, and such projects generally followed the same material logic as new construction. However, with the changes that came in the early nineteenth century, buildings and their systems became more complicated.

Crafting Buildings

By the early nineteenth century, the colonial landscape of Philadelphia had given way to a complex arrangement of civic, commercial, and residential buildings splayed along a series of grid streets that went outward from the original center. The business of building had always been busy in Philadelphia. In 1690, 34 of the 119 craftsmen in the city were from the building trades, including carpenters, sawyers, brickmakers, bricklayers, and plasters; this number does not include the many laborers and apprentices who would have supported these artisans.⁹ In the complex social and economic environment of Philadelphia, efforts to control and manage the business of building developed early. In 1724, pressures of population and competition motivated master carpenters to form the Carpenters' Company of Philadelphia.¹⁰ In the years

⁸ John Fitchen, *Building Construction Before Mechanization* (Cambridge, Mass: The MIT Press, 1992).

⁹ Mary Dunn and Richard Dunn, "The Founding," in Russell F. Weigley, ed, *Philadelphia: A 200 Year History* (New York: W.W. Norton and Company, 1982), 10-20-21.

¹⁰ Date cited by the Carpenters' Company. For a summary of the debate surrounding the accuracy of this incorporation date, see: Roger W. Moss Jr, "The Origins of the Carpenters' Company of Philadelphia," *Building Early America* (1976): 42-44; Sharon V. Salinger, "Artisans, Journeymen, and the Transformation of Labor in

after the Revolution, building trades comprised one-fifth off all tradesmen in the city.¹¹ These men facilitated the physical growth of the city.

An important function of the Carpenter's Company was establishing a standard for the value of work and standards for measuring work, or mensuration.¹² Standard pricing allowed craftsmen to compare the price of their work around town to other locations; it allowed them to calculate profit against the fluctuating cost of materials; it also maintained the economic value of their work across an industry. By establishing a uniform system, the association helped to maintain professional credibility for the craft and control cutthroat competition.

The rules and price lists for trade organizations such as the Carpenter's Company provide a useful gauge for understanding home alteration within the context of the everyday business of building. There was little consideration for alteration; instead, alteration projects were performed in much the same way (and valued the same way) as new construction. One of the few references to alteration in the rule book was for altering or repairing roof laths, for which carpenters charged their time spent on the project.¹³ This recommendation made sense because workers had to remove the old material and add on new material, potentially including such features

Late Eighteenth-Century Philadelphia," *William and Mary Quarterly* 40, 1 (January 1983): 63.

¹¹ Bruce Laurie, *Working People of Philadelphia*, 4.

¹² Moss, "The Origins of the Carpenters' Company of Philadelphia," 47.

¹³ Charles E. Peterson, ed., *The Carpenters' Company of the City and County of Philadelphia 1786 Rule Book* (New York: Bell Publishing Company, 1971), 6

as partitions, dormers, cornices, flashing, or porches. The new work was predictable and could be estimated using mensuration tables. Ripping out, fixing, and preparing old material for new work was not as builders seldom could anticipate the problems they might encounter. Every experienced carpenter understood this problem and the tradition of omitting prices from building guides for old work continued into the nineteenth century.

A second example across the Atlantic published by William Pain in 1799 suggests a similar lack of explicit consideration for alteration across a number of building trades. Only bricklayer, mason, and glazier prices considered old work, and that was often in reference to reusing old materials, which involved prepping and resetting. Bricklayers also charged a different price for pointing old walls, which differed from a new wall by one pence per artificial foot. Bricklayer prices did include a price for pulling down old fronts and refacing them, perhaps a common task necessitating specific mention. Like the Philadelphia Carpenters' Company, carpenter prices in this pricelist made no mention of old work.¹⁴ As long as the building processes followed traditional patterns, there seems to have been no economic rationale for calling specific attention to it.

By the turn-of-the-nineteenth century, the building industry of Philadelphia was segmenting. In the last decades of the eighteenth century, the decline of enslaved and indentured labor and the waning of apprenticeships, along with rapid rise of freemen, meant that many master carpenters hired journeymen by the day, week or month. This system offered unstable positions and high turnover, but allowed

¹⁴ William Pain, *A List of Prices* (London: the Author, 1799).

journeymen to follow economic opportunities.¹⁵ Complicating the class configuration of the building trades was the professionally-trained architect and engineer, whose impact was minimal in the eighteenth century but would grow in the next century. British architect and engineer Benjamin Henry Latrobe brought with him a distinction between design and execution (or headwork and handwork), foreshadowing the growing gulf between builders and designers that developed in the nineteenth century.¹⁶ In 1772, a group that became the Mechanics' Association of Philadelphia was formed, largely for the interest of protecting wages.¹⁷ The growing organization of mechanics and journeymen created complicated class rifts.

In between the architect and the mechanic were the middling carpenters and builders who carried on the traditional processes amidst new class dynamics and with new processes as their business required.¹⁸ One example of these complications is seen

¹⁵ Sharon V. Salinger, "Artisans, Journeymen, and the Transformation of Labor in Late Eighteenth-Century Philadelphia," 72. Salinger reports the transience of journeymen across trades, a practice J. Ritchie Garrison examines for New England journeymen in: J. Ritchie Garrison, *Two Carpenters: Architecture and Building in Early New England, 1799-1859* (Knoxville: University of Tennessee Press, 2006), 1-13. Stuart Blumin, "The Hypothesis of Middle-Class Formation in Nineteenth-Century America: A Critique and Some Proposals," *American Historical Review* 90, 2 (April 1985): 312-316.

¹⁶ Jeffrey A. Cohen, "Building a Discipline: Early Institutional Settings for Architectural Education in Philadelphia, 1804- 1890," *Journal of the Society of Architectural Historians* 53, 2 (June 1994): 141.

¹⁷ Leonard Bernstein, "The Working People of Philadelphia from Colonial Times to the General Strike of 1835," *Pennsylvania Magazine of History and Biography* 74, 3 (1950): 327.

¹⁸ Stuart Blumin, *The Emergence of the Middle Class* (Cambridge, New York: Cambridge University Press, 1989); Donna J. Rilling, *Making Houses, Crafting Capitalism* (University of Pennsylvania Press: Philadelphia, 2001).

in the life of house carpenter William Wagner, who launched his career as an independent artisan during the Early Republic period in Philadelphia, but lived and worked long into the nineteenth century.¹⁹ As a house carpenter, Wagner managed every aspect of a building, functioning as a modern-day general contractor by purchasing materials, working with clients, and coordinating other tradesmen. In 1813, he engaged work from painters, glaziers, a bell hanger, blacksmith, brick makers, lumber dealers, carpenters, plasters, masons, carters and laborers. He also hired journeymen, and worked with a partner.²⁰ Together, they built houses around Philadelphia, primarily in the newly developing areas as the city expanded west and north. However, his principal occupations and source of income were from his managing roles as a contractor, speculative developer and “ground lord;” by the time of his death, Wagner owned over thirty houses.²¹

In the nineteenth century, the practice of speculative building as done by Wagner dramatically increased in scale.²² Speculation and specialization became far more pronounced as the population of Philadelphia advanced, particularly after the

¹⁹ For a discussion of house carpenters’ experience in Philadelphia during this period see: Donna J. Rilling, *Making Houses, Crafting Capitalism* (University of Pennsylvania Press: Philadelphia, 2001).

²⁰ William Wagner Account Book Document 660, Winterthur. For an early history of ground rents, see: Edward P. Allinson and Boies Penrose, *Ground Rents in Philadelphia* (Philadelphia: University of Pennsylvania, 1888).

²¹ William Wagner. Will number 625, 1865, Will book 56, page 445, Philadelphia Register of Wills.

²² Rilling, *Making Houses, Crafting Capitalism* (University of Pennsylvania Press: Philadelphia, 2001).

first wave of German immigrants in the 1830s. Artisans subdivided their industry, with many master carpenters and house wrights hiring journeymen to make components, or buying components from other jobbers.²³ The rise of specialization in the industry meant that the carpentry in a house was rarely done by a single man, but often by teams of workers such as a framer, a stair builder, a joiner, and a finisher. During the first decades of the nineteenth century, the business of building was complex, enabled by professional networks, investors, and a strong real estate market.

To conduct such a business, a craftsman like Wagner needed a tremendous amount of upfront capital, and the largest proportion of his business expenses was actually paying back loans and bonds, credit which he likely acquired to buy materials and land for speculative houses.²⁴ Most builders relied on investors who often bought the land and may have even loaned capital for supplies. Wagner's experience as a master house carpenter resulted in him leaving the physical labor of the craft, and expanding his management role. Like the architect, the speculative builder also transitioned to "headwork." Because Wagner diversified his pursuits, he died financially comfortable in 1865. During his career, Wagner would have witnessed changes in the economic, social and labor systems of building in Philadelphia, and he navigated them to make a comfortable life.

²³ Economic strategies observed in: Garrison, *Two Carpenters* (Knoxville: The University of Tennessee Press, 2006); Rilling, *Making Houses, Crafting Capitalism* (University of Pennsylvania Press: Philadelphia, 2001).

²⁴ William Wagner Account Book, May 1 to June 26 1813, Document 660, Winterthur.

By the 1830s, the economic, political and social experience of building was dramatically changing. In part, artisans were experiencing changes to their social standing in the city.²⁵ Architects emerged as a complicating elite profession within the building trades challenging the technical authority of master carpenters.²⁶ In addition, the increased mechanization of building supply production meant that the craft of building was at times taking place in a factory setting at the hands of mechanics with new modes of work and labor structures (see below). A consequence of these changes was increased tensions between mechanics and their employers. In 1827, Philadelphia workers established a new political party and factory workers, along with other mechanics, and began to agitate for improved conditions, specifically a ten hour day and improved wages.²⁷ In 1835, spurred by a carpenters' strike in Boston, Philadelphia workers launched a successful general strike for the ten hour day; included in this effort were carpenters, bricklayers, masons, plasterers, painters, and plumbers.²⁸ Two years later, an economic panic occurred that likely complicated these relationships even further, but the political activism of Philadelphia artisans did not resume again until the 1850s.

²⁵ Warner, *The Private City*, 65.

²⁶ Dell Upton, "Pattern Books and Professionalism: Aspects of the Transformation of Domestic Architecture in America, 1800-1860," *Winterthur Portfolio* 19 2/3 (Summer/Autumn, 1984): 107-150.

²⁷ Carpentry journeymen went on strike unsuccessfully in 1827. Leonard Bernstein, "The Working People of Philadelphia from Colonial Times to the General Strike of 1835," 328-335; Warner, *The Private City* (Philadelphia: University of Pennsylvania Press, 1968).

²⁸ Bernstein, "The Working People of Philadelphia," 337-338.

However, despite the rising industrialization of the city, after the 1850s many of the old building trades and processes survived from the era of the Carpenters' Company 1786 rule book. A speculative building project from 1851 by John Vogel for Samuel Schober demonstrates the continuity of the trade. That year, a contract of specifications for three houses outlined the terms of the project. The specifications comprised only verbal description, but outlined the basic scale, features, and materials to be used. Originally, Schober left much to Vogel's discretion, including the style of elements such as mantels, shutters, only requesting a "tasty stile" [sic]. However, Schober followed up in a later letter with more details about style. When the project was done, all the subcontractors, including stonemasons, bricklayer, carpenter, blacksmith, tinsmith, marble mason, plaster, painter, glazier, plumber, bell hanger, gas fitter, and paper hanger gave their stamp removing their claim, signaling that they had been paid and could not petition the courts for a mechanics lien for unpaid debts.²⁹

In 1877, a retired stonecutter became a real estate speculator in much the same way. His project reflects the continuance of old building practices amidst the expanding city. That year at the age of 71, Edwin Greble sold his granite yard at 21st and Sanson Street to builder Charles W Budd. This partnership included a complicated arrangement of financing and building. Like many speculative builders in Philadelphia, Budd bought the land on ground rent, and provided six mortgages for houses that would be built on the lot. Greble advanced Budd \$5000 for each house to cover building costs, but Greble did the stone work for the properties, for which he

²⁹ Samuel Schober, Doc. 470, Winterthur.

received one of the houses as partial payment.³⁰ Greble was very much involved in the design of the houses, dictating the style and class of construction along with materials. Despite criticism of the venture from his son (and apparently others), Greble took a risk and decided to build nicer houses than those normally constructed in the area.³¹ Anticipating the city's eventual move westward, he built the houses for the upward-moving middle class Philadelphians who were beginning to advance westward instead of the working-class renters who currently resided in the area. Because of a rise in building material costs, Budd and Greble agreed to delay the project until spring of 1881.³² In March Budd started digging the cellar and in September Greble reported that the "mill has been running for two weeks" preparing the wood to finish the houses.³³ By December of 1881, the buildings were completed, following much the same logic as carpenters from the eighteenth century.

Through the first half of the nineteenth century, the business and physical processes of home alteration had also changed very little. Advancing into the late

³⁰ To Edwin Greble (son) from Edwin Greble, September 23, 1877, Collection 196, Winterthur.

³¹ He writes: "Those persons and they were not a few, who thought I was foolish to build such houses, have changed their views and commend me for building these kind of houses instead of a lot of shanties to be inhabited by poor people." To Edwin Greble (son) from Edwin Greble, December 4, 1881, Collection 196, Winterthur.

³² He writes: "...for example nails that could have been purchased 6 months ago \$2.25 per kef now sell for \$5.00 and advancing; brick, lumber etc, have also risen in price..." To Edwin Greble (son) from Edwin Greble, January 15, 1880, Collection 196, Winterthur.

³³ To Edwin Greble (son) from Edwin Greble, March 31, 1881 and To "my dear children" from Edwin Greble, September 18, 1881, Collection 196, Winterthur.

1860s and early 1870s, carpenter Jesse Vodges's (1817-1893) account in West Philadelphia illustrates the continuity in building practices in the face of a rapidly industrializing city and expanding building technology. Projects recorded in a ledger spanning 1863 to 1876 show how Vodges diversified his business with a mixture of new construction and alteration, as well as jobbing, and component production. Out of a sample of 100 discrete projects through the years, he built four additions and three new structures (one was a twin house, another a shed, the third was undefined), he also completed sixteen alteration projects, sixteen jobbing projects (noted as jobbing or carpentry work in the ledger), eight repair jobs, twenty-seven component jobs (which did not include installation), five fences, seven pieces of furniture, six garden structures, and processed lumber and flooring for six clients.³⁴ Projects on preexisting structures, including alterations, repairs, and jobbing, was forty percent of his work.

For Vodges, alteration was a routine aspect of his business, attended to just as he would new construction projects. A sampling of projects illustrates the versatility a carpenter applied in preexisting buildings. For instance, in 1864 Vodges put in a new vestibule at Robert Shield's nearby tavern on Market Street.³⁵ A few blocks further away, Enoch Marple hired Vodges to make and install new molding for his parlor.³⁶ In 1866, Vodges built a new piazza addition with stairs for Henry Hadreich, possibly at his house at 1423 Locust Street.³⁷ In 1867, Vodges retrimmed portions of James

³⁴ Jesse T. Vogdes, Ledger, Document 1034, Winterthur.

³⁵ Jesse T. Vogdes, Ledger, July 7, 1864, Document 1034, Winterthur.

³⁶ Jesse T. Vogdes, Ledger May 7, 1866, Document 1034, Winterthur.

³⁷ Jesse T. Vogdes, Ledger, September 11 and October 11, 1866., Document 1034, Winterthur.

Shaw's house, with blinds, doors, window sills, and shutters that he made, transported to the site, and had two men install.³⁸ Many more entries labeled simply "jobbing" with hours and supplies were likely many more other alteration or repair projects. In this traditional business model, there was little difference in his treatment of new and old work.

Homeowners seemed to have embraced this same mundane ethos of home alteration as their builders. The relative lack of letters or diary entries about home alteration suggest that most Americans in the eighteenth and early nineteenth century assigned it little intellectual or social weight, and therefore, deemed it unworthy of mention.³⁹ As expressed by Cibber, unsurprisingly, there was a long tradition of complaining about the costs.⁴⁰ Otherwise, few people seem to have given it much thought other than commenting on the inconvenience it caused. For most people home alteration was part of the everyday obligations of keeping a home. Such was the case for prosperous Philadelphian Elizabeth Drinker (1735-1807), who in 1795 recorded the repair of a kitchen hearth and carpentry work underway in her parlor along with

³⁸ Jesse T. Vogdes, Ledger, June 3-12, 1867, Document 1034, Winterthur.

³⁹ Extensive keyword search performed in database of women's diaries and letters: "new kitchen," "new stairs," "portable heater," "new piazza," "new porch," "new stove," plumber, mason, heater, workman, carpenter, housewright, builder, altering, "alter AND house," renovate, remodel, remodeling, "old house," "old rooms," bathroom, washroom, modernize, inconvenient, piecemeal, plumbing, "fixing up," hammer, molding, moulding, millwork, mansard, catalog, catalogue.

⁴⁰ Colley Cibber's *The Double Gallant* of 1707. An example from the 1870s discussing the improvement of "old houses" is: "Remodeling Old Places," *Hearth and Home* 2, 21 (May 14, 1870): 328.

her regular account of weather, visitors, and other daily activities.⁴¹ As with many events she recorded, her alteration project was perhaps worth mentioning as a matter of record, but she seems to have given little written consideration to the project, treating it as any other facet of her life.

By the late nineteenth century, upper-and upper-middle-class Americans, influenced by architects and tastemakers, had increased access to ideas, materials, and means to transform their own homes, and increasingly saw the process as one that was deliberate and a cultural expression rather than mundane. This notion would permeate American culture even further in the twentieth century with the Do-It-Yourself movement.⁴² However, as long as traditional building practices and domestic uses continued, home alteration was a natural part of life and did not warrant much consideration or contemplation.

Mechanization of Building

In urban areas like Philadelphia, scales of building operations and increased demand encouraged many craftsmen to develop ways to quicken the building process. Specialization in the trades was one such way, and it allowed craftsmen to cycle through many building projects and apply their particular skill. Another way was by

⁴¹ Elizabeth Sandwith Drinker, June 24, 1795, in Elaine Forman Crane, ed., *The Diary of Elizabeth Drinker* (Boston, MA: Northeastern University Press, 1991), 695. For more on Drinker, her social status, and her daily activities: Crane, "Introduction," *The Diary of Elizabeth Drinker*, xv- xxvi; Debra M. O'Neal, "Elizabeth Drinker and Her "Lone" Women: Domestic Service, Debilities and (In)Dependence Through the Eyes of a Philadelphia Gentlewoman," *Pennsylvania History* 68, 4 (2001): 435-464.

⁴² Richard Harris, *Building a Market* (Chicago: University of Chicago Press, 2012).

incorporating mechanization within the material processing and production stages. With foot, water, and later steam power, many tradesmen could invest in machines that cut labor time in the shop or lumber yard. In Philadelphia, the technical and capital inputs necessary for these advances were justified by the economies of scale enabled from population increases and housing demand.

The industrial revolution of the eighteenth century marks the introduction of efficiencies to the building trades. In the mid-eighteenth century, French philosophers Denis Diderot and Jean le Rond d'Alembert compiled and edited the *Encyclopédie*, which documented scientific ideas and advancements as well as arts and crafts processes. Articles for many of the building trades (particularly materials manufacturers) capture an already complicated technological landscape. Counterweighted and human-powered machines aided stone cutters and masons who drilled or turned columns. Masonry tile and brick manufactures had a complex process that distributed labor across clay processing, forms, kilns, and drying yards.⁴³ Like bricks, glass manufactures maintained a complex and specialized operation that was labor, resource, and space intense. It was an expensive material, which explains the frequent notation in eighteenth and nineteenth century insurance surveys of the exact size and quantity of glass in buildings. A few years later after the last volume was published, economist Adam Smith also recorded early segmentation in

⁴³ “Architecture and Related Subjects – Rock Drilling Tools,” *The Encyclopedia of Diderot & d'Alembert Collaborative Translation Project* (Ann Arbor: Michigan Publishing, University of Michigan Library, 2010) <http://hdl.handle.net/2027/spo.did2222.0001.370> (accessed May 16, 2016).

manufacturing.⁴⁴ By the Revolutionary War, production was already complicated in significant ways that were beginning to shift labor and production organizations in traditional crafts shops and building sites.

Lumber, the basic material for many Philadelphia trades including carpenters, shipwrights, joiners, cabinetmakers, coopers, and coachmakers, received early technical advances as well. The *Encyclopédie* documents traditional and advanced technologies for sawing, showing the scale of processes that were in effect during the period. When competition and scale was less intense, a yard where workers hand ripped lumber was likely adequate.⁴⁵ For more intense commercial needs, a water-powered sawmill could rip boards with a circular saw at a faster pace.⁴⁶ However, more complex operations, such as window and door joinery, were at that time still done by hand. Tools were hand-held planes, chisels, and saws; there are no machines

⁴⁴ In his famous *The Wealth of Nations*. Many have since covered his work, but for a brief summary of his observations about labor, see: E. G. West, “Adam Smith’s Two Views on the Division of Labour,” *Economica* 31, 121 (February 1964): 23–32.

⁴⁵ “Carpentry , Plate 1,” *The Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*, Translated by Ann-Marie Thornton (Ann Arbor: Michigan Publishing, University of Michigan Library, 2012) <http://hdl.handle.net/2027/spo.did2222.0001.184> (accessed May 16, 2016).

⁴⁶ Diderot depicts a saw mill from Holland: “Carpentry, Plates 34 and 35,” *The Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*, Translated by Ann-Marie Thornton (Ann Arbor: Michigan Publishing, University of Michigan Library, 2012) <http://hdl.handle.net/2027/spo.did2222.0001.415> (accessed May 16, 2016). Scholars have debated the origins of the circular saw: Normal Ball, “Circular Saws and the History of Technology,” *Bulletin of the Association for Preservation Technology* 7, 3, (1975): 79- 89; John O. Curtis, “The Introduction of the Circular Saw in the Early 19th Century,” *Bulletin of the Association for Preservation Technology* 5, 2 (1973): 162-189.

indicated for joinery.⁴⁷ (Figure 3) Turners were aided by lathes, often powered by foot or hand-cranked by another person.⁴⁸ By the early 1800s, many Americans were experimenting with ways to mechanize planing, joining, and other process, although apparently unsuccessfully.⁴⁹ After Thomas Blanchard invented his irregular lathe for gunstock making in 1819, carpenters, joiners, and other wood-working craftsmen increasingly utilized mechanized lathes that could run on horse, water, or (later) steam power.⁵⁰ All of these developments reflect how various industries had begun to segment, specialize, and mechanize to increase efficiencies during the “first” industrial revolution.

⁴⁷ “Joinerywork in Building,” *The Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*, Translated by Ann-Marie Thornton (Ann Arbor: Michigan Publishing, University of Michigan Library, 2010) <http://hdl.handle.net/2027/spo.did2222.0001.571> (accessed May 16, 2016).

⁴⁸ “Turner and Turning Lathe,” *The Encyclopedia of Diderot & d’Alembert Collaborative Translation Project* (Ann Arbor: Michigan Publishing, University of Michigan Library, 2010) <http://hdl.handle.net/2027/spo.did2222.0001.639> (accessed May 16, 2016).

⁴⁹ See a sample list in: Curtis, “The Introduction of the Circular Saw in the Early 19th Century,” 165.

⁵⁰ Carolyn C. Cooper, “A Patent Transformation: Woodworking Mechanization in Philadelphia, 1830-1856,” in Judith A. McGaw, ed., *Early American Technology: Doing and Making Things from the Colonial Era through 1850* (Chapel Hill: University of North Carolina Press for the Institute of Early American History and Culture, 1994); Carolyn C. Cooper, “Social Construction of Invention through Patent Management: Thomas Blanchard’s Woodworking Machinery,” *Technology and Culture* 32, 4 (Oct., 1991): 960-998.

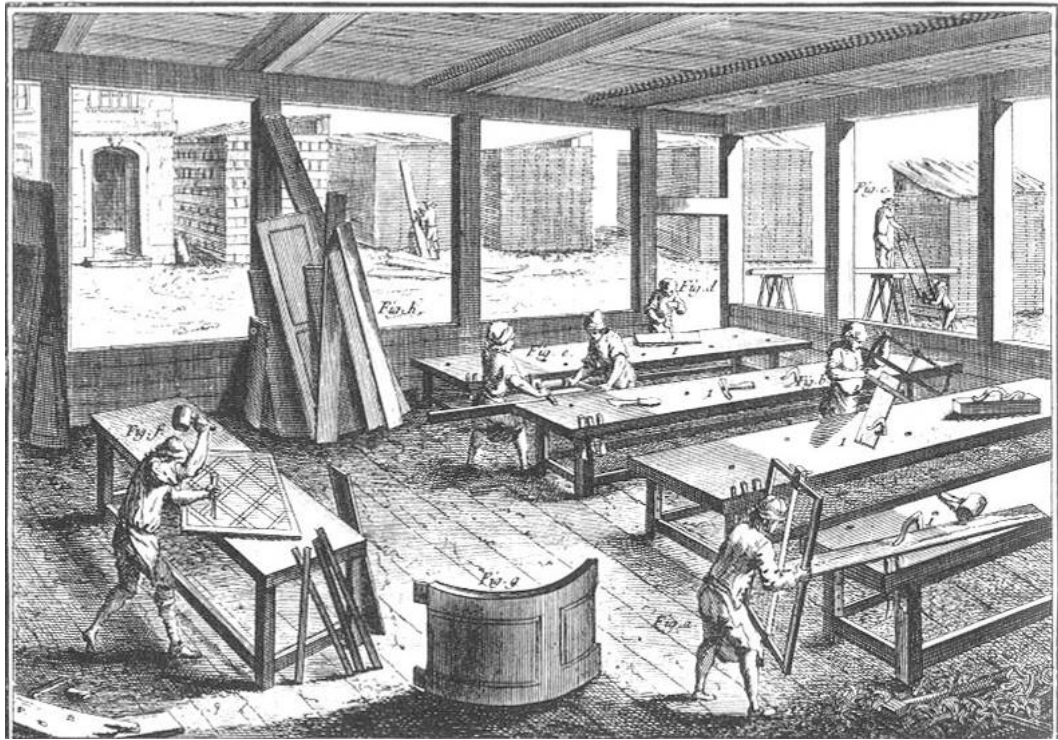


Figure 3 Plate 2: Building joinery, from the *Encyclopédie*. Courtesy ARTFL Project, University of Chicago.

These same levels of woodworking skill and technology existed in early Philadelphia. The first colonists brought equipment for sawmills when they settled, but these were constructed on the outskirts of the city near timber sources and water power. Within the city, hand sawyers were readily hired, possibly for specialized needs such as veneers or complex cuts for shipbuilding. By 1760, forty sawmills were recorded in the county of Philadelphia. However, most lumber would have been transported by rivers, where lumber dealers sold it to various tradesmen to process. Along the Delaware above and below the historic commercial center, “board yards”

emerged where lumber was sold.⁵¹ Lacking adequate sources for water power, most craftsmen in the city continued to make their goods with human or horse power until the early nineteenth century.⁵²

Builders and manufactures streamlined whenever they could, even before the advent of machines.⁵³ Using apprentices or journeymen to produce components in bulk (often in the slow winter season) was one strategy for maintaining stock of common items and earning extra income.⁵⁴ In 1742, carpenter John Boyd advertised a variety of door cases and window cases with shutters and sashes available to sell in an apparent winter liquidation of his shop stock.⁵⁵ Housewright William Wagner eased his house building business by purchasing similar stock at vendue (auction), getting a lot of sashes and shutters for \$38.95.⁵⁶ These were strategies to make building more streamlined and cost efficient.

Bricks, a material that dominated the Philadelphia landscape, were made by hand into the early nineteenth century. Often made near clay deposits, brickmakers divided the process into a series of efficient steps that carried the raw clay through the

⁵¹ Defebaugh, *History of the Lumber Industry of America, Volume 2*, 556-558, 577-578.

⁵² Cooper, "A Patent Transformation," 285.

⁵³ Garrison, *Two Carpenters*, 62-65; Rilling, *Making Houses*, 129-162.

⁵⁴ For apprenticeship in Philadelphia: Ian M. G. Quimby, *Apprenticeship in Colonial Philadelphia* (New York, 1985).

⁵⁵ John Boyd, Advertisement, *Pennsylvania Gazette*, February 3, 1742.

⁵⁶ William Wagner, Account Book, Document 660, Winterthur.

brickyard until it was leached, kneaded, molded, dried, and fired. The average molder could form 9,000 to 10,000 bricks a day. Many brick manufacturers experimented with methods to quicken the arduous task of molding the clay; some simple changes included changing the mold. In Europe and America in the eighteenth century, reports and patents document additional efforts to mechanize this process, including a stamping machine in 1793.⁵⁷ In the 1810s, several people designed machines to replace the molder; one fed clay through a horse-powered wooden machine that compressed the clay into molds and ejected the brick out.⁵⁸ None of these experiments yielded good enough results to be widely adopted, partly because of the unpredictable nature of the raw clay material. In 1811, Philadelphia had approximately thirty brickyards all making them by hand.⁵⁹ In the 1840s, approximately fifty brickyards made more than 50 millions bricks a year, most of which were still being hand pressed.⁶⁰

Widely-adopted changes in wood processing and brickmaking came after the 1830s, when the combination of coal fuel, iron machinery, and steam power became economically feasible for more manufacturers.⁶¹ By that time, many efforts had

⁵⁷ I. B. Holley, Jr., "The Mechanization of Brickmaking," *Technology and Culture* 50, 1, (Jan. 2009): 83-84.

⁵⁸ *Ibid.*, 86.

⁵⁹ *Ibid.*, 87.

⁶⁰ *Ibid.*, 90.

⁶¹ For advancements spurred by steam power and iron machinery in other industries, particularly armories and shipbuilding, see: Hounshell, *From the American System to Mass Production* (Baltimore: Johns Hopkins University Press, 1984);

already been underway to mechanize some of the most arduous and repetitive tasks, including planing and turning. By 1828, sawmills and lumberyards adopted planing machines to smooth flooring or clapboards, both of which were high-volume building components.⁶² With the adaptation of steam power in the 1830s, manufacturing could be moved away from sawmills and relocated to dense urban settings like Philadelphia, which were closer to transportation, clientele, and workers.

Within the millwork industry, shop owners used these machines to save time and cut costs. Turning machines refined woodwork into balusters and other stair and porch parts, along with more profuse furniture components.⁶³ In 1848, the first molding machine for general use was introduced, which eased production of baseboards and caps, window and door trim, window mullions, and door stiles and rails. Two decades later, the vertical spindle shaper appeared. This machine provided greater flexibility and required less set-up time at a lower cost. The machine now recognized as the modern router was developed between the 1850s and 1870s.⁶⁴ After the Civil War, many manufactures with access to capital established firms that produced components at a larger scale using these machines.

Quentin R. Skrabec, Jr., *The Metallurgic Age: The Victorian Flowering of Invention and Industrial Science* (Jefferson, NC and London: McFarland and Company, Inc., 2006).

⁶² Cooper, "A Patent Transformation" in McGaw, ed., *Early American Technology* (Chapel Hill: University of North Carolina Press, 1994).

⁶³ Philip Scranton, *Endless Novelty: Specialty Production and American Industrialization, 1865-1925* (Princeton: Princeton University Press, 1997).

⁶⁴ John H. Englund, "An Outline of the Development of Wood Moulding Machinery," *Bulletin of the Association of Preservation Technology* 10, 4 (1978): 20-46.

Many tradesmen incorporated some of these changes into their production strategies by the mid-century. However, the convenience of these machines had its limits. Industrial machinery took up space, was heavy to move, and required a source of power that was usually distributed by line shafting—variables that typically impeded rapid changes and required high capital inputs. Many basic machines such as lathes, mortising machines, drill presses, scroll saws, and other devices were suited to much smaller shops and could be powered by foot treadles or hand cranks.

By the 1850s, Philadelphia brickmakers were also making production advances. The city had a strong reputation for the quality of its clay and subsequent bricks.⁶⁵ In 1857, the city had 50 brick yards.⁶⁶ There was an immense demand for Philadelphia bricks, yet brickmaking machines needed to accommodate a variety of soil, and most that were already developed were adapted to dry clay. Philadelphia’s “stiff clay,” some insisted, was not suitable for machinery. However, manufacturers did not employ steam-powered brickmaking machines until after 1857 when Chambers Brothers Company in Philadelphia developed a successful device.⁶⁷ With more intimate knowledge of Philadelphia clay, the Chambers Brothers Company was able to design a machine that spurred mechanized brickmaking after the Civil War.

The mechanization of component production had a significant impact on the labor experienced within the building industry. The machines that increased output at

⁶⁵ Holley, “The Mechanization of Brickmaking,” 82-102.

⁶⁶ Edwin T. Freedley, *Philadelphia and Its Manufactures* (Philadelphia: Edward Young, 1858), 198.

⁶⁷ Holley, “The Mechanization of Brickmaking,” 92-93.

the same time decreased labor costs by replacing skilled journeymen or apprentices with less skilled mechanics who could operate machines. In 1858, a shop owner paid a craftsman \$60 to make 50 pairs of yellow pine sashes; when done by machine, in 1896 the labor cost dropped to \$9.⁶⁸ By 1850, many workers in the building construction trades labored in manufactory settings: the US Census recorded forty-one percent in manufactory settings, twenty-nine percent in sweatshops, nineteen percent in factories and only nine percent in artisan settings.⁶⁹ These environments varied according to the scale of production and the degree to which production was mechanized.⁷⁰

By increasing the production of components and decreasing labor costs, manufacturers shifted the volume and price point of building materials entering the market. One of the long term consequences of this, especially for alteration, was the rise in a building component market that increasingly was oriented towards non-professional home owners. By the 1880s, manufacturers marketed components as fashionable, mail-order goods. For home alteration, this meant that homeowners could add in new components as whim or need required. Significantly, these projects could be done without the help of an architect or builder, and whole buildings could be addressed piecemeal, resulting in the pitfall of mix-matched or conspicuous

⁶⁸ Robert A Christie, *Empire in Wood: A History of the Carpenters' Union* (Ithaca, 1956), 26, as cited in: Michael J. Doucet and John C. Weaver, "Material Culture and the North American House: The Era of the Common Man, 1870-1920," *Journal of American History* 72 (December 1985): 571.

⁶⁹ Laurie, *Working People of Philadelphia, 1800-1850*, 17.

⁷⁰ Factories were equipped with steam and/or water wheels and lacked traditional craft organization. Laurie, *Working People of Philadelphia*, 15.

assemblages. Aided by cheap paper and printing and reliable rail transport, building components traversed a farther geographic and economic scope than they did a generation earlier.

Domestic Technologies

After the 1840s, new domestic technologies and improved design standards transformed people's expectations of their living environments.⁷¹ Sellers's 1849 alteration project, which included a bathroom, improved stove, and new furnace, was a preview of the drastic transformations people would impose upon their old homes. The projects to fit these in were complex, surpassing the kinds of physical interventions that home alteration previously entailed. Within preexisting walls and floors, and around occupying families, contractors inserted pipes for gas, plumbing, hot air, and steam; added windows for light and ventilation; and altered fireplaces with evolving stove models. Domestic technologies improved comfort, but they posed challenges to old building practices.

People wanted to be comfortable, and innovations that increased a home's warmth came earliest.⁷² Later, people's interest in sanitation spurred public water and,

⁷¹Ruth Schwartz Cowan, *More Work for Mother* (New York: Basic Books, 1983); Ronald R. Kline, *Consumers in the Country* (Baltimore: Johns Hopkins University Press, 2000); Elle Lupton and J. Abbott Miller, *The Bathroom, Kitchen and the Aesthetics of Waste* (New York: Princeton Architectural Press, 1996); Maureen Ogle, *All the Modern Conveniences: American Household Plumbing, 1840-1890* (Baltimore: The Johns Hopkins University Press, 1996).

⁷²John E. Crowley, "The Sensibility of Comfort," *American Historical Review* 104, 3 (June, 1999): 749-782, quote on 150. Crowley parlayed the ideas discussed in this article into a book: John E. Crowley, *The Invention of Comfort: Sensibilities and Design in Early Modern Britain and Early America* (Baltimore, Md.: Johns Hopkins University Press, 2001).

sewer systems, ventilation, and light. Clean water kept people from dying from unsanitary springs and wells. Citywide sewage systems flushed away large amounts of waste, which made back alleys, yards and streets safer, but polluted downstream resources. Underlying the growth of technological systems were the pressures of critical mass created by urban growth and suburbanization that rose during the nineteenth century, particularly after 1850.

Improving upon the traditional fire place began in the eighteenth century. Innovators influenced by an enlightened combination of scientific research and technological experimentation fought against drafty fire places with new improvements.⁷³ Dutch and German settlers brought Continental stoves to America, but British settlers failed to adopt them, in part because such devices prevented viewing the fire. In 1744, Philadelphia inventor Benjamin Franklin promoted his “Pennsylvania Fireplace” to create more comfortable, smoke- and draft-free heat, which improved the efficiency of the traditional hearth so favored by British settlers.⁷⁴ However, because of the cost, it was not widely adopted.⁷⁵ In addition, installing the Franklin stove required altering the masonry around the hearth, which was perhaps an additional inconvenience that hampered its adoption.⁷⁶ The development of more

⁷³ Samuel Y. Edgerton, “Heating Stoves in Eighteenth Century Philadelphia,” *Bulletin of the Association for Preservation Technology* 3, 2-3 (1971): 16.

⁷⁴ Crowley, “The Sensibility of Comfort,” 769-771. Samuel Edgerton summarizes the British preference in: Edgerton, “Heating Stoves in Eighteenth Century Philadelphia,” 15-16.

⁷⁵ Cowan, “The Consumption Junction,” 269-272; Ferguson, “An Historical Sketch of Central Heating: 1800-1860,” 167.

⁷⁶ Ferguson, “An Historical Sketch of Central Heating: 1800-1860,” 182 note 10.

innovative hearth alterations and stoves continued through the eighteenth century, and historian Paul Clemmons notes that stoves (along with clocks) were important consumer objects, which, although not widely distributed, nonetheless withstood the litmus test of standard comfort for many Americans.⁷⁷ Improving the warmth of a home with the latest technology was not indulging in luxuries, but rather, adopting necessities.

In the nineteenth century, people increasingly adopted heating improvements that transitioned them away from the hearth to cast-iron stoves and later coal-powered furnaces. In the 1820s, Jordon Mott, a coal merchant, developed a stove that was assembled from plates cast from pig iron and fueled by coal. His innovation set into place a wave of cast iron stove development in the mid-nineteenth century.⁷⁸ These coal-burning stoves became common for many middling Philadelphians in the nineteenth century. Coal changed the ability for manufactures to produce iron plates cheaply, and functioned as a new fuel source for stove consumers.⁷⁹ In coal-rich Pennsylvania, this was particularly important.⁸⁰

⁷⁷ Paul Clemens, “The Consumer Culture of the of the Middle Atlantic, 1760-1820,” *William and Mary Quarterly* 62, 4 (Oct., 2005):577-624. Ruth Schwartz Cowan explores the consumer adoption of the stove in: Cowan, “The Consumption Junction,” 264-273.

⁷⁸ Cowan, “The Consumption Junction,” 272.

⁷⁹ Freedley commented on the “cheapness” in Freedley, *Philadelphia and Its Manufacturers*, 290.

⁸⁰ Frederick M. Binder, “Anthracite Enters the American Home,” *Pennsylvania Magazine of History and Biography* 82, 1 (Jan. 1958): 82-99.

Beginning in the 1840s, inventors filed an increasing number of patents for stoves, baseburners, and ranges.⁸¹ By 1859, Philadelphia had five iron foundries exclusively manufacturing stoves; one of them produced 30,000 stoves a year.⁸² Other manufacturers produced stoves along with other supplies, and some stove makers purchased plates and assembled them in their shops, modifying them into cook stoves or hot-air furnaces.⁸³ In the 1860 census, the United States had 220 stove manufacturers.⁸⁴ The innovation spread rapidly once manufacturers could produce stoves cheaply and after people could acquire coal cheaply.

Innovations in lighting also transformed the home environment, as the source of lighting increasingly became separated from the source of heating and cooking.⁸⁵ Improvements in petroleum processing resulted in kerosene lamps and the by-product gasoline was adapted for home use. In Philadelphia, the municipally-owned gas works

⁸¹ Howell John Harris, “‘The Stove Trade Needs Change Continually’: Designing the First Mass - Market Consumer Durable, ca. 1810–1930,” *Winterthur Portfolio* 43, 4 (Winter 2009): 365-406; Thomas Schlereth, “Conduits and Conduct: Home Utilities in Victorian America, 1876-1915,” in Jessica H. Foy and Thomas J. Schlereth, eds., *American Home Life, 1880-1930: A Social History of Spaces and Services* (Knoxville, Tenn.: University of Tennessee, 1992), 225-241.

⁸² Freedley, *Philadelphia and Its Manufacturers*, 290.

⁸³ Freedley, *Philadelphia and Its Manufacturers*, 291.

⁸⁴ Cowan, “The Consumption Junction,” 272.

⁸⁵ For a useful survey of historic lighting, see: Denys Peter Myers, *Gaslighting in America: A Guide for Historic Preservation* (Washington, DC: U.S Department of the Interior, 1978); Roger W. Moss, *Lighting for Historic Buildings* (New York: Wiley and Sons, 1988); Loris S. Russell, “Early Nineteenth-Century Lighting” in Charles E. Peterson, ed., *Building Early America* (Radnor, PA: Chilton Book Company, 1976).

was established in 1836, falling behind its neighboring cities of Baltimore, New York and Boston. In 1841, the city bought the Philadelphia Gas Works and began operating it as a municipal utility.⁸⁶ By 1856, the Philadelphia Gas Works serviced 25,544 customers; in a city of nearly 90,000 homes, at most a quarter of them might have had gas service.⁸⁷ By mid-century, traditional candles, lamps with liquid fuel, and piped gas fixtures were all options for Americans lighting their homes.

By the 1850s, Philadelphians had also been trying for nearly 50 years to improve access to water. Beginning in 1801, Philadelphia constructed the first municipal water system to bring water to residents. By that time, density and disease were already putting too much pressure on the natural springs and wells. Benjamin Latrobe, who designed the first system, remarked on the putrid quality of the water in the dense, older part of the city. The original water works tapped the Schuylkill River and used steam engines to pump the water to Center Square (now the location of City Hall), from which water was carried through logs to free public hydrants and private homes for a fee. This early system supplied approximately 400,000 gallons a day in 1802, but had mechanical and service problems that rendered it inefficient. By 1811, few Philadelphians subscribed for private water; most were content to use the free

⁸⁶ Nicholas B. Wainwright, "The Age of Nicholas Biddle 1825-1841," in Russell F. Weigley, ed., *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 316-317.

⁸⁷ Philadelphia Gas Works, "Engineer's Report for 1856," *Journal of Gas Lighting, Water Supply, and Sanitary Improvement* 6, 120 (May 26, 1857): 269-270. Dwelling count for 1860: Philadelphia Common Council, *Journal of the Common Council* (1861): 142.

hydrants.⁸⁸ By the 1820s, Latrobe's system had been largely replaced by a reservoir in Fairmount (now the location of the Philadelphia Museum of Art), and an intake system (still on display at the Fairmount Water Works) using water power from the Schuylkill current instead of steam power. By 1836, this new system supplied 4.1 million gallons of water a day through sixty miles of pipes and for the first time, because of private subscriptions and sales to neighboring townships, the water system was finally profitable.⁸⁹

In the 1840s, amidst another wave of disease, Philadelphians were again advocating for improved access to water, and in addition, waste disposal. At the time, Philadelphia reeled from a severe epidemic of cholera. Disease had inundated the city and surrounding townships before, particularly in the poorer areas of Southwark and Moyamensing: for instance, in 1848, dysentery killed 315 people and typhus killed 205. However, epidemics continued to worsen in these areas: in 1852, a smallpox epidemic killed 427 people, 433 people died of scarlet fever, 558 died of dysentery, and 1204 people died of tuberculosis.⁹⁰ The epidemics sparked an increasing concern amongst health professionals for sanitation, and particularly sanitary built environments.

⁸⁸ Carl Smith, *City Water, City Life: Water and the Infrastructure of Ideas in Urbanizing* (Chicago: University of Chicago Press, 2013), 14-19.

⁸⁹ Smith, *City Water, City Life*, 23.

⁹⁰ Elizabeth M. Geffen, "Industrial Development and Social Crisis 1841-1854," in Russell F. Weigley, ed., *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 318.

Medical professionals from the American Medical Association investigating the outbreak of cholera pointed to substandard living conditions and unsafe buildings as one of the contributing factors to so many deaths.⁹¹ Dr. Isaac Parrish, who spearheaded the investigation for the American Medical Association Committee on Public Hygiene, lamented the dangers of dense back buildings, in which yards and alleys were filled with small bandbox row houses for the working classes.⁹² The remedy proposed was better ventilation, cleaner water, and proper disposal of sewage and trash.⁹³

Cities around the country were drawing the same conclusions, and health reformers were advocating for clean air, dwellings, water, and bodies to help remedy many of the prevailing health problems of mid-century urban life.⁹⁴ Beginning in the

⁹¹ In 1849, Dr. Isaac Parrish documented several densely populated blocks for a report for the American Medical Association Committee on Public Hygiene, "Report on the Sanitary Condition of Philadelphia," *Transactions of the American Medical Association* 2 (1849): 465, as cited in: Geffen, "Industrial Development and Social Crisis 1841-1854," 315.

⁹² Bandbox row houses are one room deep and three stories high. As defined in: John Murtagh, "The Philadelphia Row House," *Journal of the Society of Architectural Historians* 16, 4 (December 1957): 8-13.

⁹³ For the study: Geffen, "Industrial Development and Social Crisis 1841-1854," 318. The concerns about ventilation and water reflect concerns among professionals during this time that grew along with the medical and architectural profession. Later in the century, sanitary and Progressive movements took these concerns even further. Annmarie Adams, *Architecture in the Family Way: Doctors, Houses, and Women, 1870-1900* (Montreal, Buffalo: McGill-Queens University Press, 1996); Sandy Isenstadt, *The Modern American House: Spaciousness and Middle-class Identity* (Cambridge; New York: Cambridge University Press, 2006); Maureen Ogle, *All the Modern Conveniences: American Household Plumbing, 1840-1890* (Baltimore: Johns Hopkins University Press, 1996).

⁹⁴ Smith, *City Water, City Life*, 164-166.

1840s, expanded innovations in household plumbing slowly brought water, bathrooms, and waste disposal to more Americans beyond the few wealthy elites who had had such conveniences earlier.⁹⁵ However, such progress occurred in the second half of the nineteenth century: in 1849, there were only 3,521 “baths” (bathtub) recorded in the Philadelphia.⁹⁶ Sellers’s bathroom would have been advanced and likely drained into a cesspool. In 1855, Philadelphia passed an ordinance allowing Philadelphians to make openings into the sewers, thus letting them drain sewage there instead of cesspools or privy vaults.⁹⁷ Afterwards, more Philadelphians, including the owner of Mary Cresson’s home, added bathrooms and water closets to follow sanitary reform ideas and incorporate modern technology.⁹⁸

Writing Architecture

By the mid-nineteenth century, many more Americans were learning about the changing design modes and technology through an expanded market of architectural literature. From plan books, design treatises, serial literature, and home care manuals, Americans could learn about the newest trends, but more importantly, see and read

⁹⁵ Ogle, *All the Modern Conveniences*, 3.

⁹⁶ Gail Casey Winkler, *The Well-Appointed Bath* (Washington, D.C.: Preservation Press, 1989), 15.

⁹⁷ Ogle, *All the Modern Conveniences*, 60.

⁹⁸ Sometime between her insurance survey of 1848 and 1865, Cresson (or later owner H. B. Schofield) replaced hall space in a stair landing with a bathroom and water closet. It included a tub lined with copper, hot and cold water, and one toilet (closet). Mary Cresson, 30/730 Sansom Street, Policy 7217, Philadelphia Contributionship, surveyed January 20, 1865.

how to apply those new ideas to their homes and their everyday lives. Beyond the design audience, through the course of the nineteenth century, these sources increasingly connected building and design with other cultural ideas of sanitation, domesticity, and modernity, appealing to men's and women's desires for safer, healthier, and more comfortable homes.

After the 1830s, architects began writing for clients and eventually the general public, transforming a previously professional-oriented literature into a mainstream genre.⁹⁹ In the 1830s, the British author John Loudon brought architectural design and planning to a popular audience, making no reference to altering preexisting buildings.¹⁰⁰ In 1837, Alexander Jackson Davis' *Rural Residence* of 1837 introduced similar ideas to American audiences for the first time. A. J. Downing followed shortly thereafter with *Cottage Residences* of 1842 and his classic *The Architecture of Country Houses* in 1850.¹⁰¹ In these sources, home alteration continued to be absent. These early publications mark a professional divide between builders and architects in

⁹⁹ It is worth noting that there were earlier architectural treatise and design books, including classics by Vitruvius and Palladio. For a useful bibliographic collection of American sources: Henry Russell Hitchcock, *American Architectural Books: A List of Books, Portfolios, and Pamphlets on Architecture and Related Subjects Published in America Before 1895* (Minneapolis: University of Minnesota Press, 1962). For a survey: Daniel D. Reiff, *Houses from Books: Treatises, Pattern Books, and Catalogs in American Architecture, 1738-1950: A History and Guide* (University Park, Pa.: Pennsylvania State University Press, 2000).

¹⁰⁰ John Claudius Loudon, *Encyclopedia of Cottage, Farm, and Villa Architecture and Furniture* (London: Loudon, 1830).

¹⁰¹ A. J. Downing, *The Architecture of Country Houses*, Introduction by J. Stewart Johnson (New York: Dover Publications, Inc., 1850, Reprint 1969).

which the latter expressed their superior aesthetic knowledge through the use of scale drawings and perspective renderings.

The pattern books of the 1830s and 1840s reflect changing notions of design and social significance in building that could now be sold to the public in architectural prescriptive literature. Embracing the Romantic or Picturesque movements, the authors emphasized the aesthetics of the design and historicized embellishments with little mention of construction. Authors like A. J. Downing published taste manuals with small elevations and plans meant to be realized by a builder or architect. However, to help educate their elite readers who might be interested in planning and design, the authors included chapters that summarized the latest improvements in utilities, landscapes, and interior design. These pattern book authors portrayed architecture more abstractly, and they guided a nonprofessional audience through the conception process, leaving the designing and construction to architects and builders.

Homecare manuals, growing out of conduct books and housewifery manuals also became far more encyclopedic and functioned as technical references for the home and its care.¹⁰² Advisors like Catherine Beecher and publications like *Godey's Lady's Book* guided women on how to maintain and manage their homes. Middle-class women were expected to efficiently manage their homes and staff, make their home clean, comfortable and tasteful, and raise children according to Republican and

¹⁰² For women who could afford them, housewifery books included recipes and information for home manufacturing and medicine. In addition, conduct books for young women provided moral advice and other information. Kevin J. Hayes, *A Colonial Woman's Bookshelf* (Knoxville University of Tennessee, 1996). See also: Susan Strasser, *Never Done: A History of American Housework* (New York: Pantheon Books, 1982).

Christian values. Religious leaders such as Horace Bushnell promoted the idea of “Christian nurture,” which suggested that a child must be raised in a Christian home. Housing reformers adapted many of these religious arguments in their texts, with some arguing that improvements in the home would not only uplift the individual residents, but also the greater society.¹⁰³

After the 1830s, domestic advice literature penned specifically for women and often by women began to also include an increasing amount of technical information about the house. Continuing the early form of housewife books, the *American Frugal Housewife* first published in 1829 provides only scant references to maintaining a home in the appendix, one being a hint for white-washing.¹⁰⁴ However, the later *Treatise on Domestic Economy* by Catherine Beecher marks a shift in this genre. In it, she included sections on house construction, fires and lights, and guidance on designing a convenient kitchen.¹⁰⁵ By the time Catherine Beecher and Harriet Stowe published their encyclopedic *American Woman’s Home*, the mechanics of the home

¹⁰³ For religious expression in home design, see: Clifford E. Clark, Jr., “Domestic Architecture as an Index to Social History: The Romantic Revival and the Cult of Domesticity in America, 1840-1870,” *Journal of Interdisciplinary History* 7, 1 (Summer, 1976): 33-56; For origins in ideas of refinements and how they fed early nineteenth century standards of home care, see: Richard L. Bushman, *The Refinement of America* (New York: Alfred A. Knopf, 1992); Looking later in the century is also: Gwendolyn Wright, *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago, 1873-1913* (Chicago: University of Chicago Press, 1980).

¹⁰⁴ Lydia Childs, *American Frugal Housewife* (Boston: Carter, Hendee, and Co., 1835).

¹⁰⁵ Catherine E. Beecher, *Treatise on Domestic Economy* (Boston: Thomas H. Webb and Co., 1843).

was featured only two chapters in, preceding advice on cooking, caring for children and managing servants. The information they provided readers was thorough, explaining the mechanical details of ventilation, covering all contemporary options for heating and lighting, and summarizing the work of leading architects.¹⁰⁶ Their work armed women with knowledge of how a home worked as a mechanical apparatus. These concepts were similar to the kinds of ideas promoted by Downing and others. Beecher and Stowe were sharing architectural advice to their female audience. Marking an interest for such advice, by the late nineteenth and early twentieth centuries, more complex home care manuals, often informed by sanitary reform efforts, developed that focused exclusively on the maintenance and care of the home.¹⁰⁷

Periodicals and other serial literature also emerged that catered to a popular female audience. Many of these sources transferred the same kinds of information as household management and house care books. *Godey's Lady's Book*, launched in 1830, published stories, household advice, and design tips. Later serial literature,

¹⁰⁶ Catharine E. Beecher and Harriet Beecher Stowe, *The American Woman's Home...* (New York: J. B. Ford, 1869).

¹⁰⁷ Isabel Bevier, *The House: Its Plan, Decoration and Care* (Chicago: American School of Home Economics, 1907); Charlotte Wait Calkins, *A Course in House Planning and Furnishing* (Chicago, New York: Scott, Foresman and Company, 1916); T. M. Clark, *The Care of a House: A Volume of Suggestions to Householder... for the Economical and Efficient Care of Dwelling-houses* (New York; London: The Macmillan Company, 1903); H. Clarkson Evans, *Encyclopedia of Household Information* (Chicago: D. R. Indersoll and Co., 1899); Shirley Forster Murphy, ed., *Our Homes and How To Make Them Healthy* (London, Paris, and New York: Cassell and Company, Limited, 1883); Harriette Merrick Plunkett, *Women, Plumbers, and Doctors: or Household Sanitation* (New York: Appleton, 1885).

particularly the popular *Ladies' Home Journal* established in 1883, continued the genre, but placed a greater emphasis on popular literature and news. In addition, the *Ladies Home Journal* featured house plans from professional architects, serving as a mediator between design professionals and potential middle-class clients.¹⁰⁸ Other industry periodicals shared the rising interest among women to know more about the mechanics and care of their homes. Editors of *Sanitary Engineer* shared with their readers that Isabella Beecher Hooker provided instruction to women on how to understand their sanitation systems and encouraged women to inspect the systems.¹⁰⁹ Agricultural serials published plans designed by farm women.¹¹⁰ By the turn of the century, “shelter magazines” such as *House Beautiful* and *Home and Garden* placed a central focus on popular architecture, and included plans and tips on interior decorating. The rise in this popular body of architectural literature suggests that the market continued to expand and grow because of the interest among women for learning how to plan and care for their homes.

Antebellum Americans gained access to technical and theoretical information about architecture from variety of sources, including design books, women’s house

¹⁰⁸ Kathryn Dethier, “The Spirit of Progressive Reform: the “Ladies’ Home Journal” House Plans, 1900-1902,” *Journal of Design History* 6, 4 (1993): 247-261; Leland M. Roth, “Getting the Houses to the People: Edward Bok, the Ladies' Home Journal, and the Ideal House,” *Perspectives in Vernacular Architecture* 4 (1991): 187-196.

¹⁰⁹ *Sanitary Engineer* 7, 15 (1883): 338

¹¹⁰ Sally Ann McMurry, *Families and Farmhouses in Nineteenth-century America: Vernacular Design and Social Change* (Knoxville: University of Tennessee Press, 1997).

care manuals, and popular periodicals. Professional architects like Downing promoted designs for a popular, middle-class audience, often appealing to pervading styles, but also sharing information about construction and systems that may have otherwise been unknown. Beecher and Stowe also provided advice on maintenance, organization, and technology. Much of the advice appealed to an audience looking not only to make fashionable homes, but also ones that were safer, more convenient, and more comfortable.

Regulating Building

Although pervading new technological advances and architectural literature, mid-nineteenth century interest in safety and sanitation sparked a rise in building regulation, one of the most revolutionizing shifts to the building industry. Building regulation often developed to control problems posed by a critical mass of population that could provoke threats to public safety. Early efforts to mitigate threats began almost immediately in colonial Philadelphia. However, it was not until the middle of the nineteenth century that municipal efforts to control building became far more complex.

Authorities justified many of their efforts to regulate within a preexisting framework preventing threats to public health and safety. As an urban frontier conceptualized in the wake of the Great Fire of London (1666), Philadelphia founders considered public safety in the plan and settlement of the city. William Penn, founder of the city, famously wanted a “greene country towne” with wide streets, ample parks and spaced out houses instead of the dense urban center of London that had proved so

problematic and deadly.¹¹¹ Thus, Philadelphia's streets and land use was conceptualized before the men and women who would build up the city arrived in the late seventeenth century.¹¹²

Planning on paper is never quite the same as materializing plans on the ground where the land was not flat and skilled labor and materials were often in short supply. Spreading out and building on large lots was too costly or inconvenient for most residents. Ambitious colonists quickly broke up the big city blocks of William Penn's "towne" with secondary streets, alleys, and courts creating a dense urban landscape like parts of old London.¹¹³ The city grew from a small colonial settlement to a town of 2000 inhabitants by 1700.¹¹⁴ Propagandists often inflated these numbers: one reported a population of 12,000 in 1697. Reporting the number of houses correlated with population accounts. Promoters for the city claimed 1400 houses in 1690 and over 2000 in 1698, though these numbers were exaggerated. In 1700, for its 2000 citizens Philadelphia had approximately 400 houses.¹¹⁵ Early residents made do with the resources and skills on hand, at first building rudimentary log cabins before

¹¹¹ Planning was aimed at preventing fire, but when conceived Philadelphia had less building requirements than its neighbors to the north in New York, whose residents had been under building requirements that dictated building height and roofing materials since Dutch rule. Novak, *The People's Welfare*, 56.

¹¹² Mary Maples Dunn and Richard S. Dunn, "The Founding," in Russell F. Weigley, ed., *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 1, 7-10.

¹¹³ *Ibid.*, 16.

¹¹⁴ *Ibid.*, 10.

¹¹⁵ *Ibid.*, 11.

returning to the English tradition of brick and wood after the establishment of a brick manufacturer and the arrival of masons. While conceived as a town for country living, residents created an urban landscape centered on commerce and industry rather than county life.¹¹⁶

In 1730, Philadelphia experienced its first large conflagration on a wharf near the busy commercial riverfront. Afterwards, city leaders made efforts to improve the city's firefighting capability. Officially, authorities in the weak municipal corporation had little power to set prescriptive regulations. Largely because the local municipal corporation was so limited, the Pennsylvania Provincial Assembly had to establish various commissions to manage specific issues within the city, often working outside of the Proprietor's control via private companies. Benjamin Franklin famously founded the Union Fire Company as one such effort.¹¹⁷ It was possible for the municipal corporations to set rules that limited nuisances as prescribed by English common law, but many of these rules were difficult to enforce without the authority to levy and collect fines.¹¹⁸ Consequently, colonial Philadelphia's built landscape largely

¹¹⁶ *Ibid.*, 13-14.

¹¹⁷ Edwin B. Bronner, "Village into Town, 1701-1746," in Russell F. Weigley, ed., *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 61.

¹¹⁸ Historians have noted the predominance of brick in Philadelphia, partly explaining it as a product of a thriving brick industry (enabled by clay deposits in the region), and also Penn's preoccupation with preventing fires through the initial establishment of wide lots. However, prescriptive building requirements were not established until the Early Republic. Even historian William Novak relies on the myth of Penn's fire prevention, writing, "Penn deserves credit for making Philadelphia a well-regulated, remarkably fire-resistant city," yet, he cites laws that were not actually enacted until 1787. Novak, *The People's Welfare*, 58 and footnote 36 on page 273. Warner, *The Private City*, 9-11. For legislative perspective, the local municipal corporation only required the maintenance of walkways in front of properties in 1727.

reflected the interests of private investment and maintenance, with little regulation or support from the municipal corporation.

Nevertheless, these private interests often encouraged sound decisions that benefitted the community. For example; many colonial Philadelphians' shaped their building choices according to the policies of private fire insurance companies that formed there in the mid-eighteenth century. The Philadelphia Contributionship, founded in 1752, was the first of its kind in America. The company's policies on what to insure had important ramifications for property owners wishing to protect their estates against hazards created by lax municipal regulation. Initially, the Contributionship insured pre-existing wooden structures, but it only insured houses constructed of brick or stone by 1769.¹¹⁹ If homeowners wanted their properties insured, they needed to meet company guidelines. In addition, if homeowners wanted their coverage to remain in effect, their properties—and the properties of their neighbors—needed to be free of nuisance wood structures; such incentives established some conditions for community control but coercive actions were limited if a neighbor

Before then, the corporation had little power to set ordinances and almost no power to collect fines for violations. Bronner, "Village into Town, 1701-1746," 56-60. For the influence of English common law on early American efforts to regulate for public safety, see: Novak, *The People's Welfare*, 35-42, 51-53.

¹¹⁹ However, the limitations against insuring wooden buildings, or those partially constructed of wood, decreased in the nineteenth century. For instance, the Philadelphia Contributionship was eventually willing to insure brick houses with wood back buildings; see for instance policy #14125 for 3403 Hamilton Street (Contributionship). In addition, when founded in the 1790s, the Insurance Company of North America, refused to insure wooden structures, but by 1820 it diversified its insured risks to include wood structures. Mark Tebeau, *Eating Smoke: Fire in Urban America, 1800-1950* (Baltimore and London: Johns Hopkins University Press, 2003), 57-63.

refused to take action. By the nineteenth century, policy holders resorted to taking nuisance neighbors to court to compel them to make their properties safe, but then as now, litigation was time consuming and expensive.¹²⁰

In 1795, two years after the great yellow-fever epidemic of 1793 had killed 5000 people, city leaders of the new federal city received expanded authority from the Commonwealth of Pennsylvania to regulate the city's densely-packed residents. While health issues undoubtedly remained a concern, sensible policy actions that could prevent a recurrence of the epidemic were unclear. In any case, the authorities' experience managing fire hazards was more politically defensible than their attempts to manage the late epidemic and it was important to set a precedent for regulations that voters could accept. City officials passed an ordinance in 1796 to prevent the erection of wooden buildings in the city's densest area by establishing a "fire line" or "fire limit."¹²¹ Fire lines worked by prohibiting wooden structures within a prescribed geographic area. Much of the first building regulations for the city were confined to

¹²⁰ For instance, in December 1879 after the construction of a wooden shed by Hugh McIlvaine and Sons, lumber dealers, Jesse T. Vogdes was notified by Franklin Insurance Company that his policy on his adjoining house and shop would be canceled because of the shed. Vogdes then took the McIlvain lumber dealers to court. Vogdes wanted the shed removed. The suit questioned whether the ordinance then in effect against the erection of wooden buildings applied to sheds in lumber yards. "Complaint about Building," *Philadelphia Inquirer*, December 19, 1879.

¹²¹ The Pennsylvania Legislature gave the Mayor and the Common Council authority to pass such a measure in 1795. Philadelphia's efforts to set fire limits, and the contestation of the law in 1799, set an important legal precedent for the constitutionality of municipal fire limits. Historian William Novak argues that it was the contestations and legal rulings in the courts, not the language of ordinances from legislatures, which explained and reinforced the central doctrines of the fire laws: the law of nuisance and the law of overruling necessity. Novak, *The People's Welfare*, 60-68.

the densest areas near markets, docks, and warehouses—the places where people concentrated capital and stored inventory.¹²² By 1832, city officials banned new wood construction in the entire city, then a smaller area encompassing present-day Center City prior to the 1854 consolidation.¹²³

Fire lines were a particular regulatory effort rooted in the precedence of English common law that prohibited nuisances. Yet, fire lines were also preventive instead of remedial; creators of such laws hoped to prevent a potential problem that endangered the group rather than curb a behavior that primarily affected the individual. Not surprisingly, fire insurance companies, whose bottom line depended on the remediation of fire, also encouraged such legislative efforts. The fire lines marked an early effort to shape urban development, requiring consideration for the common good and public safety rather than allowing free-market development.¹²⁴

¹²² Philadelphia, *An Ordinance to Prevent the Erection of Wooden Buildings...* (Philadelphia, 1796). The fire line first set in the ordinance encompassed the area between the Delaware River to Sixth Street, the location of Independence Hall (earlier the City Hall) and between Vine Street and Race Street to the north and Walnut Street and South Street to the South. Along the city's central corridor between Race Street and Walnut Street (now the neighborhood known as Old City), the fire line extended to Tenth Street.

¹²³ The 1832 Acts of Assembly passed by the Pennsylvania Legislature gave the city the authority to pass ordinances prohibiting wooden construction in the city limits and permitted them to prescribe wall thickness of all new buildings. That ordinance was passed in June 1832. "An Ordinance," June 8, 1832, in William Duane, William B. Hood and Leonard Myers, eds., *A Digest of the Acts of Assembly Relating to the City of Philadelphia...* (Philadelphia: J. H. Jones & Co., 1856), 99.

¹²⁴ Novak goes so far as to suggest that fire lines are an urban land-use regulation "different only in degree" from twentieth-century Progressive zoning. Novak, *The People's Welfare*, 67.

When creating the new ordinance, drafters appealed to the long established fear of fire to justify this intervention in private property rights, declaring, "...the great number of wooden buildings in the city of Philadelphia, render the persons and estates of the inhabitants insecure, and greatly exposed to accidents from fire...."¹²⁵ This appeal to maintaining the public's safety, a fundamental task of governments at the time, would have made sense to Philadelphia's residents.¹²⁶ Thus, officials recast what the public could have seen as an arbitrary limitation on property rights as consistent with a long tradition of law that emphasized the common welfare.

Regulators' effort to redefine wooden building as a threat to public safety was a bold move that confronted long-standing traditional building practices. In America wooden buildings were common, easily modified, and comparatively cheap, particularly in early settlements that lacked brick manufacturing and contained a seemingly endless supply of wood.¹²⁷ As historian William Novak noted, wooden buildings were not inherently dangerous or perceived as a nuisance, nor did building

¹²⁵ Philadelphia, *An Ordinance to Prevent the Erection of Wooden Buildings...* (Philadelphia, 1796).

¹²⁶ Many other cities enacted similar ordinances in the early nineteenth century, including New York, Boston, Charleston, Bangor, and Providence. Novak, *The People's Welfare*, 68.

¹²⁷ The literature on wood construction, from early log cabins and timber-frame structures to later balloon framing is too voluminous to cite here. For a few sources, see: Carl W. Condit, *American Building* (Chicago: University of Chicago Press, 1968), 2-25, 40-51; Fred Kniffen and Henry Glassie, "Building in Wood in the Eastern United States: A Time-Place Perspective," *Geographic Review* 56, 1 (Jan., 1966): 40-66; Allen G. Noble *Wood, Brick, and Stone: The North American Settlement Landscape, Volume 1: Houses* (Amherst: The University of Massachusetts Press, 1984).

with wood have a negative stigma in early America.¹²⁸ However, the establishment of the fire line declared the otherwise innocuous practice of building in wood a nuisance, making conduct that was legal elsewhere, illegal.¹²⁹ The fire lines set the boundaries between acceptable and prohibited building in ways that regulators would shape, interpret, redefine and expand throughout the next century. Over that century, residents and authorities would contest this new legislation as homeowners attempted to add onto aging housing stock that was grandfathered. The 1796 law prohibiting wood construction and the fines for noncompliance did not apply to preexisting structures. Nor did the law define whether or when an alteration constituted a form of new construction.¹³⁰

¹²⁸ Brick and stone had a cultural cachet because of their expense. This was even more pronounced in rural areas where brick was harder to come by. By the nineteenth century, Philadelphia's construction industry was well-known for its almost universal use of bricks.

¹²⁹ Novak, *The People's Welfare*, 66.

¹³⁰ Historian William Novak cites an interesting example of an owner who moved a wooden building within Bangor, after which it was considered a "new" structure by officials and demolished. However, when the owner brought a suit against the city, the judge determined that the move was not an "erection" as meant by the ordinance and the owner was awarded damages. In addition, the judge pressed that the city should have more means to remove such nuances than a mere fine, which was the remedy in the ordinance at the time of the demolition. Novak, *The People's Welfare*, 68, and note 91 on 278.

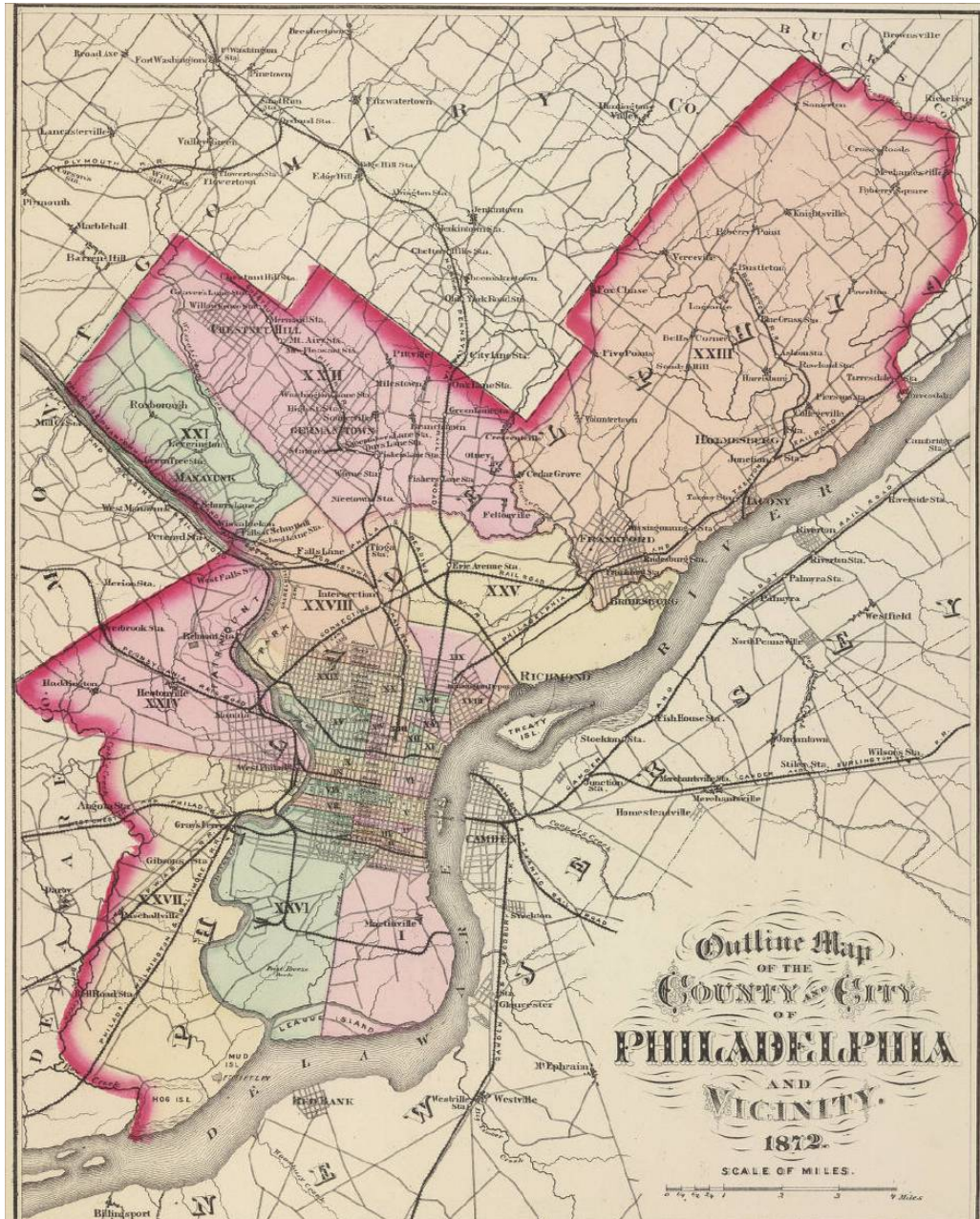


Figure 4 1872 map showing the original city and surrounding districts consolidated into the unified city and county in 1854. “Philadelphia County, City,” Ormando Willis Gray and H. F. Walling, 1872. Courtesy David Rumsey Map Collection, Cartography Associates.

Regulating the growing city became increasingly difficult by midcentury, but with the Consolidation Act of 1854, city and state legislators attempted to rein in many of the problems plaguing Philadelphia.¹³¹ The Consolidation Act expanded the municipal oversight of the city of Philadelphia to the entire county of Philadelphia, thus eliminating the need for the several township administrations that also existed within the county. (Figure 4) The city of 1854 grew in geographic scope and population, and now encompassed the older commercial district, along with other surrounding townships that had been previously independent, including Moyamensing, Germantown, and Manayunk. The population of the city before the consolidation was 121,376; after incorporating all of the surrounding townships in the county, the population was 565,529.¹³² In between the former independent townships lay farmsteads and rural countryside. The infamous Anthony Trollope described this landscape combination within the city boundaries, writing Philadelphia, “takes in other towns connected with it by railway, but separated by large spaces of open country.”¹³³ City administrators needed to reform its administration of building codes—old and new—whether those buildings were homes, farms, shops, warehouses, and factories.

¹³¹ “An Act to Incorporate the City of Philadelphia,” in Duane, *A Digest*, 28; James A. Scott, “The Businessman, Capitalism and the City: Businessmen and Municipal Reform in Philadelphia from the Act of Consolidation (1854) to the Bullitt Bill (1885)” (Dissertation, University of Delaware, 1974).

¹³² Geffen, “Industrial Development and Social Crisis, 1841-1854,” 309; Russell F. Weigley, “The Border City in Civil War 1854-1865,” in Russell F. Weigley, ed., *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 363.

¹³³ As quoted in: Weigley, “The Border City in Civil War 1854-1865,” 363.

The impetus for the 1854 Consolidation was a mixture of practical economy and pressing need to rein in pervasive threats to public safety. Many consolidation promoters hoped to simplify tax collection and decrease the costs of government administration to the state.¹³⁴ However, the act also expanded the regulatory powers of Philadelphia municipal authorities so they could address many of the public safety problems that were encroaching on the peace and functionality of the enlarging, industrial city.¹³⁵

Following the consolidation, the Pennsylvania Legislature passed several acts in 1855 that transformed Philadelphia building regulation from one of prohibition to prescription.¹³⁶ To address the sanitation problems identified by Dr. Isaac Parrish, the legislature included laws that required dwelling yards to be a minimum of twelve feet square and excluded new construction on streets less than twenty feet wide, which effectively prescribed light and ventilation for buildings.¹³⁷ In addition, the legislation set minimum building standards. The average Philadelphia row house of sixteen feet wide and thirty-five feet high needed cellar walls that were sixteen inches thick and walls of nine inches thick above. Party walls were required to rise ten inches above the

¹³⁴ Geffen, "Industrial Development and Social Crisis, 1841-1854," 360.

¹³⁵ The state legislature reorganized the administration of the city and gave the mayor and city council increased power to regulate and police the city.

¹³⁶ Not much historical scholarship has been done on building regulation to provide comparison for this, but Hoagland documented similar reform in Washington, DC twenty years later. Alison Hoagland, "Nineteenth-Century Building Regulations in Washington, D.C.," *Records of the Columbia Historical Society* 52 (1989): 60.

¹³⁷ "A Supplement," April 21, 1855 in Duane, *A Digest*, 56.

roof line, diminishing the ability of fires to spread.¹³⁸ These regulations, although limited, were a first step for codifying building standards.

The 1855 regulations applied to all new building projects, including those that altered preexisting buildings. However, the Legislature defined new building requirements that applied to alterations when the project made a building “substantially new” with no explanation of what that term meant.¹³⁹ Historically, building regulations only informed new construction, as in the case of Philadelphia where new wooden construction was prohibited.¹⁴⁰ However, the rising density of the city likely prompted law makers to consider altered buildings, which could have an addition and be transformed into two houses. As Maureen Ogle observed with the relative lack of plumbing codes before the 1850s, alteration seemed to have posed too little concern to warrant government oversight for earlier Philadelphians. The 1855 regulations suggest that alteration finally posed a problem.¹⁴¹ However, regulators incorporated home alteration in strategically limited ways. By stipulating that home alteration was only regulated when it made property “substantially new,” regulators affirmed a view that alteration was private unless it altered the footprint of the

¹³⁸ “An Act to Provide for the Regulation and Inspection of Buildings...,” May 7, 1855, in Duane, *A Digest*, 96.

¹³⁹ Law Department of the City of Philadelphia, *Digest of Laws Relating to the City of Philadelphia* (Philadelphia: King & Baird, 1865), 57. This meaning of “new” was explained by the Pennsylvania Supreme Court in Brice’s Appeal, 1879, in response to an appeal to *Bowers vs. Bache*, 1878.

¹⁴⁰ This was loosely enforced, and the city council continued to approve frame buildings into the late nineteenth century.

¹⁴¹ Ogle, *All the Modern Conveniences*, 60.

structure or presented some danger to other property owners or the public. With the exception of adding on stories or back buildings, few changes actually qualified. For decades after, builders, city officials, lawyers, and judges debated the blurry threshold of “substantially new,” with some resolution only coming in 1879.¹⁴²

To enforce these new regulations, the Pennsylvania Legislature established a new executive body of two building inspectors who were appointed by the City of Philadelphia Court of Common Pleas. These inspectors grew out of an earlier tradition of building regulation enforcement by city commissioners and constables, who reported violations to the mayor or alderman.¹⁴³ The inspectors were from carpentry and bricklaying trades with seven years experience, and they could appoint deputies to assist them. As their primary duty, the building inspectors issued permits and inspected buildings under construction or alteration to ensure they conformed to the new building regulations and that “material used was suitable for the purpose, and that the work [was] done in a substantial and workman-like manner....”¹⁴⁴ If contractors did not apply for a permit, they could be fined one hundred dollars, although the police, not the inspectors, actually issued violations.¹⁴⁵ This new system established in 1855 transformed the city’s management of its built landscape.

¹⁴² This is discussed further in the following chapter. This meaning of “new” was explained by the Pennsylvania Supreme Court in *Brice's Appeal*, 1880, in response to an appeal to *Bowers vs. Bache*, 1878.

¹⁴³ Philadelphia, “An Ordinance to prevent the erection of wooden building....” June 6, 1796.

¹⁴⁴ Duane, *A Digest*, 95.

¹⁴⁵ *Ibid.*, 94-99. Unfortunately, no records from this earliest generation of building inspectors survives.

By the 1860s, Philadelphia had nearly 90,000 houses, an increase of over 74,000 dwellings since 1810.¹⁴⁶ The city landscape was dramatically changed, and with it the business of building. Building trade apprentice programs and colonial associations were falling away, leaving a void for trade associations to fill in the 1870s and 1880.¹⁴⁷ Mechanized production was taking over repetitive tasks in the shop, which would soon expand to batch and mass production. Legal administrators attempted to catch up with the fast pace of building in the city by setting new standards. The Legislature's inclusion of home alteration into the building codes (albeit small) foreshadowed a growing interest in bringing home alteration out from behind closed doors and defining it.

Before the many complications of the early nineteenth century, home alteration was a simpler process not unlike new construction. Old houses and their problems were inevitable, and Philadelphians like Drinker, Cresson, and Sellers addressed the decay and decline with the resources available to them. Drinker gave home alteration little more thought than the other mundane tasks she recorded. Sellers traversed a new field of technology to improve his comfort. Yet, the cultural, economic, and legal framework within which they all operated was very much the same from generations prior. The near absence of home alteration in commercial, intellectual, and regulatory sources, affirm that home alteration had remained a mundane albeit ubiquitous facet of building up to the 1850s.

¹⁴⁶ 1860: 89,976; 1810: 15,814 US Census for 1860; for 1810: James Mease, *The Picture of Philadelphia*, 32-35.

¹⁴⁷ Laurie, *Artisans into Workers*(New York: Hill and Wang, 1989).

Chapter 2

CHEAP (AND TASTEFUL) ALTERATIONS: HOME ALTERATION AND MASS CONSUMPTION

“The alteration of a structure is apt to be most successful (especially in a financial view) which has the least to do with tearing away and changing the existing parts, but consists mainly in adding on here and there of parts to “bring out” as it were, the original.”¹

—William M. Woollett, 1878

In 1878, architect William M. Woollett (1850-1880) and publisher A. J. Bicknell (1839-1891) produced and sold a plan book specifically for home alteration, or as they put it, making “old homes new.”² This was the first book of its kind in the United States that told people how to modernize their old and out-of-date homes.³

¹ William M. Woollett, *Old Homes Made New...* (New York: A. J. Bicknell & Co., 1878), 11.

² George C. Mason's *The Old House Altered* was also published that year, but Woollett's preface letter dated February 5, 1878 suggests this made it out very early in the year, most likely before Mason's. In addition, Mason produced an architectural treatise, whereas Woollett produced plans. George C. Mason, *The Old House Altered* (New York: G. P. Putnam's Sons, 1878).

³ There are some examples of architectural treatises on home alteration that predate Woollett's, but his is the first pattern book and was written for a general audience. For examples of earlier architectural treatises on alteration see: Robert Kerr, “Supplement: Notes on the Alteration of Existing Houses,” in *The Gentleman's House* (London: N Murray, Albemarle Street, 1865).

Through vignettes of tasteful halls, before and after images of exteriors, and floor plans, the author conveyed the essence of failing old houses and proposed how to fix them. (Figure 5) Instead of technical detail, the book was interspersed with flowery descriptions and architectural theory designed to appeal to the unskilled reader. *Old Homes Made New* was one of many emerging plan books, such as those sold by George Palliser or Robert Shoppell.⁴

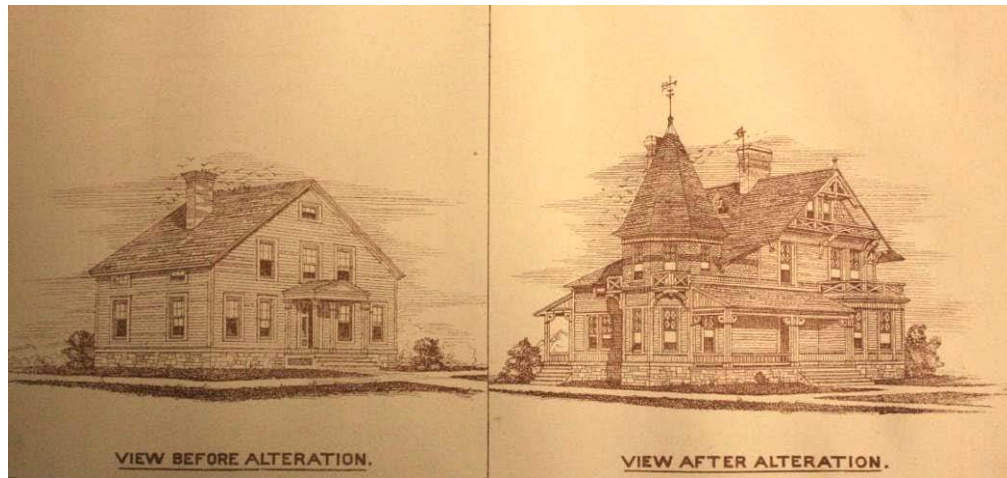


Figure 5 Before and After in Woollett, *Old Homes Made New*, 1878.

⁴ Palliser, Palliser and Co., *Palliser's Manufactured Homes...* (Bridgeport, Conn: Palliser, Palliser & Co., 1878); Robert W. Shoppell, *Artistic Modern Houses of Low Cost* (New York: Co-operative Building Plan Association, 1881). For a survey of the plan book genre, see: Daniel D. Reiff, *Houses from Books: Treatises, Pattern Books, and Catalogs in American Architecture, 1738-1950: A History and a Guide* (University Park: Pennsylvania State University Press, 2000).

Unlike his counterparts, Woollett ventured into the market of plan books featuring home alteration instead of new construction. Woollett and his publisher were businessmen hoping to capitalize on a perceived interest in mending old houses. Plan books for new construction were increasing, yet people who were altering their homes had few prescriptive resources. Instead, people applied new building practices onto their old houses with the help and guidance of their builder who served as a mediator between new ideas and old buildings.

To sell his book, Woollett needed to transform the mundane practices of home alteration, which previously had escaped much literary interest by professional architects, into sufficient picturesque complexity that would warrant professional guidance. Woollett approached this problem by illustrating common projects people were already interested in, such as improving kitchens and halls or updating the style of exteriors. Woollett also employed common forms of display readers would have already been familiar with. While functioning mostly as a novelty publication at the time, this experimental plan book captured evolving ways that home alteration was commodified and consumed in the last quarter of the nineteenth century.⁵ By the twentieth century, these kinds of publications flourished when a market for them finally took hold, remaining to this day.

⁵ A more mainstream approach to home alteration is perhaps best reflected in H. Hudson Holly's *Modern Dwellings*, which includes a three-page synopsis on alteration taking the tone of pure avoidance. To an inquiry about alteration he advised to take an old building and let it to a farmer, building new instead. H. Hudson Holly, "Alteration" in *Modern Dwellings*, 1878 as reproduced in Michael Tomlan, ed., *Country Seats and Modern Dwellings: Two Victorian Domestic Architectural Stylebooks...* (Watkins Glen, NY: American Life Foundation, 1980), 105.

In an effort to market home alteration to a popular audience, Woollett defined the old house as a problem and offered ways to solve it, making home alteration cheaper, easier, and more tasteful. In doing so, he disseminated and promoted modern ideas about home alteration. The first and perhaps most modern idea was that old homes posed a social and economic problem in need of intervention. The second assertion was that the process of intervention was distinct from new construction. The third idea was that alteration required planning rooted in design theory and professional guidance rather than vernacular tradition. The fourth assertion was that alteration intervention was complex and thus ought to be done by an architect. The cumulative effect of the piece was to recast home alteration as a discrete economic and physical activity that transformed the old house and made it “de novo,” rather than a mundane byproduct of families fixing up old houses.

The last quarter of the nineteenth century provided a hotbed for this kind of cultural and intellectual change. Complex changes to the building industry had been unfolding for decades, but without much change to the ways people conceptualized home alteration. However, after the 1870s, these changes became more pronounced: mechanized production of building components quickened to meet demand; books and magazines that carried architectural ideas were produced and delivered at a cheaper rate; architects solidified their profession. In addition, population pressures for housing stimulated the building industry within cities and suburbs. The pressure for goods and the improved means to sell them also revolutionized the buying prowess of American families, especially women. The confluence of these factors and more

resulted in the 1870s to 1880s as a significant material, economic, and cultural turning point.⁶

Augmenting these changes to the entire industry were the added economic pressures posed by the harried and unpredictable economic climate of the 1870s through 1890s, which included the depressions of 1873 and 1893.⁷ In decades peppered with building booms and new construction slumps, home alteration emerged

⁶ Besides histories of technology, consumption, etc. cited elsewhere, many scholars of architecture have used the 1870-1880s for periodization: Clifford E. Clark, Jr., "The House as Artistic Expression," *The American Family Home, 1800-1960* (Chapel Hill, NC: University of North Carolina Press, 1986); Michael J. Doucet and John C. Weaver, "Material Culture and the North American House: The Era of the Common Man, 1870-1920," *Journal of American History* 72 (December 1985): 560-587; Jessica H. Foy, and Thomas J. Schlereth, eds., *American Home Life, 1880-1930: A Social History of Spaces and Services* (Knoxville, Tenn.: University of Tennessee, 1992); Herbert Gottfried and Jan Jennings, *American Vernacular Buildings and Interiors, 1870-1960* (New York: W.W. Norton and Company, 1985); Thomas C. Hubka and Judith T. Kenny, "The Workers' Cottage in Milwaukee's Polish Community: Housing and the Process of Americanization, 1870-1920," *Perspectives in Vernacular Architecture* 8 (2000): 33-52; Jan Jennings, *Cheap and Tasteful Dwellings: Design Competitions and the Convenient Interior, 1879-1909* (Knoxville: University of Tennessee Press, 2005); Richard Sennett, *Families Against the City: Middle-class Homes of Industrial Chicago, 1872-1890* (Cambridge: Harvard University Press, 1970); Pamela H. Simpson, *Cheap, Quick, & Easy: Imitative Architectural Materials, 1870-1930* (Knoxville: University of Tennessee Press, 1999).

⁷ Commenting on the slumped building of 1894, down in value by \$1.2 million, the Bureau of Building Inspectors concluded it was "readily explained by the continued very great financial and business depression during the past twelve months": *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: Dunlap and Clarke, 1895), ix. Impact on building observed in: Doucet and Weaver, "Material Culture and the North American House," 560-587. For impact of depression on Philadelphia manufacturing, see: Philip Scranton, *Endless Novelty: Specialty Production and American Industrialization, 1865-1925* (Princeton: Princeton University Press, 1997): 260-284.

as a profitable corner of the design market that architects had previously overlooked.⁸ For instance, in 1882, a down year for Philadelphia construction, nearly thirty percent of all recorded building operations were alterations of some kind, and for every 1.5 houses built, there was one alteration project. However, in the boom year of 1889, alteration was only 13 percent of operations, and for every 6 new houses there was only one alteration project. (See Appendix B) In a fluctuating economy, competition was tough, and when the business of new and speculative building slowed down, repair, alteration and remodeling filled the economic void as it would in later recessions and depressions.⁹ Owners of old homes emerged as attractive clients for architects. Most builders continued to perform alterations within their usual business models, taking on more when new construction slumped.

The effort to market and sell home alteration provides an interesting perspective on consumption and commodification that characterizes so many historical narratives for nineteenth-century America. How does one market something that has always existed, and how does one ascribe new economic value to something that is

⁸ For some perspective on housing costs and the building industry during this period, see: Doucet and Weaver, “Material Culture and the North American House,” 560-587.

⁹ “Building Operations,” *Philadelphia Inquirer*, January 2, 1886, 2. In the 1930s, there is a marked increase in Do-it-Yourself (“DIY”) literature and products. Steven Gelber, “Do-It-Yourself: Constructing, Repairing, and Maintaining Domestic Masculinity,” *American Quarterly* 49, 1(1997): 66-112; Carolyn M. Goldstein, *Do it Yourself: Home Improvement in 20th-Century America* (Washington, D.C.: National Building Museum; New York: Princeton Architectural Press, 1998); Richard Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914-1960* (Chicago: University of Chicago Press, 2012).

everywhere?¹⁰ This chapter examines the commodification of home alteration in the 1870s to the 1910s when home alteration was commercialized as a discrete segment of the construction industry. It looks at how architects and tastemakers offered to help Americans do their alterations cheaply and more tastefully; it was the first solution to new “problem” of the home alteration. The marketing of home alteration was visible in contemporary prescriptive literature and catalogs. The process of selling products that would appeal to the public and describing projects that would be approachable for the common homeowner was a “consumption junction” where consumers’ demand and manufactures’ desire for expanding markets intersected.¹¹ This chapter uncovers the first efforts to ascribe new cultural and economic meaning to home alteration through marketed solutions of plans and products.

Popular Ideas about Home Alteration

Woollett’s arguments about home alteration were a mixture of marketing rhetoric and popular conception. Like many prescriptive authors, Woollett was promoting ideas that made his book marketable and at the same time he dispersed

¹⁰ Regina Lee Blaszczyk, *American Consumer Society, 1865-2005: From Hearth to HDTV* (Wheeling, Illinois: Harlan Davidson, Inc., 2009); Ruth Cowan, “The Consumption Junction” in *The Social Construction of Technological Systems* (Cambridge, Mass: MIT Press, 1987), 261-280; Ellen Gruber Garvey, *The Adman in the Parlor: Magazines and the Gendering of Consumer Culture, 1890s to 1910s* (New York: Oxford University Press, 1996); Lawrence B. Glickman, *A Living Wage: American Workers and the Making of Consumer Society* (Ithaca, N.Y.: Cornell University Press, 1997); Katherine C. Grier, *Culture and Comfort: Parlor Making and Middle-Class Identity, 1850-1930* (Washington, D.C.: Smithsonian Institution Press, 1997).

¹¹ Cowan, Ruth Schwartz, “Consumption Junction,” 261-280.

theory on design and taste that were previously only accessible to elite audiences. To ensure the advice would be relatable to a mass audience, Woollett also capitalized on popular building practices.¹² The kinds of ideas Woollett expressed in his plan books illuminate a popular shift in the ways many Americans were beginning to think about changing their homes. The earlier routine conceptualization of home alteration that Elizabeth Drinker expressed in the 1790s was by the 1870s becoming much more nuanced and complicated. In particular, many upper- and upper-middle-class Americans began envisioning home alteration as a project worthy of their study and stylistic expression. For those Americans who had time and knowledge, home alteration could be a project of study.

It is difficult to know the degree to which Americans related to this publication, but reviews provide some indication. Woollett's plan book was lauded by many, and though some architects criticized his design capability, no reviewers questioned the validity of an alteration-focused publication or his rhetoric about alteration.¹³ Noticing the gap in the plan book market, one reviewer rhetorically asked why "William Woollett, an Albany architect, should be the first to lead the way in

¹² For comments on the process of prescribing taste, and the distillation of those prescriptions by consumers, see: Grier, *Culture and Comfort*, 15-17.

¹³ For reviews that praised Woollett's focus (though not necessarily his designs) see: "Books and Authors," *The Christian Union* 17, 21 (May 22, 1878): 436; "Literature" *The Independent* 3, 1537 (May 16, 1878): 10; "Library," *Phrenological Journal* 67, 1 (July 1878):58-59; "Old Homes Made New," *Scientific American* 6, 17 (April 26, 1879): 265. It does not appear that editors of *Godey's Lady's Book* or *Harper's Weekly*, two of the most popular journals for women, reviewed the publication.

preparing a volume like *Old Homes Made New*.”¹⁴ Another reviewer, summarizing the need for such a publication amidst America’s rapid building and alteration, concluded that any effort in the direction of effecting these changes with intelligence and taste is eminently praiseworthy.”¹⁵ The premise of Woollett’s plan book was warmly received by reviewers, who would have spread news of his book to their readership.

The continued reiteration of Woollett’s ideas also suggests they resonated with Americans. Other architects after him continued to embrace similar rhetoric about alteration, suggesting a receptive market, although perhaps small. By the 1890s, manufactures sold specifically for home alteration, and marketing for alterations steadily grew. City regulators also embraced a new understanding of home alteration that set it apart as markedly different from new construction. In addition, scant letters, primarily from the upper-class, suggest other Americans of the late nineteenth century embraced Woollett’s theories on home alteration.

One of the significant parts of the emerging popular ideas about home alteration was assessing houses as old or antiquated and implicitly designating the old house as a problem worth fixing. This line of thought was perhaps a pragmatic reaction to a country growing in age, and of which the oldest housing stock would have stood in marked contrast from the rapidly expanding new construction of suburbs. At times, comments about old houses also invoked a romantic nostalgia. By mid-century, Eugène-Emmanuel Viollet-le-Duc of France and John Ruskin of England were promoting a new appreciation for historic architecture, which was widely

¹⁴ “Literature” *The Independent*, 10.

¹⁵ “Books and Authors,” *The Christian Union*, 436.

disseminated in America and often cited by other authors, including Woollett.¹⁶

Regarding domestic architecture, Ruskin commented in the *Seven Lamps of Architecture*, “I believe that good men...would be grieved, at the close of [their lives], to think that the place of their early abode...was to be swept away...; that no affection shown to it, no affection felt for it, no good to be drawn from it by their children.”¹⁷ It was partly at the provocation by Viollet-le-Duc, Ruskin, and their disciples that a new fondness for preexisting architecture entered popular culture. This was the foundation that Woollett used when contriving a market for his home alteration catalog.

People translated these ideas onto their home alterations in ways that reflected their ambitions, their cultural expectations, and their immediate needs. One example that demonstrates people’s embrace of this idea in theory but not in practice can be seen in the letters of Ellen Tucker Emerson (1839-1909), daughter of Ralph Waldo Emerson who wrote to her brother in 1872 about altering the family home in Concord, Massachusetts. After a fire in July 1872, the family, including patriarch and matriarch, all children and their spouses, cast a vote to decide how to proceed with the home. No one in the family, Emerson observed to her brother, had any “particular affection for the old rooms in their old shape,” thus the family set about remaking it with new bathroom, kitchen, closets, back entry, and front entry.¹⁸ Emerson’s observation

¹⁶ *Seven Lamps* was first published in 1849 in England and republished in America in 1852.

¹⁷ John Ruskin, *The Seven Lamps of Architecture* (New York: Dover Publications, 1989, reproduction of second edition, 1880), 179.

¹⁸ Ellen Tucker Emerson, Letter to Edward Waldo Emerson, September 9, 1872, in Edith W. Gregg, ed., *The Letters of Ellen Tucker Emerson* (Kent, OH: Kent State University Press, 1982), 694-695.

suggests that she understood that the family might, or ought to, have affection for the old house. This notion is one that Ruskin asserted and Woollett exploited.

Other ways of expressing the emerging dichotomy of old versus new houses was the notion of home alteration as a project, or a means unto itself, very much like the approach embraced by English aristocrat Horace Walpole in the eighteenth century. One block away from the White House on Lafayette Square, Harriet Bailey Blaine (1828-1903), wife of Maine Republican politician James G. Blaine, wrote about “fixing up” their “new old house.” In letters, Blaine parsed out the difficulty of such a process, and lamented the tribulations, particularly when it came to her absent plumber and the “upripping” or demolition.¹⁹ The project, guided by draftsman Willie Camac of Furness, Evans and Company, involved new wood beams and girders to secure the floor, new flooring, a new kitchen, additional windows, new plumbing and a steam heater.²⁰ Foreseeing the benefits of such trials, Blaine projected that the house would “evolve into a beautiful home.” As the wife of a successful politician, Blaine had the leisure to idealize what was previously a mundane process.

Americans were also developing nuanced conceptions about transforming their homes that varied in degree and scale and appears to transcended class division. For many Americans looking to change their houses, there were specific and important distinctions between “modernizing” a home to make it new and merely improving its

¹⁹ Harriet Bailey Stanwood Blaine, Letter from Harriet Bailey Blaine, June 1889 and June 1, 1889, in Harriet S. Blaine Beale, ed., *Letters of Mrs. James G. Blaine* (New York, NY: Duffield & Co., 1908), 267, 273-274.

²⁰ George E. Thomas, Jeffrey A. Cohen, and Michael J. Lewis, *Frank Furness: The Complete Works* (New York: Princeton Architectural Press, 1996), 305. Harriet Bailey Stanwood Blaine, Letter to Joseph H. Manley, February 19, 1889, 273-274.

comfort. Few sources show precisely how people worked through the plans for their alteration projects, but one rare set of letters provides some clues for these distinctions. Writing to his South Carolina builder from New York, Robert Hubbard (1830-1904) explained in 1891 that when renovating his “old fashioned” house, he did “not care to modernize it, but to make it comfortable and convenient.”²¹ This clarification was offered by Hubbard in response to plans he received from George Waring, which were perhaps too invasive, expensive, or extravagant. The distinction Hubbard made reflected the degree and cost of the project, as well as matters of taste. In Hubbard’s mind, to modernize was likely more invasive and expensive. For Hubbard, and undoubtedly many other Americans, there was a distinction, at least ideologically; Hubbard in New York expected Waring in South Carolina to share in those distinctions. Old houses could be made “new” as Woollett suggested, but they could also be made “modern” or “comfortable and convenient.” In the last decades of the nineteenth century, Americans (often unconsciously) parsed out the nuanced differences between these concepts and used them to express criticism about their homes and inform their alterations.

²¹ Robert Hubbard to George Waring, July 6, 1891, Collection 824, Winterthur. Hubbard was born in Utica, New York in 1830. He was a businessman in New York City until 1876 when he moved to Cazenovia, a small town outside Syracuse, NY. In 1891, Hubbard began a long-distance renovation of the Mayrant house in Columbia, South Carolina. The reason for the renovation or his connection with the house is unknown. “Bills for Renovation of Mayrant House,” Collection Finding Aid, Collection 824, Winterthur. Hubbard Family Papers are also held at the William L. Clements Library at the University of Michigan, but no relevant documents relating to this project are part of the collection: Thomas, Frederick, and Robert Hubbard Family Papers, 1803-1902, William L. Clements Library, University of Michigan.

To “modernize” a house was to make it comparable to a new one by adopting new technologies and ideas of living and shedding the constraints of the past. An 1890 definition for modern was, “pertaining to the present era” and “in harmony with the ideas and habits of the present.” At the same time, to modernize meant “to give a modern character or appearance to; adapt to modern persons, times, or uses; cause to conform to modern ideas or style.”²² Modernizing a house involved its full conversion. Assessing an alteration from *The Old House Altered*, editors of *Harper's* summarized that when the project was complete the house had been, “enlarged, modernized, and converted into a comfortable and elegant home....”²³ The case study had transformed the building so that little remained of the original house. Reviewers understood that scale of home alteration should be identified as a modernization.

People’s conceptualization of “modern” houses was in many ways informed by rising sanitary reform movements that advocated for cleaner and more efficient houses. Domestic reform efforts of the 1840s were carried forward in architectural treatises like those by A. J. Downing, and they continued to inform living standards in new and old housing. Modernization meant incorporating better air and light, up-to-date technology for sanitation and heat, and more efficient kitchens. Perhaps as a nod to female readers, many architects explained how “modern” houses were better for housewives. In a dramatic approach to selling his designs for new construction, architect Louis Gibson recounted, “We have in mind the farmer who, during fifteen

²² William Dwight Whitney, ed., *The Century Dictionary* (New York, The Century Co, 1890), 3814.

²³ Review of *The Old House Altered*: “Editor’s Literary Record,” *Harper’s New Monthly Magazine* 58, 344 (January 1879): 312.

years, purchased three large farms. He buried a wife for every farm. Their death was the result of more than slavish work.”²⁴ The cautionary tale was meant to convince readers to adopt his progressive designs for households, which would make the burden of housekeeping far easier.²⁵ To have an old, non-modernized house made the owners antiquated or perhaps construed as backwards by peers.²⁶ If desire and social aspirations could not sell home alterations, then fears of contagion might.

In contrast, making a house more comfortable or convenient was a less invasive and comprehensive pursuit. By the late nineteenth century, these concepts were part of a middle class standard of living that had taken root amongst the elite in the eighteenth century.²⁷ Defining a house as comfortable and convenient suggested it

²⁴ Louis H. Gibson, *Convenient Houses, With Fifty Plans for the Housekeeper* (New York: Crowell, 1889), 21.

²⁵ Many historians have explored the consequences of technology on housekeeping: Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983); Susan Strasser, *Never Done: A History of American Housework* (New York: Pantheon Books, 1982).

²⁶ Clark’s chapter on new houses at the turn of the century provides a useful survey for how contemporaries conceived of a “modern” house and the ways in which they prescribed how a “modern family” should be accommodated: Clark, *The American Family Home*, 131-170. Gwendolyn Wright also captures the Progressive emphasis on modern homes and describes contemporary connections many drew to the ways that a house correlated to the success or demise of a family’s well-being: Gwendolyn Wright, *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago, 1873-1913* (Chicago: University of Chicago Press, 1980).

²⁷ Historian John Crowley has demonstrated that the modern notions of comfort did not emerge until the eighteenth century: John E. Crowley, *The Invention of Comfort: Sensibilities and Design in Early Modern Britain and Early America* (Baltimore: Johns Hopkins University Press, 2001). For middle class standard of

was a commodious environment—one that was easy to function and live in, and also adapted to a desired effect. A contemporary definition of convenient explained the concept as, “affording certain facilities or accommodation; commodious;...rendering some act or movement easy of performance....” Convenience further included, “ease in use or action; comfort.”²⁸ As one architect in a new-construction plan book explained, conveniences were “...those arrangements and appliances which make it possible for people to live comfortable in a larger house, without seriously increasing the cares with they had in a smaller one.”²⁹ Thus, altering a home to be more comfortable or convenient meant to make it more suitable for a middle-class standard of living as people understood it in their place and time. Prescriptive literature and plan books played into and encouraged these middle-class ideals.

For many people, a more comfortable or convenient home also meant a more sociable and genteel one. In Hubbard’s alteration of the historic Mayrant house in Columbia, South Carolina, he opened up the closet between the parlor in the rear and

living: Marina Moskowitz, *Standard of Living: The Measure of the Middle Class in Modern America* (Baltimore: Johns Hopkins University Press, 2004).

²⁸ Whitney, ed., “Convenient,” *Century Dictionary*, 1240. A bibliographic search of plan books in the Winterthur Museum, Gardens, and Library reveals that treatises on “convenient” houses first emerged in the mid-eighteenth century, coinciding with Crowley’s observations about comfort. Architectural historian Jan Jennings surveys design competitions of small, “convenient” houses in: Jan Jennings, *Cheap and Tasteful Dwellings: Design Competitions and the Convenient Interior, 1879-1909* (Knoxville: University of Tennessee Press, 2005).

²⁹ Louis H. Gibson, *Convenient Houses, With Fifty Plans for the Housekeeper* (New York: Crowell, 1889), 27.

the library in the front, making a bigger space for entertainment.³⁰ In the passage he wanted shelves added for more books, reflecting the significance of reading as a common source of entertainment and a recognizable mark of good taste. The builder also added on a rear wing for a dining room (or possibly rearranged a preexisting wing) and a front piazza embracing the popular architectural feature.³¹ The Mayrant project illustrated the complicated interactions between the new and the old, between the prescriptive literature for alteration and what people actually did and did not do in their homes.

Altering a house to make it more comfortable or convenient also meant updating household technology to the prevailing local standard. Hubbard put on a back addition that made the incorporation of plumbing into the house easier: he had a water closet installed in the basement and dormer for servants, as well as a full bathroom on the second floor, resulting in a total bill of \$536.20.³² Like many Americans, Hubbard modified the kitchen with the addition of a pantry and expanded cooking spaces, along with service spaces in the basement.³³ He added new gas lines in the house for

³⁰ The exact date of purchase or the reason for the renovation is unknown. The house was likely built before 1859, when Robert P. Mayrant was listed at the Northeast corner of Senate Street and Bull Street: Finding Aid, Collection 824, Winterthur. The house is no longer standing: based on satellite image analysis of this location conducted in August 2012. No other records or references to the house have been located.

³¹ Letter and plan from Robert Hubbard to George Waring, August 4, 1891, Collection 824, Winterthur.

³² Statement for Palmer's work (no date), Collection 824, Winterthur.

³³ Many of Woollett's alterations suggest carving out space for a butler's pantry from space near the kitchen, like the plan on plate 17. In other plans he modifies older pantries into butler pantries, as in the plan on plate 8. There is no way of knowing the

lighting. Hubbard also reconfigured the house to accommodate servants by installing a servant's wash closet, servant's bedrooms, electric call bells, and a speaking tube.³⁴

Hubbard's changes illuminate common themes in home alteration that were carried out throughout the country, including Philadelphia, and commodified by authors in plan books and other prescriptive literature.

Hubbard took care to decline a modernization, preferring instead achieving comfort and convenience.³⁵ Perhaps by avoiding the term "modernizing," Hubbard was attempting to subtly remind his builder that he did not care for the house to be completely up to date, but instead to have its functionality improved. Like many practical Americans, the choices Hubbard made during his alteration reflect real considerations for time and money. In letters to his builder, Hubbard was often concerned about expense and encouraged him to use materials that were, "better and cheaper."³⁶ His sentiments about cost were a legitimate concern shared by many, as is the case today. Hubbard's caution about cost illuminates how for many Americans, a new vocabulary about scale helped them navigate the cost of alteration with architects and builders.

specifics of Hubbard's butler pantry, but its inclusion is a reflection of pervading trends. Woollett, *Old Homes Made New...*, plates 8 and 17.

³⁴ Robert Hubbard to George Waring, August 4, 1891, Collection 824, Winterthur.

³⁵ Robert Hubbard to George Waring, July 6, 1891, Collection 824, Winterthur.

³⁶ This was in the context of whether to lay a new wood floor over the original brick one, or repair the bricks. Hubbard directed Waring to: "Lay wood floors on s.w. and n.e. rooms. The hallway to be left with its brick floor, but repaired where necessary, unless it would be better and cheaper to floor it over with wood." Robert Hubbard to George Waring, July 6, 1891, Collection 824, Winterthur.

Budgeting for design was necessary, though perhaps not instinctive. For naïve homeowners learning about alteration for the first time, Woollett promised that his plans could save them money. When talking about alteration, many lamented the burdensome cost wrought by home alteration projects. Paraphrasing Cibber's refrain, editors of *Scientific American* observed "It is sometimes very desirable that an old house should be made over. But very often such remodeling costs as much as an entirely new structure; sometimes it costs more."³⁷ Summarizing the burden of home alteration, others at *Phrenological Journal* asserted, "We... are in favor of a new erection rather than the extensive modification of an old building, unless, to be sure, the matter of expense is secondary."³⁸ The common cultural biases about the expense for altering old houses persisted, but Woollett parlayed that popular perception to his advantage by offering his plans as a solution.

It is likely that Hubbard did have a romantic fondness for his Mayrant house. During the project, Hubbard requested the house retain its "old fashioned" style, perhaps believing it possessed historical charm or significance.³⁹ It is possible that Hubbard's approach was informed by romantic ideas championed by Viollet-le-Duc and Ruskin: he often advised his builder to maintain original materials. This request may have responded to his sharp eye for the budget, but his other activities suggest more complicated motivations. Hubbard was an enthusiast of antiquities, and he

³⁷ "Old Homes Made New," *Scientific American* 6, 17 (April 26, 1879): 265.

³⁸ "Library," *Phrenological Journal* 67, 1 (July 1878):58-59.

³⁹ Robert Hubbard to George Waring, August 4, 1891, Collection 824, Winterthur.

donated a large collection to his local library.⁴⁰ It is plausible that this enthusiasm may have carried over to his renovation at the Mayrant house. In his “old fashioned” house, he retained the “old style” hand railing and other historic features of the house.⁴¹

Although his motivations are unclear, Hubbard appraised the house and its features as historic and expected those factors to influence his approach to alteration.

The few written reflections about home alteration from the late nineteenth century reveal wealthier Americans crafting nuanced definitions and cultural constructions about home alteration that were unknown to their economic counterparts a hundred years prior. The trend suggests that like changing perceptions of leisure, child care, cleanliness and home ownership, conceptualizations about home alteration were changing, particularly amongst upper- and middle-class Americans. Hubbard's project, like those undertaken by people around the country, was guided by nuanced, personal tastes and expectations; it was also complicated by changing material and intellectual resources. People who contracted for alterations embraced new ideas about design and style, but they also engaged broader intellectual theory and cultural distinctions about building when their lives allowed for such pursuits. The nuances that Hubbard and others developed about home alteration illustrates how the goals of home alteration ranged during this period as people navigated personal needs within their material, economic, and social contexts.

⁴⁰ Cazenovia Public Library, “History,” 2009. <http://cazenoviapubliclibrary.org/history.php> (Accessed September 4, 2014); “Brevities,” *Cazenovia Republican* (November 3, 1887): 3.

⁴¹ He directed his builder to, “Repair stair-rail to second floor, keeping the old style--using old hand rail if possible.” Robert Hubbard to George Waring, July 6, 1891, Collection 824, Winterthur.

Selling Projects for Home Alteration

Many more Americans were gaining access to new ideas about building and home alteration from plan books like the one Woollett produced, and such resources helped spread and reinforce more complicated ideas. As readers flipped through the pages of text, plans, and images in Woollett's *Old Homes Made New*, they navigated a cornucopia of ideas for changing their homes that carried notions of tasteful designs and lofty concepts about modern middle-class life. For instance, an image of a remodeled hall implied more than the walls, floors, and finishes that constructed it. (Figure 6) Standing to the right of a blazing hearth is a well-appointed woman with fashionable dress and hair who gingerly places a vase with others on an overmantel. The mantel is inscribed with “salve,” Latin for “hello,” and above the assemblage is a painting of a girl holding a pet.⁴² The scene is domestic, tranquil, and refined. A space that had been an out-of-date narrow passage was transformed into a space for display and sociability that served as an entrée into the formal spaces beyond. The image of the new hall, like others in the book, embodied contemporary middle-class expectations for their domestic spaces, and reflected overt representations of gendered middle-class identities that readers would have recognized, if not embraced.⁴³

⁴² For middle-class parlor making, see: Grier, *Culture and Comfort* (Washington, D.C.: Smithsonian Institution Press, 1997). For images of pets in the home, specifically the trope of a girl holding a pet in her arms, see: Katherine C. Grier, *Pets in America* (Chapel Hill: University of North Carolina Press, 2006), 168-174.

⁴³ For expression of middle-class gender roles in architecture, see: Blumin, *The Emergence of the Middle Class*, 139-191; Margaret Marsh, “Suburban Men and Masculine Domesticity, 1870-1915,” *American Quarterly* 40, 2 (June, 1988): 165-186; Gwendolyn Wright, *Moralism and the Model Home* (Chicago: University of Chicago Press, 1980).



Figure 6 Hall after alteration in Woollett, *Old Homes Made New*, 1878.

Woollett's *Old Homes Made New* was one of many new plan books entering the market at the time.⁴⁴ Plan books emerged in the 1860s and 1870s and consisted of larger-scale plans and less text than earlier pattern books like A. J. Downing's

⁴⁴ For background: Daniel D. Reiff, *Houses from Books* (University Park, Pa.: Pennsylvania State University Press, 2000).

Architecture of Country Houses. Plan books were first popularized by Marcus Cummings and Charles Miller, authors of the 1868 *Architecture: Designs for Street Fronts, Suburban Houses and Cottages*. This format was adapted in the 1870s by Amos J. Bicknell, who was not himself an architect, but instead published designs from lesser-known professionals. His first publication was *Bicknell's Village Builder*, of 1872 and he also published Woollett's *Old Homes Made New*.⁴⁵ Architects like Woollett were able to share their designs and ideas with a wider audience using plan books and other publications.

These publications largely omitted home alteration. The few instances concentrated on remodeling old country houses, such as the pattern book examples published by George Woodward.⁴⁶ This advice, rooted in Picturesque and Romantic visions of the American countryside, conceded the expense and inconvenience of remodeling, while accepting it as unavoidable in the country setting; for farmers, professional architectural advice was offered to save expense and impede poor taste. Besides these few examples, the comments about home alteration by H. Hudson Holly in his pattern book *Modern Dwellings* perhaps explain why most architects overlooked this mundane activity in their writings. Summarizing advice to a client, Holly concluded that an old house ought to be let to a farmer, and his client should build

⁴⁵ James L. Garvin, "Mail-Order House Plans and American Victorian Architecture," *Winterthur Portfolio* 16, 4 (Winter, 1981): 309-334; Daniel D. Reiff, *Houses from Books* (University Park, Pa.: Pennsylvania State University Press, 2000).

⁴⁶ George Woodward, *Woodward's Architecture, Landscape Gardening, and Rural Art* (New York: George E. and F. W. Woodward, 1867), 98-101; George Woodward, *Woodward's Architecture and Rural Art* (New York: George E. Woodward, 1868), 41-45; Gervase Wheeler, *Homes for the People* (New York, George E. Woodward, 1867), 378-398.

new. If the spot of the old house was ideal, Holly advised to move the old house out of the way.⁴⁷ The relative absence of alteration from design literature and Holly's comments suggest that many architects considered it outside of their professional promotional arena, although most certainly made money doing it.

To create a market for home alteration amidst a body of plan books for new construction, Woollett in large part commodified vernacular projects that Americans were already doing for generations. Woollett supplied his popular audience a compendium of otherwise mundane projects enveloped in ornamented and picturesque complexity that would have been visually familiar to readers of plan books for new construction, but also would resonate with the desire to change old homes that guided generations earlier.

To dramatize the possibilities of alteration, Woollett used the visual trope of the "before and after," which has remained an integral part of selling home alteration.⁴⁸ Through contrast, viewers could see the changes made to the old house and imagine what it would look like made new. However, this "before and after" image simplified a complicated process. It masked the excruciating period between the before and after in which people muddled through the chaos and messiness of construction projects.

For the old house "after," Woollett closely followed the new architecture featured in contemporary plan books. Woollett's alteration plan book translated for readers how they could transform their old homes into the new popular styles. For the

⁴⁷ Holly, *Modern Dwellings*, 104-106.

⁴⁸ Even today, television shows on home remodeling use the climatic "before and after," at the end of the program.

1870s and 1880s, that meant fashionable aesthetic ornament and social formality offered in popular designs for new houses. Like the new houses, Woollett embellished the new, or “after,” homes with layers of varied planes, complex rooflines, and ornamental flourishes. The “after” floor plans employed hexagons, alcoves, turrets, and built-in furniture to diversify spaces. In addition, the kitchens were expanded with the inclusion of a butler's pantry, laundry, and two store rooms. Finally, in most plans he either expanded or added porches to provide for another social space. When an old home was made new, it had little resemblance to the original and embodied the Victorian features popular at the time.

Fashion and taste were significant components for plan books, whether they catered to new construction or home alteration. Like Holly, Woollett had little romantic appreciation for the style of the old houses he proposed making over. Most old houses, he insisted, lacked “those features which [Americans] deem desirable to preserve, and it is only the homes of colonial times that we find much to interest or that is in itself [sic] meritorious.”⁴⁹ In most examples, the old-fashioned houses he portrayed were simple, square, wood clapboarded frame, or stone. Woollett’s plans of these old homes most often depicted a modified four square form with central hall and kitchen off the back; there was no allusion to servants. He derided many “before” examples as looking too much like a “box,” reminding readers who may have been charmed that the old houses lacked interest.⁵⁰ He also argued that Americans could freely make over old houses because they lacked the aesthetic qualities or affluent associations of old houses in Europe.

⁴⁹ Woollett, *Old Homes Made New*, 6.

⁵⁰ Woollett, *Old Homes Made New*, 10.

Woollett's designs reflected the height of stylistic ambitions. As the editors of *American Architect and Building News* observed, the interiors and exteriors were at times excessive.⁵¹ In other instances, plans that may have been easily drawn seem impractical or impossible if actually implemented. For example; one design called for the construction of several new brick courses, an expensive and difficult feat on a preexisting brick wall. (Figures 7 and 8) Since plan books for new construction carried the same problem of over-the-top design; it made sense that Woollett's "after" versions of an altered house would embody the same approach.

Many architects disapproved of Woollett's approach to design.⁵² A review of Woollett's book in the *American Architect and Building News* was highly critical. When renovating an old house, the reviewer cautioned, an architect needed to avoid "overstepping the modesty of nature, to steer clear of the rock of pretension on the one hand and of awkward newness on the other." The task required experience and a "ripe judgment." Woollett, they implied, lacked those skills, and implicitly, his designs were "insulting [to] the original [house]." Writing on the overall success of the designs, the reviewer complained, "In some instances... one or another of [the designs] has visibly got the better of him."⁵³ Woollett perhaps used provocative design to dramatize the effect of alteration and appeal to his plan-book audience.

⁵¹ *American Architect and Building News* 3, 125 (May 1878): 175.

⁵² The practice of professional architects criticizing the extravagant designs of plan book architects has been observed by other scholars: Clark, *The American Family Home*, 143.

⁵³ *American Architect and Building News* 3, 125 (May 1878): 175.

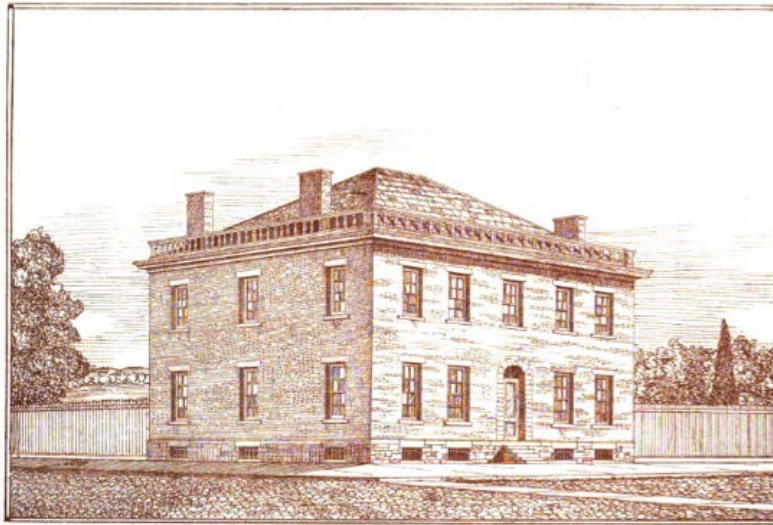


Figure 7 House before renovation in Woollett's *Old Homes Made New*, 1878.



Figure 8 House after renovation in Woollett's *Old Homes Made New*, 1878.

Architect George Mason took an entirely different approach in his effort to sell guidance on home alteration in his *The Old House Altered* published shortly after Woollett's in 1878.⁵⁴ For his treatise, Mason used the letter format and in an unusual approach, had a woman lead her alteration project. Mason's book featured a series of twenty-nine letters exchanged between Mary, a young married woman, and Fred, her brother who was also an architect, in which they exchanged ideas about design, comfort, and even notes from reading Ruskin's *Seven Lamps of Architecture*.⁵⁵ Embodying a romantic appreciation for her family home, but finding it a problem for a comfortable, middle-class life, "Mary" contrived to plan and implement an elaborate alteration project. The changes fictional Mary wanted to make to her old, four-square house were similar to the ones prescribed by Woollett. For example; to obtain a more refined interior, Mary had workers connect the library and parlor, widen the hall, improve the kitchen, and add bays, balconies, and turrets. By the end of the book, Mary's "dear old place" was reconfigured, expanded, added to, and in every possible way altered to be nearly as unrecognizable as Woollett's examples.⁵⁶

Besides a few real examples Woollett used in his book, it is unclear how many Americans listened to the new alteration advice. It is clear that many Americans followed the advice for new construction, and people constructed houses that closely

⁵⁴ This was a popular format for providing instruction, particularly to women. Examples include: Eugene Clarence Gardner, *The House that Jill Built After Jack's Had Proved a Failure: A Book on Home Architecture* (New York: Fords, Howard, & Hulbert, 1882).

⁵⁵ Mason, *The Old House Altered*, 33; Woollett, *Old Homes Made New*, 7.

⁵⁶ Mason, *Old House Altered*, 1.

mirrored designs from many popular authors, including Downing and Shoppell.⁵⁷ Other indications, particularly favorable reviews of *Old Homes Made New* and *The Old House Altered* by periodical editors suggest that at least the middle-class editorial staff found the advice relatable, and they were inspired enough to share their impressions with their audiences.⁵⁸ In addition, the books would have been acquired by many public libraries; for instance, Woollett's book appears in contemporary catalogs for libraries in Brooklyn, San Francisco, and Boston. Many Americans would have had access to the guidance supplied by Woollett and Mason.

Most Americans did not need a book to help them realize their old home was falling behind new construction. In reality, most people likely assessed the new construction going up around them to learn the latest amenities and fashions. Examples were close at hand. Philadelphia's periphery was then expanding with rows of new houses, which benchmarked modern local standards at varying price points.⁵⁹ The houses constructed by William Hamm, a carpenter and builder in Philadelphia,

⁵⁷ For a survey of New Jersey architectural examples that do seem to follow designs in plan and pattern books, see: Robert P. Guter and Janet W. Foster, *Building by the Book: Pattern-Book Architecture in New Jersey* (New Brunswick, NJ: Rutgers University Press, 1992).

⁵⁸ For Woollett: "Books and Authors," *The Christian Union* xvii, 21 (May 22, 1878): 436; "Literature" *The Independent* 3, 1537 (May 16, 1878): 10; "Library," *Phrenological Journal* 67, 1 (July 1878):58-59; "Old Homes Made New," *Scientific American* 6, 17 (April 26, 1879): 265. For Mason: "Editor's Literary Record," *Harper's New Monthly Magazine* 58, 344 (January 1879): 312.

⁵⁹ The 1880s, particularly 1884, saw a building "boom": "Editorial Department," *Builder and Woodworker* 20, 5 (May 1884): 82.

illustrate the features of new houses constructed at the time for the more well-off.⁶⁰ Hamm's row houses were in an "improving neighborhood" and catered to a middle-class clientele. Each house was three stories tall, constructed of brick, and trimmed with marble. The houses incorporated the latest fashionable floor plans and had a vestibule, salon parlor, salon sitting room, dining room, kitchen, five bedrooms, bathroom, and a front and rear stair. A "portable" heater brought hot air to each room, including the bathroom. The kitchen contained a large coal stove. The description lacked any mention of gas lighting, perhaps due to a lack of service in the area.⁶¹ Overall, the buildings were spacious, tastefully trimmed, formal, and equipped with modern conveniences.

Less affluent Philadelphians lived in the ubiquitous brick row houses that built up most of the city during this period. In 1876, the design by architect Davis Supplee featured in *Scribner's Monthly* modeled the typical plans that speculative builders constructed throughout the city. (Figure 9) The building featured a simple two-over-two room plan and was modestly finished with no formal spaces. The author also noted the building was connected to the water supply and had a bathroom with closet; as well as gas; realistically, these features would have depended on available supply. The kitchen was fitted with a range in the kitchen, but the author omitted other heating

⁶⁰ This is an unusual document, and thus far there is little evidence to explain why Hamm produced it, except to create a competitive edge during an economic slump. William H. Hamm, *Description of Twenty-one Dwellings...* (Philadelphia: Hamm, 1880), 6.

⁶¹ It is unlikely that he accidentally overlooked this feature. He included the precise species and origin for all lumber and millwork, explained how the bricks were made and stone processed, and even described the sand in the lime mortar (bar sand).

sources. Perhaps more telling was the ways that the author hinted at the lack of amenities and space: the description included an outbuilding (presumably a privy) in the rear yard, along with a secondary kitchen in a rear shed. The house is described a “warm, convenient, and comfortable,” but the description is through a rose-colored lens meant to laud the housing of Philadelphia’s working class.⁶² In reality, the continued prevalence of back yard privies, makeshift sheds, and candle-induced fires into the twentieth century suggests that many Philadelphians made due in far simpler houses that fell short to even this basic standard.

⁶² Charles Bernard, “A Hundred Thousand Homes: How They Were Paid For,” *Scribners Monthly* 11 (February 1876): 477-87.

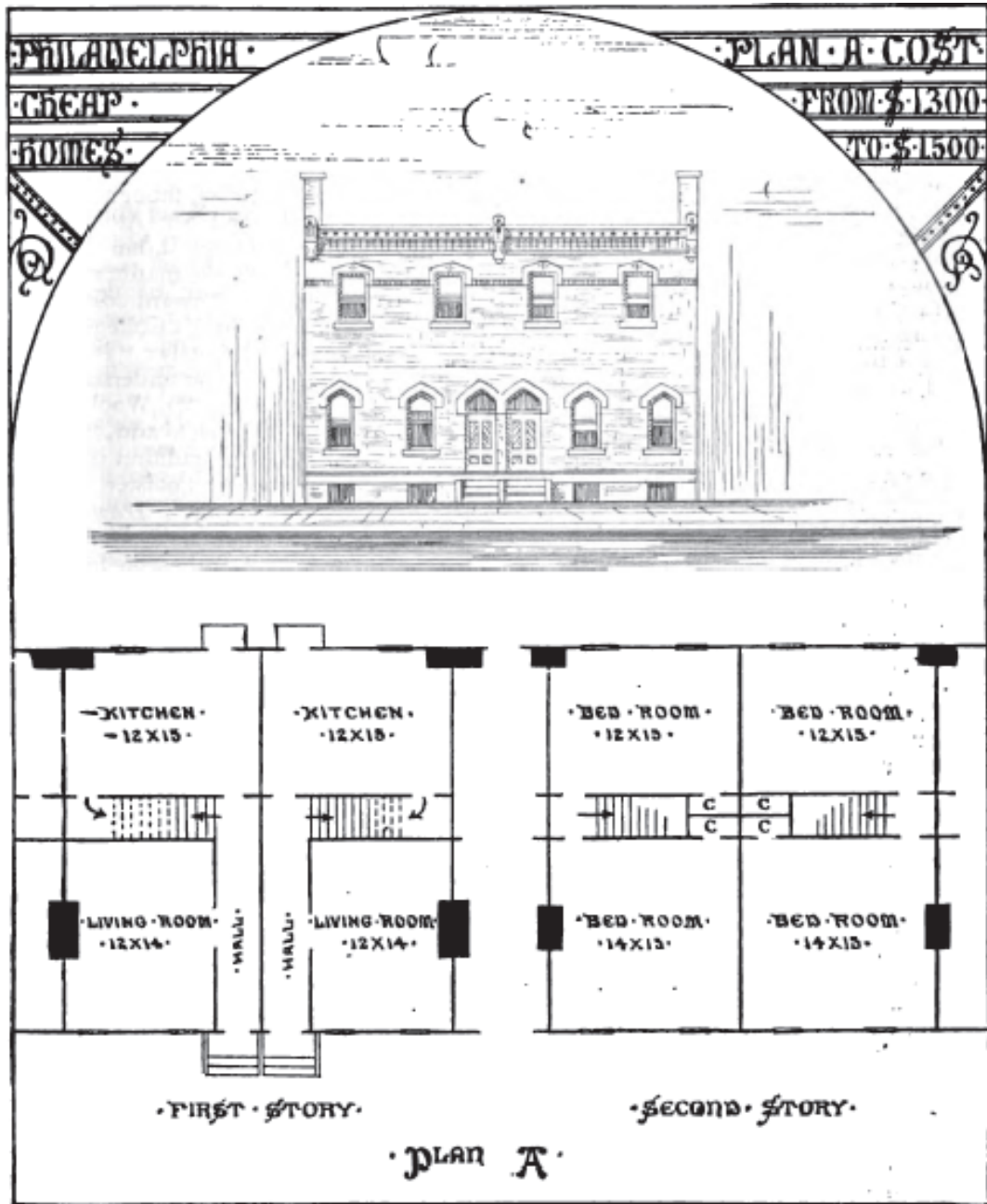


Figure 9 Plans and elevation for a Philadelphia row house by Davis G. Supplee, 1876, *Scribner's Monthly*.

Houses in the older sections of Philadelphia also lacked spaciousness and amenities, but the poor they housed also combated ongoing deterioration. In many colonial cities, much of the housing stock was old and in need of repair. In 1870, Philadelphia had 112,000 houses; by 1878 almost 16,000 were approaching 70 years old or older, and over 77,000 were nearly 20 years old.⁶³ Innovations during preceding decades—plumbing for bathrooms, gas for lighting, and cook stoves and hot and cold water for kitchens—and predictable deterioration likely frustrated many Philadelphians who occupied or owned old homes. The majority of homes in the city fell behind the conveniences and condition of new homes that filled the city periphery amidst building booms after the 1870.

For instance, several houses on Elfreth's Alley, including number 130 constructed in the 1840s, illustrate the cramped quarters that comprised the older sections of town.⁶⁴ The area's traditional status as a rental community also meant that property owners had little incentive to update their properties, except for bare necessities as the market for tenants' changed, or the law required. Owners of 130

⁶³ 1860 (county): 89,976; 1810: 15,814 (includes city and liberties). US Census for 1860 and 1870; for 1810: James Mease, *The Picture of Philadelphia* (Philadelphia: B and T Kite, 1811), 32-35.

⁶⁴ Elfreth's Alley is an example often used by scholars of Philadelphia's colonial architecture, including: Bernard L. Herman, *Town House: Architecture and Material Life in the Early American City, 1780-1830* (Chapel Hill: University of North Carolina Press, 2005).

Elfreth's Alley constructed the house as a rental property, never living there themselves.⁶⁵ As a result, 130 remained much as it was built for more than a century.

Number 130, like many of its older colonial neighbors nearby, was a small row house with one room on each floor, a style known as a bandbox.⁶⁶ Predating plumbing and gas technology, the house was originally constructed with a cesspool in the rear, was heated with a fireplace, and lit by candles or oil lamps. Utilities came later and were finagled in between joists in floor space and inserted into obsolete chimney flues. A small kitchen was added to the rear, but was likely a subsequent addition.⁶⁷ The small lot of 130 meant that property owners had little room for expansion, so the kitchen remained little more than a lean-to shack until a modern renovation occurred; no other living spaces were added.

To “fix up” their old houses, Philadelphians conducted a wide range of home alterations; most of them that were recorded reflect the timeless need for more space. In 1885, city records reported 7900 building operations, of which 5627 were new dwellings, along with alterations that included 383 back buildings, 175 kitchen additions, 357 other additions, fifty bay windows, 306 alterations, 149 new fronts, eighty-three new partitions, thirty-eight baths, one stair, and one porch. In all, of the 2273 miscellaneous operations in 1885, 1543, or nearly 68 percent, were alterations to

⁶⁵ Elfreth's Alley Association, *Guidebook* (Philadelphia: Elfreth's Alley Association, 2001).

⁶⁶ For information on the bandbox style, see: John Murtagh, “The Philadelphia Row House,” *Journal of the Society of Architectural Historians* 16, 4 (December 1957): 8-13.

⁶⁷ Floor plan recorded in 1931 by the Historic American Buildings Survey (HABS). HABS, PA 51-PHILA-272.

a preexisting building.⁶⁸ (Figure 10) Most alteration projects that were recorded increased the footprint of a building, and consequently their owners' property taxes; not surprisingly, few interior alterations made it into the official records.

Although only a snapshot, the permit data illustrates the motivations for home alteration that are perhaps missing from published sources. Like Emerson and Hubbard, Philadelphia families were driven by practical concerns for space that were also framed by financial resources and a desire for a comfortable home. The permits suggest that people rarely completed alteration projects to make a grand public aesthetic statement. Elite architects published grand designs and distilled theories for a popular audience that could certainly inspire. However, most middle- and working-class Philadelphians relied on builders (or each other) to get the alteration project done within realistic economic and physical confines.

⁶⁸ It is unclear what the 357 additions and 306 alterations were. "Building Operations," *Philadelphia Inquirer* (January 2, 1886): 2.

Alterations by type, 1885

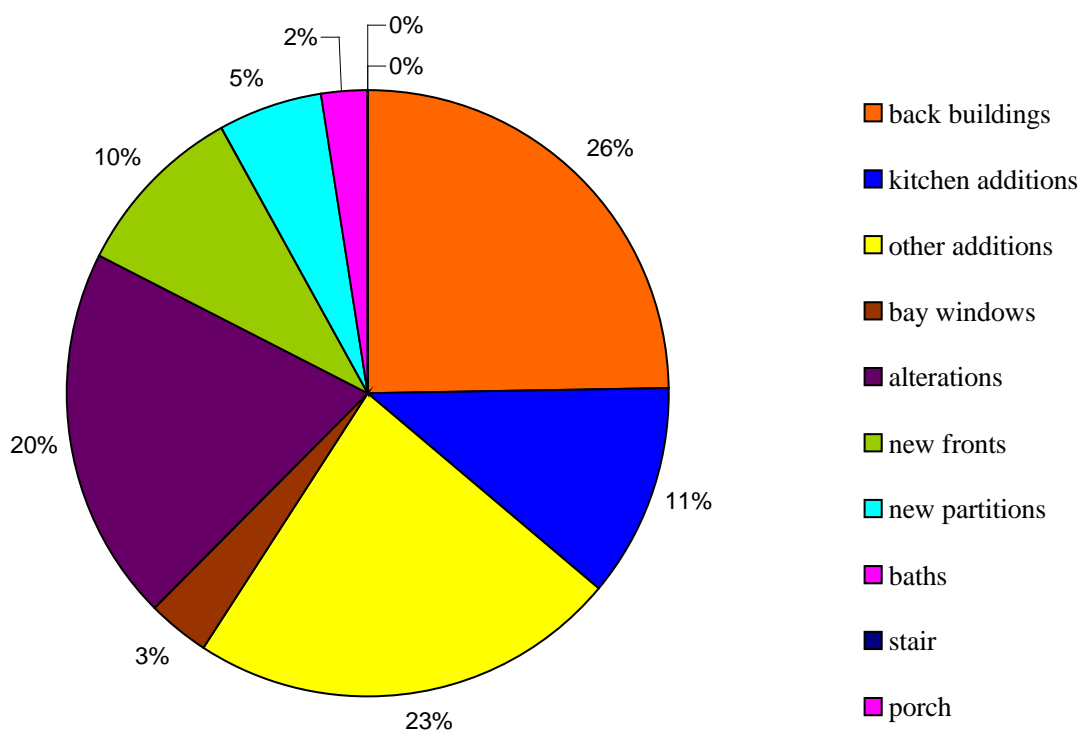


Figure 10 Alterations from 1885 permits, showing distribution of project type.

Given the overwhelming preoccupation amongst Philadelphians to gain more domestic space, it is ironic that none of Woollett’s plans called for additions that added to the footprint of a home, excepting bays and porches. In the confined lots of Philadelphia, maximizing space was an imperative if people wanted to add to their homes, and one of the most significant ways they did this was building up and out. In

the suburbs and countryside, additions expanded building footprints, and builders were not burdened by nearby party walls and tight fences. Philadelphians used overhangs, new stories, and rear buildings to expand their homes; these changes were traditional and perhaps escaped much interest among architect-authors.

Other projects by Philadelphians affirm the ways in which Woollett captured vernacular patterns and everyday choices in his designs. As Woollett suggested, many Philadelphians rearranged stairs to replace uncomfortable winders—a change that was popular for many homeowners when money allowed. Such was the case for Richard Hamilton, who within only three years of building his house added a back building and installed a straight stair.⁶⁹ Just as Woollett prescribed, many Philadelphians also added on porches or piazzas, including Abraham Stratton, who added on a fashionable curved piazza to his trolley-car suburb home.⁷⁰ These changes improved the comfort of a house; straight stairs were easier to climb and a piazza provided relief on humid or rainy days.⁷¹

The mansard roof was also popular at the time and a functional way to increase attic square footage in a ground-poor city, although none of Woollett’s designs

⁶⁹ Franklin Fire Insurance Survey, S 10th Street between Christian and Carpenter, July 6, 1848, resurveyed April 12, 1851.

⁷⁰ Mutual Assurance, Policy 12841, 3715 Baring Street, 1885, resurvey, 1901; “The Latest News in Real Estate. John Devlin Will Build Houses Across the River—New Homes in Frankford,” *Philadelphia Inquirer* (August 23, 1900): 12.

⁷¹ For an assessment of an eighteenth-century addition of a piazza, among other changes, see: Mark Reinberger, “The Evolution of Woodford, an Eighteenth-Century “Retirement,” *Pennsylvania Magazine of History and Biography* 121, 1/2 (1997): 27-51.

included this feature. Mansard roofs were extremely popular between 1860 and 1880. Writing on the “mansard madness” trend in 1869, editors of the *Architectural Review and American Builders’ Journal* complained about its “perverted” use by Americans.⁷² Palliser’s design books were filled with Mansard roofs in 1878.⁷³ Given the popularity, it makes sense that Philadelphians would alter their homes by adding on fashionable mansard roofs. In 1881, Edward Bryne added two stories onto his colonial row house, capping the edifice with a mansard roof.⁷⁴ By 1887, architect R. W. Shoppell was already associating mansard roofs with other out-of-fashion historic styles, reflecting its decline in popularity after that period.

The projects of many Philadelphians, including Bryne and Hamilton, could have been informed and completed in a myriad of ways. By the 1870s, the use of an architect was aspirational; for most working- and middle-class Philadelphians, the employ of a builder (or each other) would have been far more likely. For instance, Frank H. Vogdes (Jesse Vogdes’s son) continued the family business and filed a permit to alter a home not far from his house.⁷⁵ Perhaps reflecting the rising competition in securing building jobs, carpenter and builder Timothy Gorham

⁷² “Mansard Madness,” *Architectural Review and American Builders’ Journal* 2 (August 1869): 67-68.

⁷³ *Palliser's Manufactured Homes* (Palliser, Palliser & Co., Bridgeport, Connecticut, 1878).

⁷⁴ Franklin Fire Insurance, 202 Spruce Street, August 28, 1879, resurveyed September 1881.

⁷⁵ “Building Permits,” *Philadelphia Real Estate Record and Building News* 3, 24 (June 18, 1888): 285.

produced a trade card that overtly appealed to women with a stylish white shoe overflowing with delicate blooms of forget-me-nots and poppies. Perhaps trying to seek out an edge in the market, he took care in his advertisement to remind recipients that he specialized in small jobs and alterations. This rare example demonstrated a form of market segmentation in which contractors attempted to shape demand for home alteration, by appealing to middle-class women hoping to make over their houses.⁷⁶ Operating in the fashionable trolley-car suburb of Powelton Village, Gorham's appeal was likely directed to his middle-class neighbors nearby.

Some wealthier Philadelphians used architects to guide their remodeling projects. Around 1880, Charles T. Parry at 1921 Arch Street hired architectural firm of Wilson Brothers to remodel the interior of their house, which had been built in 1871.⁷⁷

⁷⁶ Trade card of Timothy Gorham, Philadelphia, ca 1880. Library Company of Philadelphia. Thus far, this is the only located trade card that mentions alteration, although more surely exist. It should be noted that aside from sifting through trade card collections, locating these cards by key term is difficult, as few archival databases note home alteration. Reflecting the mundane aspect of home alteration, such a term likely did not seem worthy of entry. For instance, the entry for this trade card at the Library Company of Philadelphia did not mention alteration in the item's entry. Author surveyed trade cards at the Library Company of Philadelphia and the Winterthur Museum, Garden, and Library.

⁷⁷ The firm was founded in 1876 amidst the city's Centennial celebrations. A catalog referencing the project was published in 1885. Wilson Brothers & Co., *Catalogue of Work Executed* (Philadelphia: Lippincott Company, 1885), 3. The firm was likely selected because of their work with local railroad companies and manufacturers, including the Baldwin Locomotive Works, which Parry worked for as an executive (including president) for nearly two decades. The Wilson Brothers built the Baldwin offices at Broad and Spring Garden, and in 1880 Parry also commissioned them to build a hotel and beach house in Beach Haven, NJ, a resort town Parry helped bolster. Jennifer A. Zilling, "Interior Woodwork from 1921 Arch Street, Philadelphia, Built 1871, Renovated Pre-1885," *Winterthur Portfolio* 46, 2/3 (Summer/ Autumn 2012): E47; Baldwin-Lima-Hamilton Corporation, *History of the*

Whether encouraged by the affluent growth of the neighborhood or reflecting the success of Parry's career, many of the renovations demonstrate an effort to advance the house stylistically. (Figure 11) In a sweeping upgrade to the household woodwork and the addition of other ornamental embellishments, the Parrys improved the fashionability of their home. In the place of, or at times even alongside of, original heavy Renaissance-revival trim, the family added delicate touches inspired by the Aesthetic movement including a hand-carved window cornices and a griffin-flanked central mirrors to make a dramatic statement in the front parlor.⁷⁸ The Parry family also purchased more ornate leaded and colored glass to replace what was most likely originally frosted glass.⁷⁹ In addition, they added ornate walnut lunettes above the parlor's arched pocket doors. The Parrys's remodeling project documents the interior work that escaped permit documentation.⁸⁰

Baldwin Locomotive Works, 1831 to 1902 (Philadelphia, Edgell Co., 1903); In 1871, Charles T. Parry hired the architectural firm Collins and Autenrieth to construct a house for his family: Zwilling, "Interior Woodwork," E44-E57.

⁷⁸ Curator Jennifer Zwilling believes these could have been made bespoke by the well-known Philadelphia cabinetmaker Daniel Pabst, though there is no certainty. David A. Hanks and Page Talbott, "Daniel Pabst: Philadelphia Cabinetmaker," Philadelphia Museum of Art *Bulletin* 73, 316 (April 1977): 5-24; Zwilling, "Interior Woodwork," E45.

⁷⁹ *Ibid.*, E50.

⁸⁰ Building permits indexes and forms do not exist for this year. I have not found a permit announcement in the *Philadelphia Inquirer*, which often listed prominent projects reported by the Board of Building Inspectors.



Figure 11 Drawing Room of 1921 Arch Street, 1890, photocopy, HABS No. PA-1524, 1968. Courtesy *Historic American Building Survey*.

The Parrys left no record describing the inspiration for their project, but the use of an architectural firm suggests that they sought professional design guidance. The Parrys may have seen similar work at another house, studied catalogs, visited furniture warehouses, or saw designs in a magazine. Advice in design books and rhetoric in catalogs illuminates some of the popular ideology behind these changes. For instance, writing on fretwork a few years later, manufacturer J. W. Boughton insisted, “No

modern house is complete in its ornamentation without the use of grille and fret work in connection with its interior decorations and hangings.”⁸¹ The Parrys perhaps believed, and as a result consumed, the same ideas that were promoted by Boughton. The changes they made resulted in a fashionable house suitable for entertaining and domestic comfort.

For other Philadelphians with less money than the Parrys, changing their own homes was a viable solution, though the degree to which it occurred is uncertain. Of the 12 recorded alteration building permits issued in June of 1889—adding stories and additions, remodeling a roof into a mansard form, adding a water closet, and installing a portable heater—5 homeowners anticipated doing the work themselves on properties they owned.⁸² One, Charles Geisendorf, filed a permit to put on a rear addition to his own building at 1639 Passyunk Ave.⁸³ Working-class homeowners could tackle home remodeling projects by saving the costs of their labor or exchanging work with those who had the necessary skills.

Other scholars have documented forms of self-building in working class cities, particularly those with high homeownership rates. In Toronto, Richard Harris found 33 to 40 percent of all houses were self-built during the early twentieth-century

⁸¹ J. W. Boughton, *Interior Decorations and Artistic Wood Floors* (Philadelphia: the Company, 1893), 45.

⁸² Application numbers 2401 through 2440 surveyed (July 1889), Permits, BBI, PCA.

⁸³ “Building Permits,” *Philadelphia Real Estate Record and Building News* 3, 5 (February 6, 1888): 54.

building boom.⁸⁴ Anne Krulikowski documented how working-class families leveraged building skills to obtain homes at a lower cost in the Southwest suburbs of Philadelphia.⁸⁵ Michael Doucet and John Weaver found similar situations in Detroit and Pittsburg, where working-class rates of homeownership were also high.⁸⁶ With the availability of ready-made materials, it makes sense that homeowners who were handy would alter their own homes.

Alteration decisions were guided by cultural ideas about standard of living as well as pragmatic limitations like time, money, and space.⁸⁷ For owners of old homes, home alteration was the only way to gain at least some of the modern comforts and conveniences they would have seen in new houses offered by Hamm and others. Personal expectations and resources defined the scale and degree of a project. Underlying much of the published alteration rhetoric was commonly held, middle-class notions of what a house ought to be.⁸⁸ Professional authors like Woollett

⁸⁴ Richard Harris, "Self-Building in the Urban Housing Market," *Economic Geography* 67, 1 (Jan., 1991): 1-21

⁸⁵ Anne Krulikowski, "'A Workingman's Paradise': The Meadows Neighborhood in Southwest Philadelphia" (Dissertation, University of Delaware, 2001).

⁸⁶ Doucet and Weaver, "Material Culture and the North American House," 560-587.

⁸⁷ Daniel Horowitz, *The Morality of Spending: Attitudes toward the Consumer Society in America, 1875-1940* (Chicago: I.R. Dee, 1992); Moskowitz, *Standard of Living* (Baltimore: Johns Hopkins University Press, 2004).

⁸⁸ For a general discussion of middle class homes as prescribed throughout the nineteenth and early twentieth century, see: Clark, *The American Family Home* (Chapel Hill, NC: University of North Carolina Press, 1986). Discussions of the significance of the home in middle-class identity include: Blumin, *The Emergence of the Middle Class*, 139-185; Moskowitz, *Standard of Living*, 129-176.

perpetuated these elite ideas. In Philadelphia, working class and less affluent “middle majority” homeowners and their builders combined new and old notions of what house should look like. When they translated ideas onto the ground, they tempered most of the prescriptions promoted by those like Woollett and Mason.

Sources like *Old Homes Made New* and the *Old House Altered* transformed the public dialog about home alteration in two ways: first by setting it apart from new construction (making it distinct) and second by transforming home alteration planning into a commodity to sell. To do this, these authors and publishers cast the “old home” as a problem that clients needed to address: at the same time they provided solutions by creating a philosophy on appropriate alterations, demonstrating that philosophy through plans and renderings, and articulating an aesthetic difference between good and bad home alterations. Creating a problem in order to sell solutions was a tried-and-true approach to boosting sales by the 1880s. As many other scholars have demonstrated, the problem of social and stylistic obsolescence was often encouraged or even created by manufacturers, dealers, designers, and publishers as a means to sell goods.⁸⁹ Advocating a refashioned house or accentuating the ways in which houses failed in comfort or convenience only helped instill and reinforce this idea to their readership.

⁸⁹ Regina Lee Blaszczyk, *Imagining Consumers: Design and Innovation from Wedgwood to Corning* (Baltimore: Johns Hopkins University Press, 2000); Susan Strasser, ed., *Commodifying Everything: Relationships of the Market* (New York: Routledge, 2003); Harris, *Building a Market* (Chicago: University of Chicago Press, 2012).

Selling Products for Home Alteration

By the 1880s, more Americans could also solve the physical decline of their buildings with an array of cheaper building materials, including products specifically marketed for home alteration. These components made practical renovations cheaper, but they also allowed people to complete more adventurous projects that may have previously been out of reach. Complicating their choices even further, Americans looking to remodel their homes could consult books and catalogs to help inform their alteration projects. The building supply industry, finding a friendly customer in owners of preexisting homes, expanded to accommodate them. By 1910, the products segmented a house into disparate parts that customers could order and install at their leisure. This new ability dramatically transformed the ambition of people to alter their homes as never before, setting the foundations for the twentieth-century building market and do-it-yourself-movement.

Driven by a demand for housing stock and building supplies, Philadelphia was one of many cities around the country experiencing a growth in its building supply manufacturing.⁹⁰ The millwork industry benefitted from the harvested forests in the American West, improved railroad systems for faster and cheaper shipping, and new woodworking machines to speed up their production. While small-scale craft shops prevailed, the cost of making components in a traditional manner could not keep pace with manufactures. Across the building industry builders and craftsmen supplemented with batch-produced components.

In Philadelphia, an example of a smaller batch manufacturer was W. P. Henderson of North Philadelphia, who supplied builders and carpenters with

⁹⁰ Reiff, *Houses from Books*, 121.

moulding, doors, scroll work, and other millwork for their building projects.⁹¹ Judging by the products, Henderson's machinery likely included planers, scroll saws, and lathes, all likely steam powered.⁹² He also supplied builder-turned-building-inspector Charles D. Supplee for projects, including two doors for 1633 Poplar Street, home of his brother, the architect Davis G. Supplee (the row house architect in *Scribner's*).⁹³ For a simple door update on his brother's house, it likely made sense to save on delivery costs and order nearby. Reflecting the small scale of operations most manufacturers maintained at the time, Henderson's scope of sales was local.

On a larger scale was the manufacturer Hall and Garrison. At first stationed in Kensington, a manufacturing district near the lumber yards, the firm later moved to South Philadelphia on Washington Avenue.⁹⁴ By 1894 they had two factories, plus operations in New York.⁹⁵ They boasted many prominent customers, including the owners of the Chelsea Hotel in Manhattan and publisher George W. Childs in Philadelphia. Reflecting the product diversity typical to large-scale manufacturers, the

⁹¹ Philip Scranton, *Endless Novelty: Specialty Production and American Industrialization, 1865-1925* (Princeton: Princeton University Press, 1997).

⁹² W. P. Henderson, Daybook. Folio 273, Winterthur.

⁹³ Henderson's factory was at North College Ave and Ridge Ave. Entered 1-11-1872, W. P. Henderson, Daybook, Folio 273, Winterthur.

⁹⁴ For a survey of their factory: Ernest Hexamer, "Hall and Garrison's Looking Glass and Picture Frame Factory," *Hexamer General Surveys, Volume 18* (Philadelphia: Earnest Hexamer and Son, 1882), plate 1681.

⁹⁵ Hall and Garrison, *Illustrated Catalog of Dec-co-re-o* (Philadelphia: the Company, 1894); Hall and Garrison, *Illustrated Catalogue of Wood Mantles* (Philadelphia: Edward Stern and Co., 1888).

company's mantle catalog had dozens of designs. Hall and Garrison were also popular locally, and even William Hamm, builder of the new row houses in 1880, used them for his millwork.⁹⁶ Hall and Garrison developed a large-scale manufactory that relied on variety and a large customer network to grow its business.

Competition segmented the market and expanded choice. Customers had an increased variety of products to alter their homes, and they used the variety strategically. For instance, the combination of high-end bespoke work and mass-produced pieces used by the elite Parry family demonstrated the balance that wealthy homeowners could strike within the contemporary building materials market. The Parrys's ornate, batch-produced, twist-turned walnut lunettes above the parlor's arched pocket doors were mostly likely ordered from Moses Younglove Ransom, a manufacturer based in Cleveland.⁹⁷ The Moorish fretwork was a stock item and would have been far cheaper than a bespoke design. However, the walnut fretwork was still expensive because the raw material was a higher grade of wood than pine or most other hardwoods. By the 1890s, manufacturers were using composite materials in addition to wood to cut costs, add variety, and maintain or increase profits in a highly competitive and mature business.⁹⁸

⁹⁶ Hamm, *Description of Twenty-one Dwellings*, 8.

⁹⁷ Paul Ticker, "Moorish Fretwork Furniture," *Magazine Antiques* 167, 5 (May 2005): 116-123; Zwilling, "Interior Woodwork," E51-E52.

⁹⁸ In a similar way that furniture manufactures used veneers and cheaper woods to imitate higher quality varieties. For instance, Singer used veneers of gumwood to imitate French walnut: Hounshell, *From the American System to Mass Production*, 134-143. Hall and Garrison used their patented composite material to make ornamental screens in 1894.

Consumers navigated the expanded market by mixing stock and custom work. The Parrys balanced the mail-order, machine-made piece with expensive, bespoke window and mirror cornices. The carved pieces were likely the handiwork of artisan cabinetmaker Daniel Pabst. Pabst operated his Philadelphia shop in the last half of the nineteenth century after emigrating from Germany in 1849.⁹⁹ Given the expense, it is no coincidence that the more elaborate (and heavier) parlor window cornice was made by hand in town by a well-known local cabinet maker, while the fashionably risky and easily removable fretwork lunette was ordered from someone's inventory. The Parrys simply worked out the total composition with their architect and did not worry about design consistency.

It is not clear how the Parrys learned about Pabst or Cleveland-based Ransom, but manufacturers acquired business—and customers acquired products—in a myriad of ways during this period. In reality, many lumber mills or millwork manufactures functioned locally, selling to professionals and conducting little to no advertisement beyond trade cards. For example: carpenter Jesse Vogdes worked around several lumber mills and steam planing mills that processed the material that would have been coming from the nearby rail yard. Working until 1872, Vogdes also used the local lumber from the McIlvaine lumber yard, sometimes even ripping it for them; he supplied builders, and he did projects for a range of clients. Manufacturing components was just one part of his business. No advertisements have been found for

⁹⁹ Hanks and Talbott, “Daniel Pabst: Philadelphia Cabinetmaker,” 7, 22; Zwilling, “Interior Woodwork,” E45.

his services in the local papers, and he likely secured business by word-of-mouth.¹⁰⁰

The same situation worked for Henderson in North Philadelphia. These men may have had a trade card, but the business practices of Vogdes and Henderson, reflect a localized scale of business.

By the 1880s, trade catalogs helped manufacturers reach a wider audience. Increasingly embellished with rhetoric and images, manufacturers found ways to pitch their products as a solution for home alteration. Manufacturers also advertised to homeowners (including women) in new mediums such as popular periodicals. The diversification of marketing and advertisements reflects manufacturers' intentional effort to engage unskilled and nonprofessional audiences. Lawrence Romaine's survey of catalogs documents this point: in the 1850s he listed only 11 catalogs for architectural and building materials; in the 1870s there were 30; by the 1880s there were over a hundred.¹⁰¹ Philadelphians, like many homeowners around the country, could order this material from local producers like Henderson or Hall and Garrison, but they could also order from catalogs published by manufactures from factory towns like Grand Rapids and Chicago.¹⁰²

¹⁰⁰ In a frustrating reminder that much of the historical picture escapes record, Jesse Vogdes was not recorded as either a carpenter or builder in 1865. *McElroy's Philadelphia City Directory*, 1865.

¹⁰¹ Reiff, *Houses from Books*, 121.

¹⁰² Philip Scranton, *Endless Novelty: Specialty Production and American Industrialization, 1865-1925* (Princeton: Princeton University Press, 1997). For catalogs, see: Henry Russell Hitchcock, *American Architectural Books: A List of Books, Portfolios, and Pamphlets on Architecture and Related Subjects Published in America Before 1895* (Minneapolis: University of Minnesota Press, 1962); Herbert Mitchell and Frank G. Matero, *The Architectural Trade Catalog in America, 1850-1950: Selections from the Avery Collection* (New York: Columbia University, 1985);

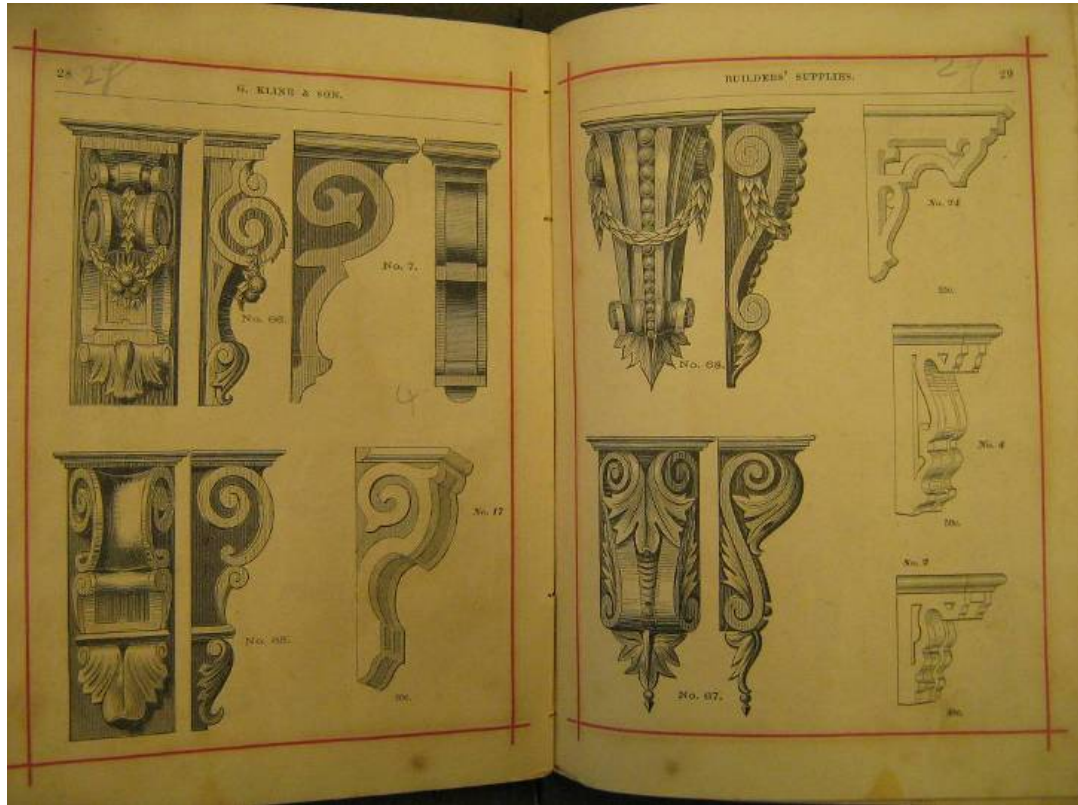


Figure 12 G. Kline and Son price current from 1877.

Manufacturers dabbled in new catalog formats beginning in the 1870s. These efforts expanded on the traditional supply lists to include more images, likely in an effort to help novice consumers or far-off builders understand the product. The simple

Daniel D. Reiff, *Houses from Books* (University Park: Pennsylvania State University Press, 2000); Lawrence Romaine, *Guide to American trade catalogs 1744-1900* (New York, Arno Press, 1976).

price guides of the 1870s and 1880s, such as the one published by G. Kline & Son in 1877 provide an example of the earliest iteration. (Figure 12) Directed to those “contemplating building,” it was a simple catalog filled with product lists for doors, window sashes, and mantels. There were few visuals for the products, with brackets and hardware being one of few exceptions.¹⁰³ J. W. Bailey and Son was a wholesale dealer in millwork, or “building trimmings” from Boston selling to builders. Reflecting the increased variety of goods this company carried, their 1879 catalogue included more product images of their balusters, rails, and newels.¹⁰⁴ These millwork producers kept the material straightforward and focused on the product; the company did not help readers understand how or why to use these products, and it is likely that most who saw it were already knowledgeable.

As the price of paper, printing, and shipping dropped and as market competition increased, many manufacturers expanded their trade catalog formats even further. In Philadelphia, the growth of the well-known Hall and Garrison firm was undoubtedly due to the variety of their merchandise, the extent of their advertising, and the rapid increase in the city’s population and housing stock. By the 1880s they issued several catalogs a year promoting the variety of styles for their stock items. Their production model relied on standard items in different shapes, sizes, and motifs. When the company began experimenting with composite material in 1893, their advertising copy became even more detailed, reflecting manufacturer’s need to educate customers who were unfamiliar with some of their new product lines. (Figure

¹⁰³ G. Kline and Son, *Price Current* (Louisville, KY: the company, 1877).

¹⁰⁴ J. W. Bailey and Sons, *Catalogue* (Boston, the Company, 1879).

13) To market the composite material, Hall and Garrison filled the pages of the catalog with information on the material production, demonstrations of installations, and rhetoric about the social and economic implications of their product. They claimed that the composite material would appear like “open work as fine as hand carving, a great deal less expensive, and just as durable.”¹⁰⁵ The company addressed consumers’ basic concerns about cost and durability for new experimental materials.



Figure 13 Composite screen by Hall and Garrison, 1894.

¹⁰⁵ Hall and Garrison, *Illustrated Catalog of Dec-co-re-o* (Philadelphia: the Company, 1894).

Occasionally, manufacturers' desire for a competitive edge took on a more creative approach. An extreme example is *The Story of the House* produced by O. W. Ketchm in 1899.¹⁰⁶ The title was undoubtedly inspired by Viollet-Le-Duc's 1874 *The Story of a House*, but the content is a unique mix of poetry and illustrations combined with information about the bricks O. W. Ketcham Company produced. Henry Loomis Curtis, an architect, compiled the catalog and interspersed it with quotes from famous contemporary authors such as Ruskin, Walt Whitman, Thoreau, Longfellow, and Wordsworth. (Figure 14) The mix of poetry and brick on display in the catalog, with little actual technical information, was a clear example of manufacturers and publishers responding to a nonprofessional audience.

¹⁰⁶ O. W. Ketcham, *The Story of the House* (Philadelphia: The Company, 1899).

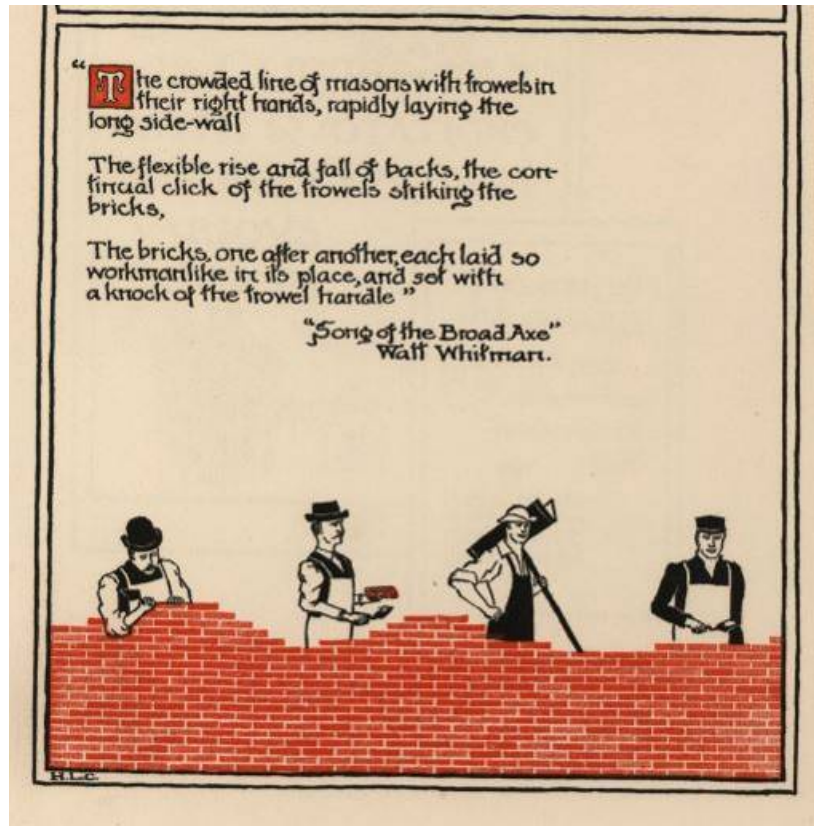


Figure 14 *The Story of the House*, catalog by O. W. Ketcham, 1899.

Besides tweaking the traditional format of the trade catalog, building supply manufacturers began reaching new audiences through popular sources. In the back of pattern and plan books like Palliser's 1878 *Manufactured Homes*, readers could see advertisements for sash and door manufactures.¹⁰⁷ In *Ladies Home Journal*, building

¹⁰⁷ Palliser, Palliser and Co., *Palliser's Manufactured Homes* (Bridgeport, Conn: Palliser, Palliser & Co., 1878).

material manufactures periodically joined their counterparts in clothing, shoes, and books to pitch their merchandise.¹⁰⁸ Washburn and Moore Manufacturing advertised their sanitary plumbing in June 1884, assuring female readers that “No more sickness and death from sewer-gas, if Moore’s patent sanitary plumbing appliances are used.”¹⁰⁹ W. C. Young featured their inexpensive stained glass substitute in August 1884.¹¹⁰ Pattern and plan book publishers also joined their manufacture counterparts; for example, Shoppell advertised his *Modern Low-cost Houses* in several issues of *Ladies Home Journal* in 1884, including in December when he suggested it was an ideal “Holiday present for a man.”¹¹¹ Many manufacturers directed their advertisements at women and their perceived interests—cleanliness and health, beautiful houses, and happy husbands.

¹⁰⁸ For consumerism in *Ladies Home Journal*, see: Jennifer Scanlon, *Inarticulate Longings: The Ladies' Home Journal, Gender, and the Promises of Consumer Culture* (New York: Routledge, 1995). For selling house plans (particularly in the early twentieth century), see: Kathryn Dethier, “The Spirit of Progressive Reform: the ‘Ladies’ Home Journal’ House Plans, 1900-1902,” *Journal of Design History* 6, 4 (1993): 247-261; Leland M. Roth, “Getting the Houses to the People: Edward Bok, the Ladies' Home Journal, and the Ideal House,” *Perspectives in Vernacular Architecture* 4 (1991): 187-196.

¹⁰⁹ Washburn and Moore Manufacturing, Advertisement, *Ladies Home Journal* 2 (June 1884): 7. Appealing to contemporary concern for household sanitation, for example, see: Harriette Merrick Plunkett, *Women, Plumbers, and Doctors: or Household Sanitation* (New York: Appleton, 1885).

¹¹⁰ W. C. Young, Advertisement, *Ladies Home Journal* 2 (August 1884).

¹¹¹ Shoppell, Advertisement, *Ladies Home Journal* 2 (December 1884):8.

At the end of the century, building manufacturers also began to explicitly market their products as a solution for old houses. And home alteration. The advertisements in the back of Woollett's *Old Homes Made New* highlight the kinds of manufacturers that focused on home alteration. Not surprisingly, many advertisers made finishes such as paint and tiles; to spruce up an old home, homeowners could easily incorporate these materials, and such a change would have been far simpler than the renovations depicted in Woollett's plans.¹¹² Ornamental glass manufacturer New York Sand Blast Works also advertised in the book, perhaps imagining his window reinvigorating an old house. Advertising in Woollett's plan book was strategic because the book appealed to the audience most likely to buy the materials used in renovation.¹¹³

Innovative materials manufacturers made up a large part of those who marketed home alteration products. William Hannam, who advertised in Woollett's plan book, produced parquet flooring.¹¹⁴ His "wood carpet" rolled up like oil cloth and was made of ¼ inch strips cemented to muslin." Like paint and windows, installing it would have easily updated an old home. Later in 1890, he used an approach that was similar to Hall and Garrison's promotion of composite screen work: Hannam assured readers the product had "become very popular, meeting a growing demand from

¹¹² H. W. John, an asbestos processor, advertised their premixed paints; Minton advertised their encaustic and paving tiles.

¹¹³ Regina Blaszczyk's work on manufacturers' targeting audiences is particularly useful here: Blaszczyk, *Imagining Consumers* (Baltimore: Johns Hopkins University Press, 2000).

¹¹⁴ Hannam & Co., *How to Make the "Home Beautiful"...* (New York City: Wm. Hannam & Co, 1890).

wealthy people and those whose tastes are cultivated by extensive travel in foreign lands.....” Yet, the product ranged from \$1.50 to \$4.50 a yard, hardly a cheap investment. The catalog did not list the width of the roll, making estimating this cost difficult. Considering the relative lack of surviving wood carpets, we can speculate that many consumers put conservative financial limits on experimenting with new materials.

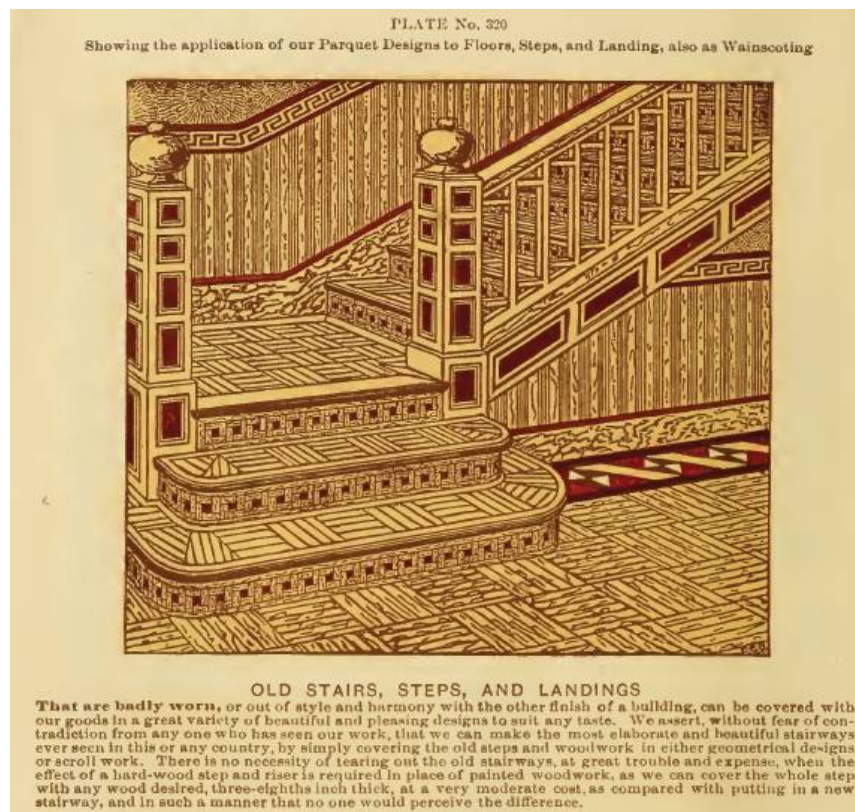


Figure 15 J. W. Boughton, *Interior Decorations and Artistic Wood Floors*, 1893.

One of Hannam's competitors made a much more explicit appeal to owners of old homes. In 1893, parquet wood carpeting manufacturer J. W. Boughton advised customers that his flooring was ideal for covering up old stairs, steps, and landings.¹¹⁵ (Figure 15) For spaces in the houses that were badly worn, or “out of style and harmony” with the finishes in the building, an owner could order this product to bring the area up to date. It was, the company asserted, less “trouble and expense” than tearing out the old stairs and building anew—one of the first manufacturers to explicitly say so in such an appeal. This change occurred in the 1890s; Boughton had not made such an overt solicitation to owners of old homes in 1885.¹¹⁶ As a marketing strategy for his product, he helped readers imagine projects, an advertising approach that became more popular in the twentieth century.

After 1900, trade catalogs evolved into the form classically associated with retailers such as Sears, Roebuck & Co. or Montgomery Ward. Manufacturers embellished their trade catalogs with more images, detailed descriptions, and directions designed to instill trust, educate, and attract attention.¹¹⁷ The catalogs more explicitly addressed homeowners, embracing a market with which author-architects

¹¹⁵ J. W. Boughton, *Interior Decorations and Artistic Wood Floors* (Philadelphia: the Company, 1893), 6.

¹¹⁶ Boughton and Terwilliger, *Wood Carpet and Parquet Floors* (New York: The Company, 1885)).

¹¹⁷ For a study of trade catalog merchandise presentation see Herbert Gottfried, “Building the Picture: Trading on the Imagery of Production and Design,” *Winterthur Portfolio* 27 (Winter, 1992): 235-253.

like Woollett and their publishers were already familiar.¹¹⁸ These homeowners were considering home alteration in an era of an increasingly competitive market, and a housing slump, the same conditions that shaped innovative marketing around 1880.

Millwork manufacturer Gordon Van-Tine embodied these early twentieth century changes. He sold products and projects in his 1909 catalog. The trade catalog was over 70 pages, included an introduction to homeowners and builders, incorporated advertisements for building materials, and was so extensive it was accompanied by an index. The cover showed an artistic rendering of lumbermen felling trees in the foreground, framing a far-off factory. Inside, the copy included photographs of the company's production floor and warehouse. Within its pages was a plethora of information to guide unskilled homeowners through the procurement process, including a standardized order form, details of how the company maintained low prices (raw materials, immense facilities, economy in manufacturing, and economy in distribution), a delivery guarantee, and clear refund information.¹¹⁹ Functioning more like a general retail catalog than a trade catalog, the assurances and guarantees were meant to build customers' trust.

Van-Tine also suggested large-scale alteration projects. Like many other tastemakers, including Woollett, Van-Tine singled out the porch as a way to update a house. A homeowner could order columns, porch newels, or entire porch kits that

¹¹⁸ This would develop into a "DIY" market. For more on marketing home renovation, see: Harris, *Building a Market* (Chicago: University of Chicago Press, 2012).

¹¹⁹ Gordon-Van Tine Company, *Grand Millwork Catalog for Home Builders* (Davenport, Iowa: The Company, 1909), 3.

ranged from \$4.90 to \$32.09.¹²⁰ The kits included columns, newels, rails, balusters, and spindles, but not the rough lumber for framing.¹²¹ Embracing the traditional “before and after,” the company demonstrated the effect a porch would have on an old building boxy twin that was “modernized on the Gordon-Van Tine idea.” (Figure 16) Although the company emphasized the porch, the image reflected a more complicated renovation that was barely believable and depicted only as a drawing, rather than a photograph. The rendering appeared to have unified the twin, demanding intense interior alterations; builders had added a central door with flanking windows on the ground floor, replacing the two doors; and they removed shutters and included fashionable art glass.¹²² Staying true to the definition outlined decades earlier, after the modernization, the house was barely recognizable. The actual existence of this house is debatable; yet, the company created a message for customers about the possibilities for alteration using their products.


¹²⁰ *Ibid.*, 68.

¹²¹ *Ibid.*, 67-68.

¹²² *Ibid.*, 67.

What a Few Dollars Invested in Porch WILL DO TOWARD BEAUTIFYING YOUR HOME

Without a Porch



THIS IS A HOUSE BUILT NEARLY 20 YEARS AGO WHICH
THE OWNERS DECIDED TO MODERNIZE

Every home should have an attractive, comfortable, roomy Porch or Veranda. We have cut the cost of the material necessary to build a Porch to half the prices charged by retail lumber and millwork dealers, by getting out beautiful **stock patterns** of columns, brackets, spindles, rail, balusters, newels, ornaments, etc., from which a great many different styles of porches or verandas can be built.

A few dollars invested in this material will work wonders in improving the appearance and adding to the comfort and actual value of a plain, old-style house. The pictures on this page show what can be done toward modernizing an old house, at comparatively small expense.

A good sized porch is especially useful in the hot summer months, affording a cool, shady retreat and keeping the rooms cool and comfortable.

All modern homes are built with Porches or Verandas. The porch is the most conspicuous and showy feature of the home and adds several times its cost to the value of the property. It is an evidence of prosperity, and reflects credit on the home owner.

Our many handsome Porch work designs make it easy to build large and highly ornamental or simple and cozy porches at very low cost.

All our Porch material is of the very highest quality and grade. The lumber is carefully selected, thoroughly air-seasoned and kiln dried. The machine work is done by experts. Note the variety of patterns from which selections may be made.


Our Porch Department is one of the most important branches of this business. The output is immense, and we carry great quantities of porch material on hand for quick shipment. Customers write us that our prices mean a saving of 50 to 75 per cent from those charged by local dealers.

No matter what the size or style of your house might be, we can furnish all the material to build a suitable porch from our stock. Why use material that must be made to special order in a local mill, paying a big extra profit on same? Why take the chance of mistakes and delays? We offer you everything you need, of **better quality** and in more **up-to-date patterns** than you can get from your local dealer, guaranteeing quality and safe delivery, and **save you at least half the money demanded by the retail dealer**.

On the next pages you will find several designs of complete porches which will doubtless suggest a style suited to your requirements.

Send in your order for porch material to-day

With a Gordon-Van Tine Porch



THIS IS THE SAME HOUSE, MODERNIZED ON THE
GORDON-VAN TINE IDEA.

50 Per Cent Saved on This Home

South Auburn, Neb., Jan. 10, '08.

Gordon-Van Tine Co., Des Moines, Iowa.

Gentlemen—I have just completed my house and wish to say a word to you in regard to the mill work you furnished.

I have just seventy-five years of age and have used a great deal of mill work, but consider the material you furnished me as good as any I have ever used. Your prices averaged 50% below our local dealers' and I am well pleased with the delivery with you in every respect.

Taking into consideration the great saving by buying from you, together with the fact that by your honorable designs you make each of your patterns a satisfied customer, you are sure to succeed, and deserve the patronage and support of the public. Respectfully,

CHARLES C. COTTELL.

Figure 16 Gordon Van Tines Catalog, 1909.

Accessible Materials and Home Alteration

Cheaper building components and materials developed for old houses helped homeowners to alter their homes. It also allowed a wider range of Americans to engage in personalizing their homes, and in many ways that democratized the building market.¹²³ However, this shift also provoked new public dialogs about home alteration

¹²³ For new materials: Pamela H. Simpson, *Cheap, Quick, and Easy: Imitative Architectural Materials, 1870-1930* (Knoxville: University of Tennessee Press, 1999). For general readings on changes to production during the “Second Industrial Revolution” see: Hounshell, *From the American System to Mass Production* (Baltimore: Johns Hopkins University Press, 1984); Thomas P. Hughes, *American*

and taste that help explain the broader social and cultural implications of these new materials. The ability of people to outfit their homes cheaply and easily created anxiety among professionals and tastemakers, who were concerned with constraining emulative construction and excessive embellishment. At first, much of this criticism seemed to focus on taste and design, but a closer read reveals the class biases and economic and material inequality embedded in those comments.

One architect writing in *Carpentry and Building* in 1889 summarized the problems that the explosion of choice in manufactured components posed in the late nineteenth century. A new house constructed in the fashionable Queen Anne style, he wrote, would have, “nailed to the outside walls queer, wooden sunflowers and other absurdities, conventionalized out of all likeness to anything in heaven or earth.” The components would be even further embellished with paint until the house looked like a, “washed-out Italian sunset.” The assemblage, he concluded was a house with “unreasonable features of construction and silly decorative gewgaws.” Such buildings violated “every canon of true art” and were a “travesty of the picturesque style.”¹²⁴ These apprehensions about the new tastes in design facilitated by machine-made components served as a counter narrative to the rising availability of such products.

In essence, the sheer variety of styles and the introduction of new materials like composite ornaments allowed people to update the fashion of their home with ugly results. Without the advice or direction of a professional, home owners, or perhaps the builders they hired, could stylize their houses in Queen Anne, Second

Genesis (New York: Viking, 1989); Philip Scranton, *Endless Novelty* (Princeton: Princeton University Press, 1997).

¹²⁴ “Notes and Comments,” *Carpentry and Building* 11, 2 (February 1889): 23.

Empire, “Gothick” or any number of motifs simply by tacking on brackets, changing newel posts, customizing baseboards and affixing other trim.¹²⁵ Even under the guidance of an architect, the Parrys were guilty of mixing and matching styles as contractors installed more fashionable pieces on top of their older home woodwork. People updating their homes on limited budgets sometimes ended up with a random assemblage of parts because merging new building elements with older ones was often quite expensive.

Central to this critique was the challenge machine-made components posed to class-specific designs (or standard of building) prescribed by author-architects. Readers needed only to contrast the humble house designs prescribed for working-class residents or laborers with designs for their wealthier peers to see the demeaning difference: Downing implored those with less means to maintain chaste and simple standards.¹²⁶ A. J. Downing’s designs in the *Architecture of Country Houses* exemplified the early manifestations of these class-based prescriptions.¹²⁷ While Downing encouraged embellishment for homes of the wealthy, he tried to deter working-class home occupants from gaudy indulgences that might falsely project an economic and aesthetic conceit. Writing about the potential for harmony in a small cottage, he advised working-class homeowners to keep their homes simple and chaste,

¹²⁵ Some styles, such as Queen Anne, could have only been adopted in any wide-spread scale because of machine-made components: Janet W. Foster, *The Queen Anne House: America’s Victorian Vernacular* (New York: Abrams, 2006), 18-19.

¹²⁶ Downing, *The Architecture of Country Houses*, 19.

¹²⁷ Of course, housing and design for the poor and working classes was different from their affluent counterparts. But the overt division promoted by author-architects in the same book is worthy of note.

admonishing that “the pleasure which in a small building we derive from simplicity or chasteness, is far greater than that derived from the pretension of harmony, since, in a small cottage, there is not legitimate reason for variety.”¹²⁸ He added that only larger dwellings, meaning those of the wealthy, should use more complex architectural designs. The beauty of a working-class cottage was achieved through simple form, not through “unsuitable ornament.”¹²⁹

Downing was not alone in these opinions. Many architects were frustrated by the apparent lack of adherence to this principle of simplicity. Millwork owner J. T. Langton explained the increasing demand for finer building amongst the working and middle class when he lamented,

Simply a square box for a room with nothing but square corners and bare plain walls to greet the eye does not satisfy him, more especially if his next door and perhaps better to-do neighbor has brackets and verge boards and other ornamental work to beatify the outside of his house, and moldings on doors and casings and baseboards to make beautiful the inside.¹³⁰

Working-class homeowners looked at their wealthier neighbors and, if they could, demanded the same. These criticisms suggest that many of moderate means saw these components as an opportunity for expression and personal identity they previously lacked.

¹²⁸ Downing, *The Architecture of Country Houses*, 19.

¹²⁹ Downing, *The Architecture of Country Houses*, 71.

¹³⁰ J. T. Langdon, “Molding Machines,” *Builder and Woodworker* 20, 5 (May 1884): 84.

Professional architects also criticized the ways that vernacular builders deployed ornamentation and other machine-made millwork. In response to one collection of house designs for cheap houses in the country, a reviewer in *American Architects and Building News* decried the “carpenter’s architecture” ornamented with “machine-made double-hung sashes, machine-made doors and blinds, [and] machine-made mouldings and details.”¹³¹ The assessment was out of touch with reality; it ignored the changes in a building industry that by the 1870s had been machine-making these components for decades. Instead, such pieces reveal an elitist view of machine-made components held by many architects and others in the building trades that critiqued vernacular construction and working-class expression.

The aesthetic judgments architects and other professionals lobbed towards tradesmen and homeowners illuminates important implications about class, taste, and status in building. People altering their homes could confound these issues further, as builders and owners attempted to undo the passage of time in their old structures. While it opened up opportunity, the commodification of building components made it harder to merge them into a unified and dignified whole. A deft hand could reflect education and respectable taste, but doing otherwise could have equally negative consequences. Some homeowners might not have cared about tasteful aesthetics, but from the perspective of Downing and others, excessiveness was socially unacceptable.

The criticism of machine-made components serves as an important reminder that home alteration was more than material improvement or mere embellishment. People did not write about what their projects meant to them. In selling home

¹³¹ “Pattern Book,” *American Architects and Building News* 4, 143 (September 21, 1878): 101.

alteration projects and products, architects and manufacturers sold ambition, middle-class standards, social advancement, taste, progressive sanitation, domestic tranquility, housewife shortcuts, and independent American homeownership. They presented solutions that solved the old house problem, but at the same time manufacturers, architects, and authors framed their products around other motivations of their consumers. As with other products entering the market like clothing, products for home alteration were sold using a connection to far more significant economic, social, and emotional needs.

The efforts to commodify home alteration during the late 1870s and 1880s set the stage for defining it as a discrete part of the building industry. At the same time, the marketing of home alteration also brought it into a public dialog, beginning with consumer and commercial interests, but expanding into a cultural phenomenon that provoked broader consequences. Defining home alteration as something to sell meant it was now possible, and eventually desirable, to define it in building codes and regulate it. The commodification of home alteration also gave manufacturers a new market that in the twentieth century would become the “do-it-yourself” movement.

Chapter 3

SAFE ALTERATIONS: HOME ALTERATION AND PROGRESSIVE REFORM

On a December morning in 1889, a fire roared through a row house in the working-class Kensington section of Philadelphia. The Kensington fire started in a baker's cellar at two in the morning. Stoked by the dry joists nearby, the flames licked up the house's only staircase, where the Gross family and boarders slept. The fire killed seven people, including four children who burned to death and a mother who leapt from her third story bedroom, killing herself and inadvertently crushing her babe in arms.¹ The tragic events were sensationalized in local papers, and it was dubbed the "Kensington Horror."² The fire was caused by a dangerous portable heater installation, not the bakery ovens as one would suspect. The heater was a comfortable improvement that brought warmth to the family through heating ducts (pipes) from a furnace in the basement. However, someone had improperly and dangerously installed the pipes too close to wooden joists and lath. Surrounded by the dry heat, the wooden building material ignited, trapping the people in what local papers eerily described as a "family crematory." The Kensington fire served as a dramatic example of prevailing problems with unchecked home alteration in Philadelphia.

¹ "Killed in a Death Trap," *Philadelphia Inquirer*, December 3, 1889.

² "Officials on Fires," *Philadelphia Inquirer*, December 5, 1889.

Dangerous alterations occurred all over the city. More obvious than tucked-away heaters were wooden additions—assemblages of dry tinder laying in wait for spark or explosion. At times, builders constructed these additions too close to property lines blocking air and light. Other alterations, like the Kensington Fire heating ducts, could be inserted too close to flammable joists and lath. People installed bathrooms without proper ventilation exposing occupants to dangerous sewer gases. They also tore down partitions and walls, creating crowded tenements out of a single-family home. These kinds of changes were typical in many American cities and occurred in Philadelphia since its founding.

In the last half of the nineteenth century, city officials struggled to rein in people's dangerous building habits. When home alteration was first added to the building code in 1855, officials were only concerned when owners changed a building's footprint or occupation density. In the 1870s, Philadelphian officials unsuccessfully tried to apply new building codes to home alteration projects, but a lack of public concern and court support prevented any further regulation. Even after the 1886 Bullitt Bill, which reformed the city administration (discussed later), expanded authority, city officials could not stop dangerous or illegal home alteration.

In Progressive Philadelphia, regulating home alteration finally occurred when it became a public safety problem. In the midst of a public exposé on building, proponents touted reformed building laws as a solution for unsafe and shoddy home alteration. City officials successfully regulated home alteration when they had the support of organized tradesmen who complained about shoddy work (criticism potentially prompted by professional competition and xenophobia) and housing reformers who complained about illegal construction (criticisms potentially motivated

by class bias, racism, and political competition). The series of failed efforts to incorporate home alteration into modern, progressive housing regulation illustrates the significant push and pull between public and private interests, particularly when regulations encroached upon private property. The eventual passing of reform legislation illustrates the Progressive approach to solving the problem of home alteration.

In reality, home alteration was nearly impossible to monitor unless people changed the exterior of their houses. To a crowd of concerned citizens who gathered after the Kensington fire, William Stokley (1823-1902), Director of Public Safety, former three-term mayor, and “building ring” leader, explained “people don’t have to take out permits to make interior alterations.”³ In fact, he observed, if building officials did inspect what people did behind closed doors, the public would accuse him of “meddling.”⁴ Despite existing regulations and standards, city officials had little authority to stop such dangers, regardless of their obvious threat to public safety.

Stokley’s comment about “meddling” reflected common perspectives. Although regulations existed, authorities had rarely or consistently enforced them.⁵

³ William Strumberg Stokley was a Republican-affiliated mayor from 1872 to 1881. Prior to that, he was a member of Common Council, then elected as president of Select Council. Committee of One, *Report...on the Official Life and Administrations of the Honorable William S. Stokley...* (Philadelphia: The Committee, 1880). Officials on Fires,” *Philadelphia Inquirer*, December 5, 1889. For his leadership of the “building ring” see: Peter McCaffery, *When Bosses Ruled Philadelphia: The Emergence of the Republican Machine, 1867-1933* (University Park, Pa.: Pennsylvania State University Press, 1993).

⁴ Officials on Fires,” *Philadelphia Inquirer*, December 5, 1889.

⁵ William J. Novak, *The People’s Welfare: Law and Regulation in Nineteenth-Century America* (Chapel Hill: University of North Carolina Press, 1996), 51.

His comment also captured a preexisting ambivalence about supervising home alterations that the public typically regarded as a private matter. However, the safety of urban residence was increasingly coming under public scrutiny. While the city was well-known for its small houses, the reality was that most people rented, and city regulations could also protect people who had little control over the quality of their living space. The eventual regulation of home alterations, after a horrific fire, demonstrates the way in which events shifted popular opinion in favor of communal obligations over property rights. Preventable deaths trumped the privacy of landlords.

This chapter examines the two attempts made by Philadelphia city officials to regulate home alteration in the 1870s and 1880s. The first, failed, attempt exposed contractors who exploited home alteration as a regulatory loophole to construct in wood and subdivide properties using so-called “dirty tricks.” The second, a successful attempt, came after the Kensington Fire, during which home alteration was presented as a dangerous regulatory gap that threatened public safety. Only then did political opinion shift in favor of regulating home alterations, albeit to such a conservative degree that most traditional practices continued. Nonetheless, codifying home alteration was a dramatic step in its modernization. The law defined mundane alterations more precisely and placed them under the jurisdiction of municipal authorities. By 1893, Philadelphia finally joined other cities around the country that sought to monitor home alteration.

Back Buildings

Two traditional building practices vexed building regulators. The first was building in wood, which by the mid-nineteenth century largely occurred in back additions. The second was illegally renovating old row houses into multi-family

dwellings, often accomplished by adding on a back building that doubled a house's footprint. In the years after the Civil War, concerns arose about both as population density pressed the physical limits of Philadelphia's colonial landscape. By 1870, Philadelphia had 112,000 houses for its 674,000 residents.⁶ To accommodate new families, many builders in so-called "builders tricks" used these back additions to circumvent the laws.

By 1855, both were illegal, and all alterations were regulated when a building was made "substantially new."⁷ However, property owners skirted this requirement in two significant ways. First, many Philadelphians argued that their traditional wooden back buildings did not violate the fire line, because they asserted the new building laws did not apply to preexisting structures, nor any addition attached to them. Second, contractors would build additions, have them inspected, and then close them up after inspection to make a separate dwelling. Inspection only applied to a project underway. Once the roof was put on and a project was completed, a property owner could make changes without oversight as long as it did not make the building "substantially new." These practices meant that inspectors had little control over Philadelphia's back buildings. Undefined by the law (and thus ambiguous to inspectors on the ground), the term "substantially new" left alteration as a flexible loophole for builders and owners.

⁶ "Table XXI. Families and Dwellings of Fifty Cities," *U.S. Census, 1870* (Washington: Government Printing Office, 1872).

⁷ Law Department of the City of Philadelphia, *Digest of Laws Relating to the City of Philadelphia* (Philadelphia: King & Baird, 1865), 57. This meaning of "new" was explained by the Pennsylvania Supreme Court in *Brice's Appeal*, 1879, in response to an appeal to *Bowers vs. Bache*, 1878.

Fire lines prohibiting wooden buildings had been in effect throughout the densest parts of the city and surrounding liberties as early as 1799 and almost completely by the 1830s, but the high level of frame additions suggests ordinary Philadelphians seemed to have few objections to them.⁸ A sample block bordered by Buttonwood and Noble and Third and Fourth Streets in the former incorporated Northern Liberties, which prohibited frame buildings after 1834, is indicative of wooden back buildings that prevailed throughout the city.⁹ An 1889 fire insurance survey recorded forty-six wooden back buildings and three wooden bays; sixty-one percent of the residential properties had wooden additions of some kind.¹⁰ (Figure 17) Frame back buildings seem to run against the rationale behind fire lines, but they continued nonetheless.

Philadelphians were adept at filling their rear yards and side lots with building additions. Living in tight row houses that comprised the city's landscape, they needed to be creative when gaining space if they wanted to make their housing stock viable for growing families or new technologies. In some of Philadelphia's oldest neighborhoods, the row houses constructed between the 1730s and the 1830s only stood one or two rooms deep and two stories high with a winding stair. Those who

⁸ Summary of prohibitions against frame construction in the city and many of the surrounding liberties can be found in: William Duane, William B. Hood and Leonard Myers, eds., *A Digest of the Acts of Assembly Relating to the City of Philadelphia...* (Philadelphia: J. H. Jones & Co., 1856), 94-102.

⁹ Board of Commissioners, *A Digest of Acts of Assembly...* (Philadelphia: Fayette Pierson, 1847), 314.

¹⁰ Hexamer, Ernest and sons, *Insurance Maps of the City of Philadelphia, Volume 4* (Philadelphia: Ernest Hexamer and sons, 1889).

were better off had the comfort of a straight rather than winding stair, and perhaps a house with a third story.¹¹

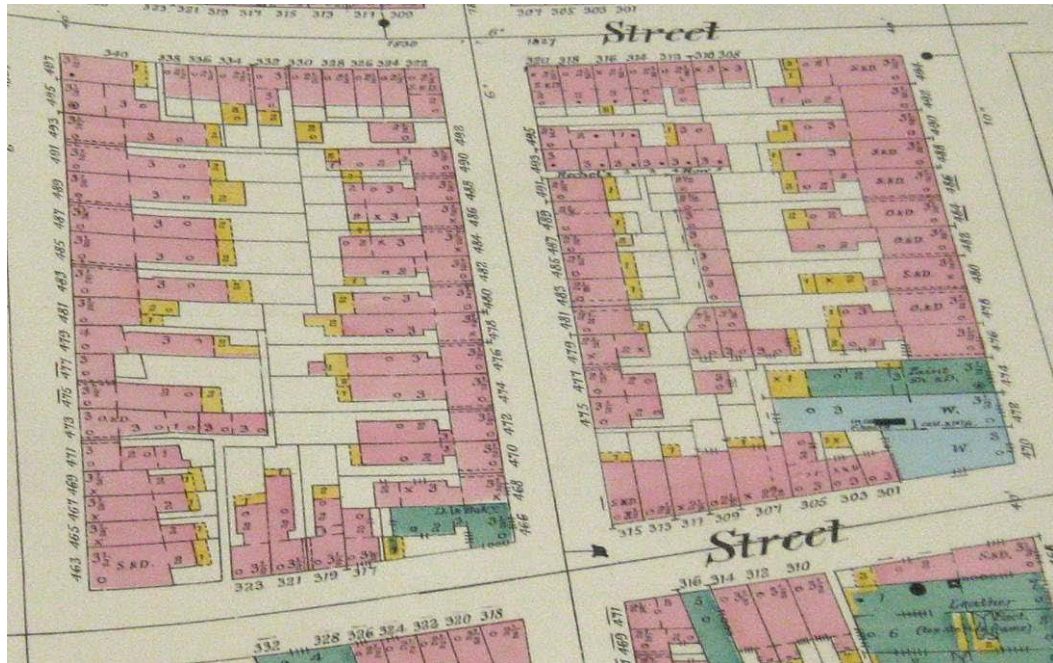


Figure 17 Block between Buttonwood and Noble, Third to Fourth (split by Dillwyn) in Northern Liberties showing buildings; brick is in red, wood is in yellow. Hexamer, Ernest & Sons, *Insurance Maps of the City of Philadelphia*, 1889.

¹¹ John Murtagh's study of Philadelphia row houses in Society Hill and Old City, two of the oldest sections of Philadelphia, still remains a definitive work on older forms of the Philadelphia row house. John Murtagh, "The Philadelphia Row House," *Journal of the Society of Architectural Historians* 16,4 (December 1957): 8-13.

Hexamer, Ernest & sons. *Insurance Maps of the City of Philadelphia*. 4. Philadelphia: Ernest Hexamer & sons, 1889.

One of the most common additions Philadelphians made to these small homes was adding on a kitchen in the rear.¹² Like most Americans, expanding the kitchen was a priority.¹³ Philadelphians achieved this by finagling in kitchens on tight lots. In older houses, kitchens were often in the cellar and open summer kitchens in the rear brought the heat of cooking out of the house. Some Philadelphians cobbled together lean-tos for their kitchens. One house in present-day Center City demonstrates the kinds of frame kitchens prevalent in the older districts populated by the working class and poor. Built in the rear yard of a classic three-story Philadelphia row house, the owner constructed a shed-like kitchen with horizontal boards and small windows. The pipe for the cook stove protrudes through the roof. (Figure 18) These small spaces enabled families to bring cooking into a more commodious environment out of their main living space.

¹² Elizabeth Cromley calls this the “food axis.” Elizabeth C. Cromley, *The Food Axis: Cooking, Eating, and the Architecture of American Houses* (Charlottesville: University of Virginia Press, 2010). Many scholars have observed this around the country and this is certainly not an American phenomenon. Hubka's classic study of New England farm homes observed a similar practice of connected service buildings for food and agriculture when possible, although many were done in one period of construction to reflect Progressive farm ideals : Thomas C. Hubka, *Big House, Little House, Back House, Barn: The Connected Farm Buildings of New England* (Hanover, NH: University Press of New England, 1984).

¹³ Cromley, *The Food Axis*, 16



Figure 18 Kitchen shed at 1538 Naudain Street, Octavia Hill Association, 1917.
Courtesy Special Collections Research Center, Temple University.

Bathrooms were added on in much the same way. Philadelphians became renowned for their use of “overhanging baths” constructed of wood like the jetties of Medieval Europe. In these small, cantilevered spaces Philadelphians incorporated wash basins, toilets, and bathtubs onto the back or sides of their row houses. The tell-tale sign of an overhanging bath was a sewer ventilation pipe and normally the absence of windows.¹⁴ (Figure 19) In 1895, a frame overhanging bath could cost between \$75 and \$125, depending on the size. One that was 8.6 x 6 feet at 1813 Bainbridge Street cost \$125, while a slightly smaller one (8 x 5.6) at 759 Erie Street (now South Warnock Street) cost \$75.¹⁵ The permit estimate does not indicate whether that included the fittings, though it likely did. In contrast, a brick addition in the rear could cost \$200, without fixtures.¹⁶ These additions were so popular that although they were constructed of wood, special exception was made for them in the building code. In 1881 and 1882 City Council passed laws regulating bay windows and oriels, but did not give a definition of a bay window nor prescribe its construction.¹⁷

¹⁴ Confirmation of bathroom derived through field work at properties.

¹⁵ Permits 3379, June 24, 1895 and 3396, June 25, 1895, Permits, BBI, PCA. Of course, these values should be considered in the context they were given. The price of a job as listed on a permit has many implication for recorded property values and, consequently, property taxes. There was a lot of incentive to be conservative with the numbers.

¹⁶ Permit 2424, July 23, 1889, Permits, BBI, PCA.

¹⁷ Duane, *A Digest of the Acts of Assembly*, 171-172.



Figure 19 Example of overhanging baths in c.1880 row houses.
Photograph by author.

For working-class families, adding on an overhang to accommodate a bathroom was more economical than installing it in a bedroom. Bedrooms provided income in tight times, serving as space for boarders.¹⁸ Converting an entire room,

¹⁸ Wendy Gamber, *The Boardinghouse in Nineteenth-Century America* (Baltimore: Johns Hopkins University Press, 2007); Richard Harris, "The End Justified the Means: Boarding and Rooming in a City of Homes, 1890-1951," *Journal of Social History* 26, 2 (Winter, 1992): 331-358.

sometimes nearly 200 square feet, to a bathroom, made little financial sense and splitting a bedroom into a bedroom and a bath was clearly unattractive in the local housing market. By the 1880s, overhanging baths became a standard feature even in new construction as builders struggled to work bathroom plumbing into small homes. Like the frame kitchens, overhanging baths were a traditional solution in Philadelphia.¹⁹

Occasionally, these wooden back buildings came under criticism as a fire hazard. In the 1860s, a series of anti-frame crusades, likely motivated by a devastating fire in 1865, removed derelict wood buildings from the periphery of the center city.²⁰ Although wood buildings did not cause the fire, the experience nonetheless re-energized a fear of fire that had existed since its earliest colonial days and caused the demolition of many wood buildings throughout the city. One such building documented by artist James E. Taylor was on the corner of Ann Street and Eighteenth Street near Spruce Street.²¹ The frame house consisted of several additions and a

¹⁹ As early as 1832, overhanging baths were referenced in the building code as exceptions to the fire code, as long as they were only on the second story and did not touch adjoining buildings. “An Ordinance,” June 8, 1832, in Duane, *A Digest*, 100.

²⁰ The phrase anti-frame crusade borrowed from a later newspaper article: “Some One [sic] is Wrong,” *Philadelphia Inquirer*, August, 4, 1888.

²¹ Little is known about these peripheral communities or the people who made them. A deed search for the image 17 was conducted by Alexis Stephens and Maria Dayton, “Taylor Watercolors: 784-6 S. Front Street and 2101 Walnut,” Places in Time, Available at:<http://www.brynmawr.edu/cities/archx/05-600/proj/p1/asmsd/New%20Site/web-content/index.html> (Accessed January 25, 2013); A deed search for image 26 was conducted by Frances Ford and Julie Donofrio, “Taylor Watercolors, Places in Time, Available at: <http://www.brynmawr.edu/iconog/uphp/t72126/Taylor%20Website/> (Accessed January 25, 2013).

possible ell or a setback twin. This house was torn down in 1867, giving way for manufactories and later Rittenhouse Square residences.²² Serving as a kind of spectacle, people's efforts to document the buildings suggests that, in the years after the Civil War, city leaders and developers held a shared understanding that these buildings did not belong. Wood construction, particularly the ramshackle dwellings documented by Taylor, was out of place in a modern city with a growing middle class.

Chicago was having similar problems with wood housing. After its devastating fire, city leaders tried to expand the fire line. As city leaders debated the expanded fire code, a mob stormed city hall in January 1872, united against the bill.²³ The implications of the new reform measures did not escape the mob that overran the meeting. As one member of the mob summarized, prohibiting wood construction effectively ended the ability of the working class to build inexpensive houses for themselves, an achievement that often brought families economic independence and stability. As one man protested, "The buzzards, they want to crush us laborers. They know we can't build in brick."²⁴ The effort to expand Chicago's fire line in the fire's immediate wake ultimately failed, but the debate illuminated the politics: building in wood, allowed working class families to own affordable housing. Outlawing them seemed to be a class-based attack, not just an effort to make the city safer.

²² Memorialized in illustration by James E. Taylor for Ferdinand J. Dreer in 1861, the depictions are rare documentation of the frame structures that, originally built in the periphery, were being consumed by new development. "Number 26," Taylor Sketches, Folio 268, Winterthur.

²³ As cited in: Garb, *City of American Dreams*, 14.

²⁴ *Ibid.*

Many Philadelphians expanded row houses over time with their cascading wooden additions. Philadelphia additions were compact and stacked as families infilled around bays and jetties with sheds and frame rooms. A kitchen (under the guise of a shed) was often the start; above these kitchens owners would add a bay or bulk space, perhaps functioning as an overhanging bath or additional bedroom. In many cases, an entire two story addition could be added on in layers of additions, never qualifying as new and thus never subject to regulations.

“Builders’ Tricks”

What made business sense to some was declared “dirty tricks” by others. For new construction, inspectors looked at the project before the roof was put on, leaving a builder free to “alter” his project afterwards. Looking to squeeze square footage onto buildings under the guise of an addition or build contrary to the code behind the privacy of alteration, many builders manipulated the rules to gain the most profit from their building projects. The limitations of staff, confusion over the definitions of words such as *alteration*, *addition*, and *new*, and the difficulty of enforcement made the work of inspectors frustrating. Philadelphia Building Inspectors had limited authority to curb the dirty tricks of builders.²⁵

The pressures of inspecting a growing city like Philadelphia must have been difficult. In the 1870s, three inspectors oversaw a city of 674,000 people in 112,000

²⁵ In 1855, the PA General Assembly approved two inspectors, which was increased to three in 1858. One inspector was selected by the judges of the Court of Common Pleas, the judges of the Supreme Court of Pennsylvania, and the Select and Common Councils. Pennsylvania General Assembly, “An Act to Provide for the Regulation and Inspection...,” April 13, 1858.

houses spread out over 139 square miles, much of it accessible on foot or horse back at a rate of around four to five miles an hour.²⁶ Job conditions only deteriorated. By 1890, the city had 1.04 million residents living in 187,052 dwellings. Inspectors were required to respond to all permits within thirty-six hours; if they did not, the inspector was required to pay the owner twenty dollars a day, which was recoverable through a suit.²⁷ Equally onerous was a rule that inspectors had forty-eight hours to respond to nuisance reports. Considering the scale of their jurisdiction and the time limitations for moving from one site to the next, the job of the building inspectors was impossible. Moreover, three men could not keep pace with the rate of building then underway. Consequently, in some instances, building inspectors must have let permits pass without actual inspection to avoid a penalty. The logistical and legal limitations of the building inspectors became pronounced by the late 1870s and 1880s.

When people altered their homes, the authority of the building inspectors was even more limited. The building project of William Brice, whose case prompted the court to define the meaning of “sufficiently new,” illustrates the many ways that builders could use alterations to circumvent building regulations. In 1877, William Brice hired a contractor to add a story to his back building, an external alteration. As part of the project, Brice also closed off connecting doors and halls between the front and back building, added stairs and exterior doors to the yard, and installed ranges,

²⁶ “Table 21, Families and Dwellings of Fifty Cities,” in *U.S. Census, 1870* (Washington: Government Printing Office, 1872).

²⁷ No records of suits have been located. Act of May 7, 1855, referenced in Frank F. Brightly, *A Digest of the Laws and Ordinances of the City of Philadelphia* (Philadelphia: Kay and Brother, 1887), 157.

making the his rear addition four separate houses that did not meet minimum yard requirements. An example of similar houses captures the dense living conditions that such construction would have produced. (Figure 20) Because this change was to a preexisting building, Brice did not believe he needed approval for his project.²⁸

When the building inspectors discovered the project, they filed a petition in equity against Brice in the Court of Common Pleas in April 1878.²⁹ The back buildings, the inspectors argued, did not front on a street with a minimum of twenty feet, nor did each new dwelling have a sufficiently sized yard. The court found in favor of the inspectors and ordered Brice to open the floors of the back building and stop renting the back building as separate dwellings. The building inspectors argued that Brice's project made the building "substantially new," and so, the laws for new construction applied to his building.

²⁸ Permits from this period are gone. "Brice's Appeal," *Pennsylvania Law Record* 1, 7 (July 15, 1879), 50-51.

²⁹ Philadelphia Court of Common Pleas, *Bowers vs. Bachcle*, 1878.



Figure 20 Alley courts similar to the ones made by Brice at 1626 Carlton Street, Curtis George, 1949. Housing Association of Delaware Valley Records. Courtesy Special Collections Research Center, Temple University Libraries, Philadelphia, PA.

Brice questioned the definition of substantially new, arguing his project was merely an alteration. Brice also argued that the Court of Common Pleas had no authority to require him to reopen the doors, nor restrain how he used his private property. Brice, who was politically and socially connected through his leadership role in the Commercial Exchange and other organizations, had the resources to challenge the court's decision.³⁰ His high profile might explain why he was brought to court by the inspectors, a seemingly rare occurrence.³¹ He filed an appeal to the Supreme Court, which was decided the following year.

In response to Brice's Appeal, the Pennsylvania Supreme Court provided an opinion that only partially affirmed the lower courts ruling. The Court's opinion complicated the regulation of home alteration for the next decade and a half, setting the stage for a scenario like the Kensington Horror. The Supreme Court agreed with the lower court's finding that Brice's new building made it substantially new. Summarizing Brice's project, they concluded, the "construction and arrangement shows a clear intention to make four separate dwelling houses. Although a part of the old building is retained, yet new and distinct dwellings houses are built where they did

³⁰ Brice was president of the Commercial Exchange of Philadelphia in 1872 and continued to be a director on the Board into the 1880s. He was also on the commission, as well as several standing committees, for the erection of the New City Hall in the 1880s. Commercial Exchange of Philadelphia, *Annual Report of the Commercial Exchange of Philadelphia* (Philadelphia: The Exchange, 1890), 36; Commissioners of the Erection of the New Public Buildings, *Guide to the Public Offices in the New City Hall* (Philadelphia, the Commissioners, 1890).

³¹ A survey of Court of Common Pleas cases for 1868 to 1870 found few cases brought by building inspectors. Most involved party wall disputes, only one was because of unworkmanlike construction at a beer vault. Henry E. Wallace, *Philadelphia Reports* (Philadelphia: Bourquin and Welsh, 1871).

not stand before.”³² The court also asserted that the object of the acts regulating new construction was to “secure and protect health and life furnishing each family with a sufficient quantity of light and pure air, and with a reasonable facility for escape in case of fire.” Brice’s new “tenement” houses met none of those requirements.³³

In its decision, the Supreme Court clarified the authority of the building inspectors and courts when regulating construction. Agreeing with the lower court, the Supreme Court found that the court could “[restrain] the continuance of the work, and [order] the removal or change of so much of the building as may come within the prohibition of the city law.” In Brice’s case, he was ordered to remove the wood that kept the doors blocked and prohibited communication between the separate rear dwellings. However, the Supreme Court did not uphold the order that prohibited Brice from renting his back building. The building inspectors, the court concluded, had no authority to stop Brice from renting the back building, explaining such a demand would “control the use and enjoyment” of the property, which the court had no authority to do.³⁴ Thus, Brice needed to remove the doors, but could continue renting the property.

We do not know what prompted the building inspectors to file a petition against Brice’s project, but the opinion of the *Brice Appeal* had a long-lasting impact on building in Philadelphia. Without approval from the city, Brice conducted an extensive amount of work, including building brick walls, raising the height of his

³² “Brice's Appeal,” *Pennsylvania Law Record* 1, 7 (July 15, 1879), 51.

³³ *Ibid.*

³⁴ *Ibid.*

building, and adding stairs and doors. However, the only change Brice was penalized for was closing up communicating interior passages. Otherwise, Brice's construction went forward, having already been completed by the time building inspectors discovered it. The recourse inspectors had appears to have been minimal, and in actuality, the true action they sought to prevent was Brice renting out the back building—something the Supreme Court would not uphold.

Brice got caught doing what was known as a “Builders’ tricks.” Converting back buildings into prohibited court tenement houses was a way that builders manipulated the regulatory system. In the “trick,” a contractor filed a permit for a new house “of the proper dimensions on a street of the proper width: with a back building and yard. However, after inspection, the contractor converted the back building into separate dwellings under the guise of an alteration with separate ranges, stairs and doors, and each of those houses is connected by an interior door with a bolt on either side. In reality, the builder was illegality constructing several tenement houses, but “the doors are put in for nothing more or less than...a subterfuge to cheat the law.”³⁵ In this scenario, alteration was used as a loophole to construct prohibited dwellings. The prevalence of these tricks demonstrates the real limitations of regulating a part of the construction industry that had gone previously ignored.³⁶

³⁵ “The Laws Explained,” *Philadelphia Inquirer*, October 2, 1889.

³⁶ This trick was called a “subterfuge to cheat the law” in an opinion for *Shults vs. Doak* by Judge Allison regarding building houses in courts in 1860. It was referenced by the city solicitor in: “The Laws Explained,” *Philadelphia Inquirer*, October 2, 1889.

Back buildings, like home alteration, were hidden from public view and beyond the physical or legal purview of regulators; inspectors could not regulate what they could not see, and they could not regulate what was preexisting. The *Brice Appeal* somewhat clarified the threshold for “substantially new,” and also affirmed the authority of the court to order the removal of violations. However, many people understood that the building inspectors had no authority over a building's “use after it [was] built.”³⁷ As a consequence, once inspection was done for a new building, contractors could make changes, even those as dangerous as the flue that caused the Kensington Fire, without any oversight. Inspectors were able to challenge Brice only via a complicated series of court cases, but as maps, photographs, and existing structures reveal, many more alterations occurred throughout the city outside of the permit and inspection process.

Home Alteration and Municipal Reform

In 1887 the Philadelphia government was reorganized as part of a wave of municipal reform that hit cities around the country.³⁸ The “Bullitt Bill” of 1885 was

³⁷ The Brice Appeal remained an often cited legal case for building regulation in Philadelphia. It was however, one of few, as many cases seemed to worked out extralegally, perhaps in negotiations with the building inspectors. “A Vexed Building Question,” *Philadelphia Inquirer*, September 16, 1890.

³⁸ Edward P. Allinson and Boies Penrose, *Philadelphia, 1681-1887: A History of Municipal Development* (Philadelphia : Allen, Lane & Scott, 1887); John W. Crum, “The Citizen VS. The City: Municipal Bureaucracy in Nineteenth Century Philadelphia” (Dissertation, University of Delaware, 1980); Michael H. Ebner and Eugene M. Tobin, eds., *The Age of Urban Reform: New Perspectives on the Progressive Era* (Port Washington, NY: Kennikat Press, 1977); William J. Novak, *The People's Welfare: Law and Regulation in Nineteenth-Century America* (Chapel Hill and London: University of North Carolina Press, 1996); James A. Scott, “The Businessman, Capitalism and the City: Businessmen and Municipal Reform in

passed by the Pennsylvania Legislature to solve many of the problems that plagued Philadelphia's city government, the state's only city "of the first class."³⁹ Allegations of corruption, big-city bossism, nepotism, and excessive contracts tarnished the reputation of many elected officials and sparked questions about the city's ability to manage itself and its accounts. For years prior, some in the legislature had pushed to take over partial management of the city, though unsuccessfully.⁴⁰ This Bullitt Bill was an effort to restructure the city government and end its corruption.

One of the many changes legislatures enacted in the Bullitt Bill was reorganizing the office of building inspectors.⁴¹ Legislators placed building inspectors into a bureau under the Department of Public Safety, the head of which was appointed by the Mayor, ending the tradition of their appointment by the courts and legislature. However, the same three men who had monitored building prior to the bill staffed the new office. Legislators ignored pleas from the Building Trade Council to assign more inspectors until 1889, when four inspectors were added to the rosters.⁴² Just as before,

Philadelphia from the Act of Consolidation (1854) to the Bullitt Bill (1885)" (Dissertation, University of Delaware, 1974); William Howe Tolman and Charles Henry Parkhurst, *Municipal Reform Movements in the United States* (New York, Chicago and Toronto: Fleming H. Revell Company, 1895).

³⁹ Pennsylvania Assembly, "Act for the Better Government of Cities of the First Class," June 1, 1885.

⁴⁰ "Indignation," *Philadelphia Inquirer*, March 15, 1871.

⁴¹ A survey of the legislative record for the Bullitt Bill in 1885 did not reveal any specific debate regarding the building inspectors. PA General Assembly, *Legislative Record* (1884 and 1885).

⁴² "The Building Trade Council Offers an Important Amendment," *Philadelphia Inquirer*, April 15, 1889; *Third Annual Message of Edwin H. Fitler* (Philadelphia: Dunlap & Clarke, 1890), 7. This addition came after a debate in the Pennsylvania

the inspectors issued permits for new construction and alterations, and could only inspect the job until it was completed. Despite the bureaucratic reorganization, few substantive changes were actually made to make the process of regulating building more effective, nor did they eliminate the problems posed by home alteration.⁴³

In 1889, the Bureau of Building Inspectors implemented a new form to track people's permits, providing a glimpse into the scale of building inspectors' operations.⁴⁴ That year, a total of 11,965 building operations were filed in 4194 permits, of which 36 percent of permits and 13 percent of operations were alteration projects.⁴⁵ A sample of alteration projects from July 1889 reveals that most were for additions, including additional stories, back buildings and kitchens. Others permits were for a mansard roof and portable heater.⁴⁶ Most of these would have been obvious

Senate, which was apparently introduced quickly by Senator Ritner. One member questioned the appropriateness of the inspectors being appointed, a detail that was not up for debate in the legislation. Pennsylvania General Assembly, *Legislative Record* (1889) 262, 640-641.

⁴³ A survey of Philadelphia building ordinances published in 1887 reveals most of the legislation dated to 1856, with rare instances from 1870s and 1880s. The latest legislation dated to 1882, and that was regarding bay windows. Brightly, *A Digest of the Laws and Ordinances of the City of Philadelphia*, 155-174.

⁴⁴ No permits survive predating this new form. Form was announced in the local paper: "New Blanks for Building Permits," *Philadelphia Inquirer*, June 11, 1889.

⁴⁵ 1546 alterations (including 396 additions). Permits for new construction often included several operations for a row of houses, however, alterations were almost always for single operations. William S. Stokley, "Annual Report of the Department of Public Safety for the year 1889," *Third Annual Message of Edwin H. Fitler* (Philadelphia: Dunlap & Clarke, 1890), 10 and 511.

⁴⁶ Sample of permits from July 1889, Permits, BBI, PCA.

changes visible by neighbors and police, perhaps explaining why these contractors took the time to get permits.

Neighbors could also file nuisance reports to the police, to which the building inspectors responded. However, it appears that few Philadelphians cared what their neighbors built, and that the inspectors' response to nuisance construction was limited. In 1889, the Bureau issued 621 nuisance notices condemning unlawful frame structures, dangerous walls, unsafe flues, and bad privies (they did not report how many complaints they received).⁴⁷ In contrast, the Board of Health received 12,361 nuisance complaints that year about privies, hydrants, water pipes, basements and cellars, and surface drainage.⁴⁸ Perhaps sanitary nuisances were far more relevant to people's everyday well-being than a neighbor's construction project. Airborne disease could spread from a festering privy, but unless construction was connected to a house or encroaching near a party line, it had little direct impact on a neighbor. It may have also been the pervasive notion that people did not care what others did to their private property, as long as they were not directly impacted.

Despite the new system and established building laws, certain building practices continued to vex the building inspectors, specifically the ways in which people altered their homes. In his annual report to the Mayor in 1889, Director William Stokley complained of the particular problems posed to the Bureau by people

⁴⁷ The Bureau only began reporting to the Mayor after 1887, following the reform measures introduced by the Bullitt Bill. I have not found building nuisance statistics for prior years. Stokley, "Annual Report of the Department of Public Safety for the year 1889," 509.

⁴⁸ Charles F. Kennedy, "Report of the Chief Inspector of Nuisances," *Third Annual Message of Edwin H. Fidler* (Philadelphia: Dunlap & Clarke, 1890), 648.

building “structures, principally in the rear of dwelling houses—in most cases occurring long after the Inspector has ceased to visit that particular operation; as, for instance, a roof is thrown over a portion of the yard, and eventually closed in and made what is known as a ‘summer kitchen.’”⁴⁹ In addition, Stokely wanted rules prohibiting over-hanging bathrooms.⁵⁰ Even after rules regulating frame building and bays were in place, the building inspectors still could not compel people to stop constructing them, nor convince City Council to pass legislation prohibiting them.

Yet, frame additions, or at least spaces called frame additions, emerged all over the city. One example that garnered considerable attention occurred in an Italian immigrant section of South Philadelphia. Lining Mole Street were simple yet charming two story row houses with brownstone water courses and lintels. Lining the rear of the houses were bulk windows, many of which had been underfilled with scrap lumber to form frame kitchens or other living spaces, just as was done in the houses at Manton and Twenty-fifth Streets. (Figure 21) This habit of building existed all over the city.

⁴⁹ Stokely, “Annual Report of the Department of Public Safety for the year 1889,” 508.

⁵⁰ *Ibid.*, 509.



Figure 21 Example of wooden bay and underfill at Manton and Twenty-fifth Streets in South Philadelphia similar to the ones reported at Mole Street, City of Philadelphia, Department of Public Works, 1916. Courtesy *PhillyHistory.org*, a project of the Philadelphia Department of Records.

The underfilled additions were a continuation of a historic practice of building back buildings, particularly frame back buildings, combined with a rising trend of bay “windows” and overhanging baths. William Stokely wanted both prohibited because they defied the intent of the law to prevent frame construction. It was also difficult to hold someone culpable for their construction; they made a building “substantially

new,” yet they were prohibited, so builders of new construction added them on after a new structure was inspected. Like William Brice, these contractors were skirting the regulations through alteration.

The Citizens Municipal Association (CMA), a Philadelphia municipal reform group founded in 1886, was equally vexed about these additions and the inability of the building inspectors to stop them. The members were largely professional businessmen interested in curtailing government corruption and promoting legislation that benefited the “public welfare.”⁵¹ Once characterizing the city government before the Bullitt Bill as “demoralized,” members concentrated their reforms on preventing further city corruption.⁵² However, reform proved difficult when many of the same officials remained in office and many of the same politicians remained in charge after the new bill.⁵³

Members of the CMA were particularly interested in prosecuting contractors who did not fulfill city contracts and the city officials who did not hold them accountable. Much of CMA's early work focused on street contracts. In 1888, the CMA claimed they received hundreds of complaints about city-paid contractors. CMA members would follow-up on these complaints, ensuring that contractors were repairing the streets properly, and if found deficient, would report it to the city controller. In rare cases, the complaints were brought to court, but the CMA, believing

⁵¹ Citizens' Municipal Association, *Second Annual Report...* (Philadelphia: Royal Printing Company, 1888), 4.

⁵² *Ibid.*, 3.

⁵³ The Bullitt bill only reorganized, it did not remove any person from office.

even the judicial arm of the city wielded no justice, claimed they were coldly received. One judge went “out of his way,” according to members, “to censure our committee and its agendas for endeavoring to protect the interests of the City.”⁵⁴ Perhaps seeing it as interference from unknowledgeable reformers or potential political rivals, many did not welcome the CMA interference in city affairs.⁵⁵

In 1888, members of the CMA also investigated perceived corruption in the Bureau of Building Inspection, which was aided by politicians from the Common and Select Councils and even the mayor. At the heart of their concern was the continued construction of wood back buildings in the city. Each year, the city council approved ordinances granting permission for wooden buildings, but they were normally temporary sheds for storage with iron roofs.⁵⁶ Even though wooden buildings were prohibited in the city, builders could secure special ordinances that allowed wooden construction. Wanting to construct dwellings partially in wood, W.S.P. Shields secured an ordinance for a variance to the ordinance banning wood construction for

⁵⁴ Citizens' Municipal Association, *Second Annual Report*, 5.

⁵⁵ In his study of Philadelphia politics, John Crum suspected political and professional rivalries drove much of the earlier Citizens Municipal Reform Association activities: John Crum, “The Citizen VS. the City: Municipal Bureaucracy in Nineteenth-Century Philadelphia,” 21-25. In 1887, Common Council refused to reconsider a bill at the request of the CMA to have a hearing regarding an ordinance to macadamize (repave) Moyamensing Avenue. Common Council, *Journal of Common Council* (Philadelphia: Dunlap and Clarke, 1887), 412.

⁵⁶ For instance, between April and September of 1888, Select Council approved 11 special ordinances for wooden buildings, primarily for manufacturers, churches, and rail road companies. Select Council, *Journal of Select Council of the City of Philadelphia* (Philadelphia: Dunlap and Clarke, 1888), xvii.

his twenty buildings, which had received a permit.⁵⁷ A brief submitted by the city council law committee concluded “it seems unfair that the builder should be compelled to take down the back [wooden] portions of these buildings,” but also went on to suggest that the law committee “cannot too strongly condemn the loose way of doing business by the inspectors....”⁵⁸ The repeal for “Shields Row” was approved by the council and signed by the Mayor, creating a chaotic period of wooden back building in the city.

The CMA vehemently opposed such special legislation, and embarked upon an energetic investigation into wooden building around the city and the inspectors who allowed it. The CMA was provoked to intervene for several reasons. Their complaints about the spaces—that they were too close to party lines or illegally comprised of wood—suggest that they had a pragmatic concerns about fire and public safety. However, the members also clearly hoped to use the evidence to demonstrate the inconsistencies and incompetence of the Bureau of Building Inspectors. Members of the CMA had a history of attacking other city officials, and they believed that illegally framed spaces went up because of municipal corruption or incompetence.⁵⁹

⁵⁷ “Favor in the Law for Wood Buildings,” *Philadelphia Inquirer*, May 22, 1888; “The Shields Row,” *Philadelphia Inquirer*, June 29, 1888.

⁵⁸ The building inspector issued the permit, arguing that the property was not in the fire line because the ordinance of January 4, 1870 did not include the area, and he maintained that he believed the new ordinance repealed the former ordinance of July 13, 1867. Select Council, “Appendix number 59,” *Journal of Select Council of the City of Philadelphia* (Philadelphia Dunlap and Clarke, 1888), appendix pages 73-75.

⁵⁹ The feelings are expressed in the ensuing investigation, in which Addis and other members became increasingly antagonistic in their investigation of one inspector, who took it as a personal attack. “Their Dignity Ruffled,” *Philadelphia Inquirer*, November 27, 1888.

The CMA was fueled by complaints from the Carpenters' and Joiners' Association, who notified the CMA's Committee on Abuses and Complaints of other frame back buildings around the city.⁶⁰ Not much about this group is known. In 1886, they seemed active in the city's labor strikes and had 250 members.⁶¹ While their motivations for making such reports are also unclear, it may have been professional rivalry. Or, since framed construction was illegal, the Carpenters' and Joiners' Association perceived that illegal wood-framed construction damaged the overall reputation of the city's carpenters.⁶²

Provoked by the carpenter's reports, the CMA turned its agent and only paid employee, veteran reformer T. B. M. Addis, onto the case.⁶³ Addis, along with other members of the Association, systematically documented and reported frame structures in the developing areas of south and west Philadelphia. The CMA found, as the carpenter's had reported, a row of speculative houses in West Philadelphia, 30 in all, with rear wooded buildings. They also found 130 dwellings in South Philadelphia in

⁶⁰ Citizen's Municipal Association, *Third Annual Report...*(Philadelphia: A. T. Zeising & Co., 1889),47.

⁶¹ "Among the Toilers...," *Philadelphia Inquirer*, April 10, 1886. No other reference to the group was located in a search of historic newspapers, books, and Philadelphia archival collections.

⁶² Philadelphia building industry leaders complained about all of these issues, and are reflected in a history written for the Master Builders' Exchange. Clem. H. Congdon, *History of the Master Builders' Exchange...* (Philadelphia: Sunshine Publishing Co., 1893).

⁶³ "Serious Charges...," *Philadelphia Inquirer*, August 6, 1881.

the 26th Ward that had rear frame back buildings, although builders insisted they were alterations.⁶⁴

One wooden building case exposed the pervasive problems of building enforcement, and in particular the problems posed by alteration, which was used as a guise for back buildings around the city when special ordinances could not be secured. According to the CMA, over 130 new row houses were built in South Philadelphia between Broad and 16th Street south of Mifflin. The brick-fronted houses had wooden overhanging baths, wooden kitchens, and wooden sheds, all of which were illegally built. However, in this case, the building inspectors and builders insisted that all the wooden buildings were additions put on after-the-fact by buyers; this was contrary to what many owners reported.⁶⁵

Members of the CMA struggled, largely unsuccessfully, to gain attention for these issues. They asked the inspectors about the properties, but many inspectors stubbornly insisted that the buildings were legal, or at least implied that the violations were not significant. Meeting resistance from the inspectors, who undoubtedly found the critique of their work exasperating, members of the CMA turned to the inspectors' superiors. The head of the Department maintained the position of his agents. Even the mayor seemed disinterested, satisfied by the inspector's report. Though the CMA complained to many officials, few cared, and it became evident that those who did care had little power to actually stop it.

⁶⁴ Citizen's Municipal Association, *Third Annual Report*, 48.

⁶⁵ *Ibid.*, 14 and 48-50.

By the fall of 1888, already unsuccessful with the executive branch, CMA turned to City Council. The lack of concern from city administrators sparked a City Council investigation into the “alleged irregularities in the Bureau of Building Inspectors.”⁶⁶ The investigation was well-covered in the newspapers, who sensationalized the conflict between the defensive inspectors and the CMA. However, there were broader institutional problems that reflected the kinds of shortfalls that sparked the municipal reform and increased regulation passed in 1886. In other words, although legislation existed, it clearly was not effective. There was little incentive for a minor bureaucrat to enforce building codes that members of City Council changed as needed to suit their friends, as was the case for W. S. P. Shields for his West Philadelphia homes.

Blame for the wooden buildings and the practices of the Bureau were widely distributed. One inspector admitted that, “Everybody knows that [the] irregularities do exist, and none better than ourselves....”⁶⁷ But his explanation for it, and the results of the inquiry, revealed a number of problems, some of which remained unresolved for decades. The most obvious problem was the bureau was understaffed and overworked. The three building inspectors handled inspection for the entire city and investigated 600 complaints.

The inspectors were also notoriously inconsistent, which added to the problem. Despite clear codes and many observations, the inspector for the 26th Ward, James Zimmerman, insisted the additions on Mole Street were legal.⁶⁸ The 26th Ward frame

⁶⁶ “Their Dignity Ruffled,” *Philadelphia Inquirer*, November 27, 1888.

⁶⁷ *Ibid.*

⁶⁸ Citizen's Municipal Association, *Third Annual Report*, 14.

houses, also known as the Newbold houses, were legal, Zimmerman insisted, because they were not a frame rear building as CMA suggested. Rather, the Newbold houses were constructed with a frame second story bathroom, which was legal, and then the frame kitchens were allegedly constructed after the houses were completed (and inspected). In a confounding interpretation of the law that highlighted the confusion about the legislation's meaning (particularly when it came to wooden additions), Zimmerman concluded, “so [the Newbold house additions] are not wooden back buildings as the [CMA] would infer, because the second stories are lawful and only the first-story wooden kitchens are unlawful.”⁶⁹ Inspector Zimmerman reflected an ambivalence towards invasive enforcement.

In an article appropriately titled “Some One is Wrong” journalists at the *Philadelphia Inquirer* explained for readers the discrepancy between what members of the Citizen's Municipal Association saw (supported by residents' accounts) and what Inspector Zimmerman reported.⁷⁰ The difference was not limited to interpretation of the law or chronology of construction, but it also included materials and dimensions. For one row of houses, the CMA reported first stories of wood, not brick as stated by Zimmerman. They also found the frame kitchens to be 9 by 10 feet (and thus encroaching dangerously close to property lines) instead of Zimmerman's purported 6 feet by 10 feet. Perhaps residents did indeed construct the illegal frame kitchens, and, not wanting to admit fault, blamed the builder. The builder may have seen a way to cut costs through wooden construction, and not wanting to admit fault, blamed it on the

⁶⁹ To William Stokley from James Zimmerman, July 24, 1888, as included in: Citizen's Municipal Association, *Third Annual Report*, 49.

⁷⁰ “Some One [sic] is Wrong,” *Philadelphia Inquirer*, August, 4, 1888.

residents. The building inspector may have not been inclined to report a problem, or may have missed it.

One of the issues that emerged out of the investigation, was the inability of Building Inspectors to regulate what happened to new buildings after they received a permit and were inspected, something that those in the building professions would have already known. As one journalist characterized the situation, the building inspectors were being “hoodwinked,” because the regulations limited enforcement.⁷¹ The Newbold properties typified building activities around the city, as builders constructed kitchen additions, but insisted they were added on later. In one neighborhood, several rows, 29 houses in all, had illegal frame additions. Permits were issued for the homes when they were first constructed and the local inspector, Gillingham, visited the properties on several occasions “until the roofs were on.”⁷²

At that point in construction, at least according to Gillingham, the visits from the city stopped, and the builders then finished the job with illegal additions. Summarizing the scenario, Gillingham complained, “Many builders take advantage of this fact, and as soon as we stop our visits they trust to chance and run the risk of detection, thinking that in the multiplicity of our duties they will not be found out.”⁷³ In the case of the 29 buildings at 12th and Cumberland Avenue, Gillingham explained that “it was fully six weeks after my duties were over in relation to this house that the

⁷¹ “Illegal Frame Kitchens How the Building Inspectors Are Hoodwinked,” *Philadelphia Inquirer*, November 15, 1888.

⁷² *Ibid.*

⁷³ *Ibid.*

workmen started to turn innocent-looking sheds into an illegal kitchen.”⁷⁴ Thus, what at first were legal frame sheds were later enclosed and transformed into illegal frame kitchens.

Unlike Zimmerman, Gillingham, was proactive in prosecuting these tricks. Hoping to rid his district of illegal frame kitchens, he vowed to turn all cases to the city solicitor. The fine for leaving them up would have been \$75, but the city needed to bring the case to court first. The building inspectors could not penalize negligent builders or owners. Gillingham, being apparently more vigilant than his colleague in South Philadelphia, spoke nonetheless on behalf of his department when he declared, “The inspectors are anxious to get some of these cases in court for tests....”⁷⁵ However, no court case followed to resolve the problems.

With the investigation complete in November 1889, the effort to regulate home alteration seemed to hit a dead end. According to the CMA, the problem of illegal back buildings continued. They noted that since nothing was done with the Newbold houses, including the ones on Mole Street, many more had been built “of similar design...or at times...worse and the rear [was] constructed entirely of wood for two stories.”⁷⁶ It seemed that the guise of alteration was no longer necessary. To their dismay, Inspector Zimmerman was promoted to president of the Board of Building Inspectors, seemingly rewarded for his stubbornness. However, Joseph M. Hancock

⁷⁴ *Ibid.*

⁷⁵ “Illegal Frame Kitchens How the Building Inspectors Are Hoodwinked,” *Philadelphia Inquirer*, November 15, 1888.

⁷⁶ Citizens' Municipal Association, *Fourth Annual Report...* (Philadelphia: Dornan, 1890), 12.

resigned after being investigated for approving a wooden hotel.⁷⁷ In addition, a special board of examiners was established to oversee the civil service exam for building inspectors.⁷⁸ While some changes with the men occurred, their investigation had little consequence for ending the construction of wooden buildings or improving regulation outcomes.

Reformers saw alteration loopholes as a problem; builders simply carried on as usual. In trying to correct problems, members of the CMA pushed city officials to be more vigilant. What they had uncovered was a torn department—with some men wishing for more authority, and others indifferent or uninterested in changing. With City Council passing poorly worded laws and expedience guiding the interpretation of that wording, it is no wonder that some of the inspectors saw no point in agitating for anything further—particularly if ordinary homeowners did not care.

Home Alteration as a Threat to Public Safety

The fire that raged in Kensington on December 4, 1889, and the ensuing groundswell of anxiety about the accident's origin provoked a shift in public discourses about home alteration that reoriented it as a matter of public safety. The fire, like so many other shocking accidents, provoked the public to reassess the

⁷⁷ “New Building Inspectors,” *Philadelphia Inquirer*, June 20, 1889. The Citizens’ Municipal Association spearheaded this investigation, resulting in a judge in the Court of Common Pleas recommending that the Director of Public Safety request Hancock’s resignation and the City Solicitor apply for an injunction compelling the hotel owners to remove the addition. Citizens’ Municipal Association, *Third Annual Report*, 15.

⁷⁸ *Third Annual Message of Edwin H. Fitler* (Philadelphia: Dunlap & Clarke, 1890), 19.

technology that was coming into intimate contact with their lives. It also softened public opinion regarding increased regulation and municipal oversight because people wanted dangers mitigated or eliminated. In the case of alterations, it explained how a process of building that was previously unregulated, conducted behind closed doors, or inside property walls, could become one of the top concerns for regulation officials and reformers by the end of the century. The fire opened up a public discourse about regulating home alteration far more than legal cases or reform investigations.

Amidst an investigation into his department, Director Stokley was able to move the conversation about the ineffectiveness of his Board away from its failings and towards its potential. Stokley used the tragic fire as an opportunity to inform the public about dangerous alteration practices that were making such a loss possible. Writing on the problem, Stokley argued “...there are thousands of defective houses, I doubt if there are half a dozen houses in the city which you can't find some dangerous defects about the heating arrangements.”⁷⁹ Not only did the Board not have the authority to investigate these defects, he reminded the crowd, but the board also lacked the manpower

In reality, there were many more new dangers within people's houses, yet the laws did not keep up to protect people. One of the most dangerous features was new heating elements. Only ten months before the Kensington fire, an editorial in the *Philadelphia Inquirer* lamented the rising danger of defective flues and the portable heater, which they advised were often installed too close to floors and create a fire risk.⁸⁰ Insurance companies also raised an alarm about defective flues: in 1888,

⁷⁹ “Officials on Fires,” *Philadelphia Inquirer*, December 5, 1889.

⁸⁰ “Care Needed in Building,” *Philadelphia Inquirer*, March 6, 1889.

defective flues caused thirty-three percent of known domestic fires and 13 percent of all fires nationwide.⁸¹ Editors of the *Chronicle Fire Tables* emphasized the point by featuring a chart of defective flue fires on the frontispiece of their 1889 volume. Defective flues had always been a problem.⁸² However, as people fitted in new and more complicated equipment and vented them into preexisting chimneys, there seems to have been a noticeable increase in fires. For instance, in 1891, 112 domestic fires were from defective chimneys or other defective heating installations; that was twelve percent of all fires.⁸³ The interworking of heating systems, from the source to the flue, was a safety risk.

Many considered faulty plumbing to be a far greater danger. Amidst a sanitation movement advocating for improved plumbing, many homeowners faced the dangers of deadly sewer gas if plumbers did not properly install pipes and fixtures.⁸⁴ Looking to control the quality of their trade, Philadelphia plumbers organized in 1885.

⁸¹ *The Chronicle Fire Tables* (New York: The Chronicle Company, 1889), 9-10.

⁸² From May to November 1857 the city recorded 7 fires of the 62 total from defective flues damaging roofs. "Report of the Chief Engineer," *Journal of Common Council* (Philadelphia: Town, Printer, 1857), 334.

⁸³ Totals include fires from dwelling defects, including defective flue, foul chimney, gas explosion, and stove pipes; it does not include accidents, such as those associated with lamps, stoves, or matches, and it does not include fires reported from a source, such as gas jet, stove, or heaters, which was likely a fire from improper use rather than improper installation. "Annual Report of the Chief Engineer of the Bureau of Fire," *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: Dunlap and Clarke, 1892), 445-590.

⁸⁴ Cited as a problem in: "Care Needed in Building," *Philadelphia Inquirer*, March 6, 1889.

One of the original subscribers was councilman William Harkness (1837-1908), who served on Common Council for fourteen years. Reflecting the overlap between the organizations interested in building, he was also a director of the National Association of Builders, treasurer of the Master Plumbers' Association, secretary of the Master Builders' Exchange, and secretary of the reform group Citizens' Municipal Association.⁸⁵ In Philadelphia, plumbers were regulated by the committee on house drainage and plumbing of the Board of Health, but the Master Plumbers' Exchange had oversight for licensing. In 1885, the Pennsylvania Legislature authorized the city to draft rules and regulation for house drainage, and in 1886 the Board of Health drafted plumbing regulations, for which Harkness surely had an influence. The rules were thorough, but despite that fact, many unlicensed plumbers still did "cheap makeshifts" and "inferior workmanship."⁸⁶

By the 1890s, building regulation was a standard function of most municipal governments. A survey of twenty-six cities compiled by editors of the *American Architect and Architecture* in 1891 reveals the range of American building regulation at the time.⁸⁷ Of the cities, thirteen had separate municipal departments for building

⁸⁵ "Obituary," *Plumbers' Trade Journal* 43 (May 15, 1908):552.

⁸⁶ Harkness is quoted in: "Care Needed in Building," *Philadelphia Inquirer*, March 6, 1889. For plumbing rules and regulations: Master Plumbers' Association of Philadelphia, *Handbook of the Master Plumbers' Association of Philadelphia* (Philadelphia: Buck & McFetridge, Printers, 1889).

⁸⁷ Cities included were: Boston, Baltimore, Brooklyn, Charleston, Chicago, Cincinnati, Cleveland, Denver, Detroit, District of Columbia, Kansas City, Louisville, Memphis, Milwaukee, Minneapolis, Nashville, New Orleans, Newark, New York, Omaha, Philadelphia, Pittsburgh, Providence, St. Louis, San Francisco, and Wilmington. "Comparative Municipal Building Laws," *American Architect and Building News*, 33, 814 (August 1, 1891): 66-68.

inspections, and three other cities required their fire departments to inspect buildings. In other cities without designated agencies, inspectors worked in other departments, or inspection was also done by city assessors, city surveyors, or the fire marshal. Philadelphia was the only city with data about the number of inspectors. In some cities with a strong municipal bureaucracy, regulation took on an aggressive tone, such as Brooklyn, which directed its officials to “control erection, alteration, and repair of buildings” and “enforce the building code.”⁸⁸ In Chicago, inspectors also had the authority to stop reckless work. Most cities took on a more passive tone, one that probably would have been closer to the experience in Philadelphia, in which inspectors “examine[d]” buildings, “record[ed]” violations, and “grant[ed] permits.” Inspectors in a mere seven cities actually had the directive to enforce building codes; most agencies (including Philadelphia) merely assessed compliance and recorded or reported violations, presumably to local representatives or the courts. In Washington D.C. agency officials had the “power to make all construction and material conform to law,” although it is unclear how they could do so. American cities provided building inspection amongst the litany of municipal services, but to varying degrees that likely reflect political climate, population pressures, and building scale.

In addition, most cities also included alteration in their building regulations. Four cities regulated “all work;” nineteen others specifically included the regulation of alteration along with new construction in their regulations. Many cities exempted

⁸⁸ Editors assigned the role of “control” its own category of duties, suggesting they understood the exceptional nature of the inspectors’ authority in Brooklyn. No other city had such authority in their duties. “Comparative Municipal Building Laws,” *American Architect and Building News*, 67.

necessary repairs (Philadelphia did not mention repairs), but in some cities like Chicago and New York, the regulations included a caveat. Chicago authorities still regulated repairs that affected the “construction of any external or party wall, chimney, stairs, or the height of the building,” and in New York regulators still inspected repairs that included “the removal of any portion of a stone or brick wall, beam or support, or the change of any stairway. By most standards, these changes would have been considered alterations, and the notation suggests that like Philadelphia, Chicago and New York builders skirted the laws regulating home alteration, perhaps under the guise of repair. A few cities had also expanded regulation even further: Boston, Nashville, and D.C. inspectors regulated furnace installation; D.C. officials regulated heating ranges; and Minneapolis authorities regulated all electrical work (they were the only ones to incorporate electricity). By 1890, most American cities were complicating the scope of their regulatory oversight beyond new construction and property lines.

The fire casualty awakened a new interest in reforming Philadelphia’s building codes, which in large part reflected standards set midcentury. Middle-class reformers had an interest in maintaining safe construction. Trade organizations had an interest in preserving the integrity of their profession and preventing shoddy construction done at low cost. Manufacturers and building suppliers would benefit in a city with improved minimum standards of construction. Architects saw new laws as a way to influence standards and mitigate inferior construction. Building inspectors surely wanted their job to be clearer, but more authority meant increased permit revenue for the department as well. Many disparate groups had a direct economic and social interest in improved regulations.

Businessmen who composed the Master Builders' Exchange (the Exchange), a Philadelphia trade organization, spearheaded the development of a new law. The Exchange was organized in 1886 and incorporated in 1887 by building material manufacturers and large-scale general contractors; the employers of the building industry. The group was interested in maintaining a strong Philadelphia building industry, encouraging cooperative relationships with mechanics and journeymen, and implementing national building standards and practices. Representing the Philadelphia building interests, members of the Exchange also worked with counterparts around the country to form the National Association of Builders that same year. Much of the local and national group's interest focused on steadying the costs of building by resolving class conflicts within the industry (specifically preventing strikes) and creating uniform practices.⁸⁹

Members of the Exchange were upper- and middle-class Philadelphians who could influence building matters, including regulations. The connections and affiliations enjoyed by Franklin M. Harris (1839-1922), one time president and prominent member of the group, illustrate the socio-economic contexts within which these men operated. Trained as a mason through the apprenticeship system, Harris was a third generation builder in Philadelphia. In 1889 he founded the masonry and contracting firm Franklin M. Harris & Co. In addition, he served on Philadelphia Select Council for two terms.⁹⁰ Harris's mixture of professional, social, and political

⁸⁹ *National Association of Builders, Official Report...* (Boston: Rockwell and Churchill, 1887), 51.

⁹⁰ Charles Morris, ed., *Men of the Century: An Historical Work...* (Philadelphia: L. R. Hamersly and Co., 1896), 120.

connections explains why members of the Exchange would have had means and access to advance new legislation.

Immediately after its inception the group tackled the “defective” building laws of the city. The organization established a committee, which was led by mason Michael B. Andres and joined by members of the Board of Building Inspectors, other Philadelphia trade organizations, the Underwriters’ Association, and the local chapter of architects.⁹¹ The group harshly concluded Philadelphia’s laws were “...the worst regulations in force in any city of the civilized world” compared to other major cities, including Boston, New York, Baltimore, Paris, and London.⁹² Anecdotally, the group suggested that far too much speculative building was often unsafe and inferior. They insisted the new regulations, drafted for “the public good,” could protect Philadelphia home buyers from cheap work. By mandating in the regulations more details about the quality of construction, the committee could level the competition in the construction industry and protect homeowners.

The group completed its effort by the summer of 1889. Before passing it on to the state Legislature, the members sought Mayor Fitler’s approval, and he

⁹¹ No records of this committee have been located. “Building Law Reform,” *Philadelphia Inquirer*, March 6, 1889. Through its operation, membership fluctuated. In 1889 it included Samuel Hart (masonry contractor), Joseph B. Hancock, Joseph M. Hancock (former inspector), Franklin M. Harris, Thomas Little (contractor), George Watson, Joseph B. Cooper, John S. Stevens, Samuel Cresswell (iron foundry owner), George Bancroft, V. P. Chandler, Addison Hutton (architect), James S. Windrim, William Harkness, James Zimmerman (president of the building inspectors), and William Gillingham (inspector). Most of the men at some point were on or worked for Common Council.

⁹² “Building Law Reform,” *Philadelphia Inquirer*, March 6, 1889.

consequently passed it on to his personal architect. Unfortunately, the legislation was lost, or perhaps ignored, and the effort died in the hands of city administration. In the immediate wake of the fire, the failed attempt at passing new legislation exacerbated many people's frustration with the regulations. Drawing a connection between the reform effort and the recent fire, councilmen Joseph B. Hancock observed that if the lost bill had been passed, it could have prevented fires like the one at the Gross family bakery.⁹³ Others, including Harris, believed the legislation was drafted too hastily; it lacked support from some in the building trades. Without a provoking tragedy, there was not enough momentum behind the reform effort of 1889.

In 1892, the issue was taken up by a joint committee of Council and members of the Exchange, Carpenter's Company, Bricklayers' Company, and the Philadelphia Chapter of the American Institute of Architects.⁹⁴ By 1892, members of the Fire Underwriters and the Citizens' Municipal Association joined the effort.⁹⁵ By 1893, the Philadelphia landscape was filling with large-scale commercial buildings, offices, and apartments, the construction of which needed new requirements. Many new real estate ventures, including the Betz and Girard building at Broad and Market, were testing the old rules and the ability of the building inspectors to enforce codes for this high-density construction. Taller buildings sparked particular concerns, including the

⁹³ "A Building Bill Lost," *Philadelphia Inquirer*, December 23, 1889. Hancock was elected to Common Council, and at various times served on the Northern Liberties gas trust and other committees.

⁹⁴ "Proposed Building Law," *Philadelphia Inquirer*, November 29, 1890.

⁹⁵ "What Builders are Doing," *Carpentry and Building* 14 (July, 1892): 183.

thickness of walls, underpinning foundations, elevators, and fireproofing.⁹⁶ The group eventually drafted a new piece of legislation that responded to prevailing issues for domestic construction like the problems that caused the Gross fire, but also incorporated regulations for modern buildings.

As the legislation moved forward, an opposition group developed that protested the oversight the law would enable. Leading the opposition was Henry C. Lea (1825-1909), an avid municipal reformer who believed it would give the building inspectors too much oversight over people's (and corporation's) building decisions.⁹⁷ Others joined the effort, including members of the Girard Trust (who had recently challenged the building codes), illuminating the resistance that real estate investors also mounted. These two interests worked together to organize a petition for an amendment to the bill that would remove many of the most burdensome requirements, including two stair cases, independent party walls, floor strength testing, and fire proofing. They also objected to the new width requirement of fourteen feet, and noted that on one of the most fashionable streets (Delancey), there were houses only twelve feet in width worth \$25,000; they insisted demand, not law, should determine the size of houses.

Perhaps an effort to provoke ordinary homeowners, the group also protested the new regulations for alteration. Summarizing the supposed burden of the law, they declared "whenever [a building owner] desired to make any alteration in any part of

⁹⁶ "For Safer Buildings," *Philadelphia Inquirer*, February 10, 1893.

⁹⁷ Arthur T. Hamlin, "Henry C. Lea—Citizen and Scholar," *The Library Chronicle* 9, 1 (1941): 14-20.

the building he must conform to all the exactions of the law throughout his whole establishment.” In addition, the group was opposed to the hefty fine and threat of imprisonment, and their protest of that resulted in it being lowered from \$1000 to \$300 when the House amended it. Declaring it “impossible and ruinous,” they insisted the law “would prevent the erection of new buildings and prohibit the improvement of old ones.”⁹⁸ Overall, the group insisted the new law was full of “unnecessary details,” and would require a dramatic increase in the number of building inspectors.⁹⁹ All of these issues could have appealed to many Philadelphians, not just wealthy real estate brokers and investors or municipal reformers.

It took eight years from the initial idea in 1886 to finally obtain building reform. The following year it went to the Pennsylvania State Legislature. As it moved from the Committee on Municipal Corporations (established by Lea in 1876) to the Senate and then the House, there was almost no debate, and the Pennsylvania Assembly approved the legislation, which was finally signed into law June 8, 1893.¹⁰⁰ The only amendment made was to lower the fine as advocated by Lea and others. Political representatives seemed to align with the building industry, who insisted they were advocating for public safety.

⁹⁸ “Bill to Retard Growth,” *Philadelphia Inquirer*, April 1, 1893.

⁹⁹ “Fighting the Building Bill,” *Philadelphia Inquirer*, March 31, 1893.

¹⁰⁰ The only questions were about the fine (lowered from \$1000 to \$300). PA General Assembly, *Legislative Record* 136 (1893). The bill was approved in the Senate and reported to the House on March 22, 1893, and was tabled until April 19, 1893. It passed the House on May 12, 1893 and was then signed into law by the governor.

The new building law, which became commonly known as the Haddock law after its councilman sponsor, set into place new standards for construction. The volume of the laws as they progressed through the nineteenth century is telling. In 1855 the regulations of building was 5 pages and 13 sections, with the actual building requirements being in one section and limited to party walls and their thickness and all other work prescribed to be in a safe and workmanlike manner.¹⁰¹ By 1887 this basic law still largely prevailed, with clarifying addendums in 1855 and 1856 and the later incorporation of bay window regulation; in total the building regulations were 17 pages.¹⁰² The 1893 law, which was 29 pages (not including other addendums) dramatically transformed the 1855 legislation, prescribing new building standards, mandating safety features for commercial and public buildings, and outlining in more detail the permitting and inspection process.¹⁰³ Instead of only prohibiting certain kinds of buildings, the law now prescribed buildings standards.

The law addressed some of the administrative problems in the Bureau of Building Inspectors that limited their ability to regulate the city. Of most significance were new powers given to the city councils to determine the number of building inspectors, something previously controlled by the Pennsylvania general assembly.¹⁰⁴

¹⁰¹ Duane, *A Digest*, 94-99.

¹⁰² Brightly, *A Digest of the Laws and Ordinances of the City of Philadelphia*, 156-173.

¹⁰³ “An Act...Regulating the Construction, Maintenance, and Inspection of Buildings,” June 8, 1893, *Laws of the General Assembly* (Harrisburg: Edwin K. Meyers, 1893), 360-388.

¹⁰⁴ *Ibid.*, 360.

In 1894, the council nearly doubled the number of inspectors, bringing the force to fifteen. Inspectors under the new code were able to access any property in the course of erection or alteration. They could follow up on any violation with injunctions, fines and even imprisonment. Sheriffs could remove unlawful work by order of the courts.¹⁰⁵ Although still dependent on solicitor appeals, court injunctions and orders, and sheriff adherence, there now was a clearer mechanism in place to prosecute and remove dangerous construction.

The law also included sections that regulated the specific building problems that had sparked confusion and frustration over the past two decades. Frame overhanging bathrooms were still permitted, but the law required them to have plumbing. For sheds like the ones that had been built and then altered into kitchens, the law now prohibited wooden sheds below frame overhanging baths, banned sheds with lofts, and mandated that no shed should be lathed and plastered or finished “to constitute a room to be occupied for habitation.”¹⁰⁶ To address building practices like those that caused the Gross fire, the law also prescribed in detail the ways to install smoke pipes, flues, furnaces and other heaters.¹⁰⁷ Local authors of the law took the opportunity to mitigate the confusion that had plagued the building process.

Home alteration functioned in the law equivalent to new construction. Besides prescribing standards that would halt builders from transforming a shed into a room, the authors also added some much needed technical clarity. Just as before, the law

¹⁰⁵ *Ibid.*, 387.

¹⁰⁶ *Ibid.*, 377.

¹⁰⁷ *Ibid.*, 374-375.

stipulated that any building being erected or altered in the city needed a permit and approval. The new legislation added clarity in order to remove confusion over indefinite terms such as “substantially new,” which had for forty years served as the abstract litmus test for alteration. Instead, lawmakers explained that applicable work included any that “affect[ed] the strength or fire-risk of any wall, structure or building.”¹⁰⁸ This would have been interpreted to include work that impacted party walls, foundations, partitions, stairs, fenestration, and roofs; it also could include materials like wood and technologies like furnaces and heaters. The new legal scope of alteration was dramatically expanded.

Unlike regulations in other cities, the 1893 legislation did not explicitly address repair (it was revised to do in 1901).¹⁰⁹ Despite this fact, the permit forms that Bureau of Building Inspections used included repairs in its header and some people did include repairs on their applications. One contractor working in West Philadelphia, perhaps repairing a house for resale, submitted an application that included work on new joists, suggesting the building had structural problems.¹¹⁰ However, he also included details for repairing porch floors, renewing the roof, and “general repairs throughout the building.” Finally, reflecting the rising trends of adding porches, he too planned to add a porch to the back of the structure.¹¹¹ The applicant's list of projects

¹⁰⁸ *Ibid.*, 361.

¹⁰⁹ Bureau of Building Inspection, *Laws and Ordinances Relating to the Bureau* (Philadelphia: Dunlap, 1904), 5.

¹¹⁰ Further investigation is needed, but the contractor, who may have also been a real estate developer, William J. Patterson, lived in Chestnut Hill, approximately ten miles away from the building site.

¹¹¹ Application 3368, 6124 Green Street, June 24, 1895, Permits, BBI, PCA.

reads more like an attempt to catch up quickly on needed repairs with perhaps the porch included as a modernizing twist. While the example in West Philadelphia is one project out of thousands, it nonetheless highlighted the detail building inspectors were obtaining from builders.

After the new regulations were in place, the author of the bill, William C. Haddock was appointed chief of the Department of Public Safety, which oversaw the Bureau of Building Inspectors along with police, fire, the Board of Health, among others. Haddock was trained as a carpenter, became a master builder, and served on the Common Council from 1889 to 1894.¹¹² After he assumed office, Haddock made several changes to the Bureau's operations. In a revolutionary effort to increase enforcement, Haddock assigned the police to assist more actively with building violations. He also periodically published advice about the laws that would interest homeowners in the local paper; one example published in October 1894 anticipated the approach of winter and advised on installing flues.¹¹³ In 1898 he also led the production of a building handbook for the city.¹¹⁴ Overall the changes made helped enforce the building codes; police and publications informed homeowners and builders of the new codes.

The law combined with more inspectors and new monitoring methods vastly improved the level of compliance. The following year, Haddock lauded the success of

¹¹² *Official Hand Book, City Hall, Philadelphia* (Philadelphia: City Publishing Co, 1901), 26.

¹¹³ "Winters' Fires," *Philadelphia Inquirer*, October 18, 1894.

¹¹⁴ Philadelphia Bureau of Building Inspection, *Hand-book of Building Laws and Building Statistics of Philadelphia* (Philadelphia: R.P. Jones, 1898).

his department, which issued 2,023 condemnation notices and visited 44,545 operations. Specifically, he cited the impact such reforms had on alterations and additions, which previously "...had escaped the notice of the building inspectors...." Illegal alterations were systematically reported and builders were directed to file permits, placing their projects under Bureau supervision. In the first year the police forwarded 2,057 reports of illegal construction.¹¹⁵ The new approach was a success: in the down year of 1894 when building slumped by \$1.29 million from the year prior, the permits were nonetheless increased by 130 percent.¹¹⁶ The bureau was finally equipped with enough personnel to handle its duties.

When home alteration overlapped with new domestic technologies like heaters and plumbing a real danger developed; it could also be deadly when alteration was done below the prescribed standards for new construction. A majority of Philadelphia residents were subject to the whims of landlords, so basic oversight was crucial not only for general public safety, but also to ensure that renters were not exploited. The public's opinions on the danger of alteration were expressed in complicated ways: one was carrying on with extralegal or illegal construction, and the other was understaffing and under-supporting the people in charge of controlling it. Such was the case for most of the nineteenth century, until the 1890s. Afterwards, Philadelphians could pursue a variety of projects, but their choices had to comply with the new legal framework enacted by the city. People could follow the new standards or they could

¹¹⁵ *Annual Message of the Mayor of the City of Philadelphia ... 1894* (Philadelphia: Dunlap and Clarke, 1895), 30-31.

¹¹⁶ *Ibid.*, 30.

evade them, but in both instances, they engaged the legal oversight of home alteration and the cultural, political, and economic pressures that informed it. By enveloping home alteration in modern legal processes, home alteration was reconceptualized as a process worthy of public concern and something that should and could be done to safe standards.

Chapter 4

FULL SERVICE ALTERATIONS: PROMOTING ELECTRICITY THROUGH HOME ALTERATION

“Most people have a holy horror of the mechanic, the man who comes to the house in a pair of overalls to make repairs or improvements; and whether he is a carpenter, a plumber, a paperer or an electrician, it’s all the same. They think that to install wiring for electric lights in an already built house means tearing it apart. They have visions of the wall opened up, the carpets moved, the hardwood floors cut and blemished forever and the whole house filled with litter, noise and mental anguish.”¹

— “Is Your House Wired?” 1912

Philadelphians, like many people around the country, were lukewarm towards electrifying their old homes. By 1910, only 31,000 households (less than 11 percent of Philadelphia homes) had electricity. By the end of the decade, the number of

¹ I have been unable to locate a copy of the original pamphlet, “Wiring a Home” from which this quote was derived. The search included a survey of all pamphlets held in the PECO corporate archives. It is likely produced from the National Electric Light Association, of which PECO was a member and by whom the Wire-Your-Home-League was conceived a few years later. For reference to this initiative, see: George Levett, “Wire Your Home League,” National Electric Light Association, Commercial Department Branch Meeting, November 27, 1916, PECO Corporate Archives. Reprint of the pamphlet material appeared in: Philadelphia Electric Company, “Is Your House Wired?” *Bulletin of the Philadelphia Electric Company*, 7, 3 (September 1912): 6. (Hereafter PECO, *Bulletin*)

electrified homes rose to 124,422 (30 percent of houses).² Despite this growth, marketers at the Philadelphia Electric Company (PECO), the sole electrical provider in Philadelphia, and in national trade organizations such as the National Electric Light Association, lamented the slow development of electrification in old homes during this period.³ Industry promoters perceived that they had a lot of prejudice to overcome not only about the safety of electricity and the wiring that carried it, but even the basic process of wiring an old home. As authors of “Wiring a Home” summarized, the mechanic, the mess, the upheaval, the scars, and the inconvenience all kept potential customers from adopting electricity. Early twentieth-century marketers and promoters struggled to find language and approaches to convince homeowners otherwise.

In old homes, the tensions of convincing people to electrify their homes—to embrace a new technology and alter their homes—were amplified. Owners of old homes presented a two-fold marketing problem for advertising departments in power companies like PECO: advertisers needed to sell the convenience and comforts afforded by electricity yet minimize the inconvenience of getting it. When

² In 1910, Philadelphia had 295,220 dwellings. For housing number, see: US Census “Table 5. Composition and Characteristics of the Population for Wards of Cities of 50,000 or More,” in *U.S. Census, 1910: Abstract with Pennsylvania Supplement* (Washington: Government Printing Office, 1913). For electrification number, see: PECO, *Bulletin* 14, 4, (1919): 14. In 1920, Philadelphia had 402,946 houses: Bernard J. Newman, *Housing in Philadelphia* (Philadelphia: Philadelphia Housing Association, 1921), 33.

³ PECO gained exclusive right to supply electricity in Philadelphia after a final consolidation in 1902. The language in “Is Your House Wired?” captures the tone of contemporary industry complaints, but industry leaders expressed similar concerns as early as 1907, complaining that Philadelphians “did not use the electrical energy, per capita, that it should. PECO, *Bulletin* 2, 4 (December 1907): 1.

homeowners did adopt electricity, they often did so strategically. These choices reveal the priorities people placed on modernizing their homes.⁴

In the early twentieth century, many families in Philadelphia and around the country lived without electricity. Many homes already had gas lighting and could live without the expense of wiring and another utility bill. Most households with electricity then had only minimal illumination, perhaps through a few light fixtures. Others had more thorough illumination and could run small appliances from a “convenience outlet” provided from a light fixture or dedicated outlet. Before 1925, very few Americans had “full service” with lighting and outlets in every room, including wiring for heavy appliances like ovens.⁵ These statistics reveal that illumination, not small appliances, was the reason people took the risk and added electricity into the home.

A light bulb per room did not yield sufficient profits for an electrical line, and electrical companies, in coordination with appliance manufacturers, spent increasing energy and money attempting to convince people to adopt and expand electrical

⁴ There has been a long-running theme in history of technology about the gendered aspect to incorporating technology in the home or on farms, where productive “work” was augmented by machines and tools, while the housewife continued unaided. However, I would point out that before first purchasing an appliance or tool, a home or farm first had to wire, and the result of that wiring was often first illumination long before people began using small-motor products. Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).

⁵ Historian Ronald Toby demonstrates that before the intervention of the Federal government through New Deal programs in the 1930s, few houses were equipped for appliance use; in 1922, 80 percent of houses had no electricity or minimal illumination only. Ronald C. Tobey, *Technology as Freedom: The New Deal and Electrical Modernization of the American Home* (Berkeley: University of California Press, 1996), 33.

service.⁶ Between 1906 and 1916, PECO's approach to owners of preexisting homes developed until it culminated with the aggressive 1916 house wiring campaign, which set the approach for marketing in the 1920s. In 1906, the company launched its *Bulletin* to educate current and potential customers about electricity and the company; with a goal to expand service use, information about appliances predictably dominated the content. In an attempt to set a new standard of living, in 1908 the company developed the catchphrase, "If it Isn't Electric, it Isn't Modern!" By 1910, the company was encouraging current users to upgrade their installation by obtaining more outlets, and at the same time, PECO increasingly pushed its free home inspections (enabling a chance to push upgrades) and in-house installation services. Between 1905 and 1909, PECO gained 11,000 customers.

In the 1910s, marketers' approach towards owners of unelectrified or under-electrified old homes shifted to include explicit material about wiring and the installation process; in this approach, the home alteration project took center stage. In 1912, borrowing from a pamphlet titled, "Wiring a Home," the company provided lengthy content on the minute technical aspects of installing wiring, all painted in a rosy lens of cleanliness and convenience. Installation would be easy, and marketers insisted that the household would be undisturbed while the "wireman" did his work. Companies even offered detailed descriptions and diagrams for the wiring process. In 1916, PECO joined its national counterparts when it launched the "Wire-Your-Home-League," another initiative by the National Electrical Light Association. As part of the ads, Mrs. Happy Homemaker went over wiring plans and schedules, understanding

⁶ Toby, *Technology as Freedom*, 12.

every component of the electrical service and deciding how to install it.⁷ Through these approaches, marketers attempted to educate consumers and make the installation process more acceptable to families in old homes.

Catering to owners of preexisting home was a necessary part of doing business for PECO. To cultivate these customers, NELA and PECO supplemented their marketing material, which largely depended on appliance manufacturers, with the visual and verbal rhetoric of home alteration that had been developed over three decades; wiring homes would make them modern, would add to the property value, and would make life more comfortable and convenient. In this approach, these companies also followed a long tradition of obscuring the realities of home alteration. Companies made an implicit assumption that the job would be left to professionals in all advertisements. However, guidance for planning the project was directed towards women, just as Woollett and Mason had done in the 1870s and 1880s. The advertisements reflected how home alteration became a transferable marketing framework that large corporations understood could and should be employed to assist in business expansion.

Corporations like PECO were already familiar with vertical integration. They enacted a new approach to selling home alteration that integrated nearly every step of

⁷ For example: Clara H. Zillesen, "Capitalizing the Feminine Appeal," *Electrical Merchandise* 16, 6 (December 1916), 261-263. This approach is an interesting contrast to women's supposed ignorance of electricity that others lamented, particularly home safety experts. See, Joel A. Tarr and Mark Tebeau, "Managing Danger in the Home Environment, 1900-1940," *Journal of Social History* 29, 4 (Summer 1996): 802-803.

a consumer's project into its business operations.⁸ PECO financed wiring installations by paying the contractor and allowing the homeowner to pay back the company on installment.⁹¹⁰ PECO engineers provided wiring plans and schedules (lists) that permitted homeowners to choose their own installation options. Knowing that revenue from selling power was critical to profits, PECO bought supplies at wholesale and sold fixtures and appliances at near cost. At first PECO had an installation department and sent out in-house wiremen, but the firm later coordinated with local contractors on behalf of the homeowner. It also depended on continued expansion of installations, and encouraged customers to upgrade their service. All these components were unified under the marketing umbrella that channeled these many services to the customer.¹¹

⁸ For a classic study on corporate structures, see: Alfred Dupont Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass: Belknap Press, 1977).

⁹ For more on financing and consumer credit, see: Lendol Calder, *Financing the American Dream: A Cultural History of Consumer Credit* (Princeton, NJ: Princeton University Press, 1999).

¹⁰ As early as 1907 this became an industry standard for power companies: F. H. Golding, "How to Get Old Buildings Wired," *Electrical Record* 2, 1 (July 1907) 9.

¹¹ Aspects of the "vertical integration" of home alteration is seen in many corporation business models, the most obvious perhaps is Sears, who also provided financing, sold supplies, and at times arranged installation. However, the examples of PECO (and likely other utility companies) is a pronounced example that very much mirrors the very complex operations of a larger corporation. For more on Sears, see: Robert Schweitzer and Michael W. R. Davis, *America's Favorite Homes: Mail-order Catalogues as a Guide to Twentieth-Century Houses* (Detroit: Wayne State University Press, 1990); Katherine Cole Stevenson and H. Ward Jandl, *Houses By Mail: A Guide to Houses from Sears, Roebuck and Company* (Washington, D.C.: The Preservation Press, 1986). For marketing within the building materials industry (of which Sears was a great part), see: Richard Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914-1960* (Chicago: University of Chicago Press, 2012).

Electrification has served as a useful lens for understanding modernization, consumption, and the political economy of the United States. Many scholars have demonstrated how the electrification of America was a social process.¹² By contracting for wiring and lighting, purchasing appliances and devices, and using those devices to consume electricity, homeowners made a choice in the kinds of technology that entered the home and the ways in which they did and did not use them. In this model, homeowners selected devices from a free market just as they did many other consumer goods.

However, in many other significant ways, owners of electrified homes were bound by the decisions of corporations and the men behind them. The materiality of the network was shaped by Thomas Edison, who in a wave of patents established the function, look, feel, and operation of the entire electrical system, including power generation, transmission, and use—most famously the light bulb.¹³ The companies generating the power in cities around the country quickly consolidated, resulting in economically and politically powerful monopolies that controlled the network from the dynamo to the meter constraining people’s economic choices within geographic zones set by interests far beyond their control. The coordination of these corporations with political bodies enabled the spread of systems and provided regulation of electricity and its use. By the 1930s and 1940s, electrical modernization was mandated

¹² Thomas P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: Johns Hopkins University Press, 1983), 18-78.

¹³ It should be noted that his one great “loss” in the shaping of modern electricity was the eventual acceptance of alternating current instead of Edison’s preferred direct current.

in most areas of the country, complicating consumer choice even further. For most Americans, opting out was no longer a consumer choice.¹⁴

This chapter examines PECO's corporate approach to selling home alteration that coordinated marketers, creditors, engineers, and electricians to make a fully-integrated home alteration program. Such an approach embodied corporate models of vertical integration, but reflected the business's efforts to understand and mitigate people's concerns about electricity and alteration. At the same time, it considers this approach within the scholarship about electrification and particularly whether choice was visible at the "consumption junction" or if it was predetermined by factors built into the technology. For house wiring in Philadelphia, the voice of the consumer was almost entirely absent (from the marketing literature).¹⁵ Instead, the feelings of people towards the house wiring experience can be understood through the slow rate of installation and the many fears that marketers and solicitors sought to overcome.

¹⁴ Even today, some people in the most rural environments live without electricity "off the grid." Today, some municipalities are adjusting these requirements for other power generating methods, particularly solar power. For the difference between electrification and electrical modernization, as well as the shortcomings within the scholarship regarding electrical service in the early twentieth century, see: Tobey, *Technology as Freedom*, 29-31, and 224 n 40.

¹⁵ Because of PECO record retention schedules, all customer surveys, installation records, solicitation cards, and complaints are gone. Based on an extensive survey of existing PECO Corporate records in corporate archives, 2300 Market Street, Philadelphia, PA 19103.

Building a Network

Throughout much of the nineteenth century Philadelphians used gas fixtures, lamps, and even candles to illuminate their homes.¹⁶ Shaping these choices was preference, cost, and access to systems. Gas was the first city-wide system to provide light and fuel for a range of appliances, but it had its drawbacks. The first gas plant was established in 1836 and the city continued to manage the gas works; by the 1870s, many Philadelphians perceived the company as grossly mismanaged and rampant with graft from city bosses. The gasworks notoriously overpaid its coal suppliers because the so-called “Gas Ring” of municipal leaders and cronies received kickbacks. In addition, paying higher for supplies permitted the works to charge a higher rate to customers.¹⁷

Electricity was slow to come to Philadelphia households, but the Philadelphia Electric Company ultimately positioned itself as a company that lacked the entrenched corruption and could provide cheaper and safer alternative to gas. By 1876, when millions of people saw an experimental light at the Centennial, electricity was an obscure and underdeveloped (if not impractical) technology. No sufficient means of producing the power and supplying it en masse had been developed yet. A small

¹⁶ A survey of house fires in 1892 yielded the many illumination options that people still used, including coal oil lamps, gasoline lamps, benzene lamps, gas lights, candles, electric light. “Annual Report of the Chief Engineer of the Bureau of Fire,” *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: Dunlap and Clarke, 1892), 445-590.

¹⁷ In 1897, the United Gas Improvement Company (UGI), a private firm incorporated by Thomas Dolan in 1882, leased and ran the city gasworks, taking it out of the hands of municipal operations. Nicholas B. Wainwright, *History of the Philadelphia Electric Company* (Philadelphia: Philadelphia Electric Company, 1961), 8-9, 58.

minority of people in the country had access to some electrical devices that ran on batteries. Even fewer people ran small private dynamos that generated power at their factories, businesses, and houses.¹⁸ By the 1860s, some city streets were dotted with the new arc lamp, which illuminated using a dangerous spark between a gap in a conducting wire. However, these new technologies were expensive or, as in the case of the arc lamp, unsafe near people or anything flammable, making it unfit for domestic use.¹⁹

The experimental electric lights exhibited at the Centennial inspired a few wealthy Philadelphians to adopt electricity, setting into motion the slow development of Philadelphia's electrical industry. In Philadelphia, John Wanamaker illuminated his department store with twenty-six Brush arc lights in 1878.²⁰ In 1880, the Continental Hotel installed Brush arc lights in its dining room. Others, including Thomas Dolan of U.G.I., adopted arc lights in their mills, exposing millworkers to the new illuminant. While the exposure was likely inspirational, at the same time, fires like the one in Wanamaker's Department store in 1891 surely reminded Philadelphians of the inherent risks of electricity as well.²¹ Arc lighting in particular was an illuminant unfit for Philadelphia small houses.

¹⁸ Michael Faraday, a British scientist, developed the first dynamo in 1831. Ruth Schwartz Cowan, *A Social History of American Technology* (New York: Oxford University Press, 1997), 162.

¹⁹ Wainwright, *History of the Philadelphia Electric Company*, 13-15.

²⁰ *Ibid.*

²¹ "Annual Report of the Chief Engineer of the Bureau of Fire" *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: Dunlap and Clarke, 1892), 471.

In 1881, the Brush Electric Light Company was founded in Philadelphia. Founding members included John Wanamaker, who introduced Philadelphia to the brush arc lamp, and Thomas Dolan, founder of U.G.I.²² That same year, Dolan and others also established the Electric Trust, perhaps anticipating a thriving electrical industry for Philadelphia.²³ With great difficulty Brush Electric secured a one-year lease from City Council to illuminate Chestnut Street, the main economic and shopping thoroughfare in downtown, with brush arc lamps. The company paid for the privilege the first year, hoping to demonstrate the efficiency of electrical lights over gas.

The skepticism with which the company was received reflects a reactionary pattern of Philadelphians to new technology. The inconvenience of strung telegraph wires and looming poles was met with equal annoyance and resulted in a public protest about the intrusion.²⁴ This same sentiment drove City Council to pass a briefly-enforced ordinance prohibiting hanging electrical wires, even though underground wires were not capable of carrying sufficient loads yet. Into the twentieth century, industry leaders continued to paint Philadelphians as a conservative (and implicitly backwards) community.

²² The continued coordination between PECO and UGI, though it was never publically admitted by either company, remained a point of public contention for nearly a century. The practice of dual board memberships started by Thomas Dolan continued into the twentieth century. Wainwright, *History of the Philadelphia Electric Company*, 16-18; 55-58.

²³ *Ibid.*, 12.

²⁴ *Ibid.*, 8.

The Edison Electric Light Company of Philadelphia joined the Philadelphia market in December 1886. Edison brought the safer incandescent light bulb and an entire system to transfer power from a coal-powered dynamo to the light. Central generating stations, at first in urban centers near office districts, created a power supply from steam generators. Cables carried the electrical supply to customers, which was measured by a meter when it entered a building. From there, wires carried the electricity to lights and devices. The first Edison plant went into operation in March 1889.

Over a decade after the Centennial Exhibition, and exposure in stores, mills, hotels, and streets, the general public's reaction to electricity was still apprehensive, if not at times fearful. Like gas, some feared that a material known as "flooid" [sic] would escape into the room. Others feared the light bulb—with far brighter illumination than candles or lamps—would damage their eyes. Just as with traditional sources of light, many, including homeowners and insurance companies, feared the fire risk posed by this new technology (though it was a fire free illuminant). Promoters at Edison Electric reminded Philadelphians "Death does not lurk in our wires," and "No heat mind you!"²⁵ The illumination supplied by Edison was far safer than the brush arc the public previously encountered, but overcoming anxiety about new technology was still an integral part of the earliest business operations.

As in other cities, Philadelphia power companies began to consolidate, transforming the market experience of Philadelphians. Consolidation helped the companies shift capital inputs by spreading it across a number of holdings and their

²⁵ From "From Cimmerian Darkness to Refulgent Light," as quoted in: Wainwright, *History of the Philadelphia Electric Company*, 42.

investors. Ironically, it was a gas industry leader that started the consolidation effort. At the height of the electrical company boom in the 1890s, Philadelphia had twenty-seven electric companies and eighteen different operating companies supplied power to Philadelphia through a variety of distribution methods (a/c, d/c) at different frequencies and voltages.²⁶ In 1894 gas magnate Martin Maloney abandoned gasoline and the Penn Globe Gas Light Company and began acquiring and consolidating electrical companies. The wildly unpopular Electric Trust comprising several small subsidiary companies had up to that point controlled rates and kept down any effort for a municipal power company. However, many, including Maloney, saw consolidation as the next important step to make the system sustainable for profits and operations.²⁷ The near total consolidation of the city's power companies occurred in 1899 when Philadelphia Electric Company (PECO) was chartered in New Jersey.²⁸ In 1902, in order to obtain an ordinance to operate smoothly throughout the city, the company chartered a new corporation: The Philadelphia Electric Company, which was entirely owned by Philadelphia Electric Company of New Jersey.²⁹

²⁶ Frank H. Taylor, ed., *The Philadelphia Electrical Handbook* (Philadelphia: American Institute of Electrical Engineers, 1904), 79-80.

²⁷ Wainwright, *History of the Philadelphia Electric Company*, 49-64.

²⁸ The last remaining independent power company was Kensington Electric Company, which finally sold to PECO in 1901. Wainwright, *History of the Philadelphia Electric Company*, 62-63.

²⁹ The article "The" was later removed. Wainwright, *History of the Philadelphia Electric Company*, 63-64.

Consolidation of electrical companies mirrored other nation-wide (and international) efforts to regulate, standardize, and professionalize the industry at the turn of the century.³⁰ In 1884, telegraph engineers established the American Institute of Electrical Engineers, which would serve as the premier association for electrical engineers in the twentieth century. Trade publications, including *Electrical World*, which emerged out of an earlier telegraph journal founded in 1874, contributed to a national professional conversation about emerging electrical systems. Promotional trade associations, including the National Electric Light Association founded in 1885 and largely comprised of Edison power companies, helped expand the industry by promoting standards, developing marketing campaigns, and advocating for better trade relations. Working-class contractor and metermen associations followed slightly later, including the National Electrical Contractors Association established in 1901. The trade and professional organizations helped boost the expansion of the electrical systems throughout the country.

Insurance companies also had a substantial hand in shaping the standards of electrical installation and material for electrical systems and devices. Officers in the Fire Insurance Society promoted material safety through the National Board of Fire Underwriters, founded in 1866.³¹ Amidst the electrical boom of the 1890s, insurance

³⁰ For brief synopsis and international perspective of these trends, including very useful sources of seminal works, see: Hughes, *Networks of Power*, 172-174.

³¹ Louis Wiederhold, Jr., "Underwriters' Associations and Their Benefit to the Public," *Supplement to Bulletin of the Fire Insurance Society of Philadelphia* (Philadelphia: Fire Insurance Society of Philadelphia, 1912); Harry Chase Brearley, *Fifty Years of a Civilizing Force: An Historical and Critical Study of the Work of the National Board of Fire Underwriters* (New York: Frederick A. Stokes Company, 1916).

companies began to assert their interests for safe electrical systems. One of the most significant outcomes of this was the establishment of the National Electric Code in 1897, which was administered by the National Fire Protection Association established a year earlier.³² Like today, the National Electrical Code set by the Association had no legal authority; rather, it was a set of recommendations that municipalities and states could adopt.³³ In addition, the establishment of the Underwriters Laboratory in 1901 created an organization that could test the safety of equipment, becoming a clearinghouse for electrical technology and devices thereafter. These efforts helped create a minimally-acceptable quality standard for electrical service and devices in the twentieth century.

Despite the improved technology and safety, the Philadelphia Electric Company still competed against other options to wire peoples homes. Many affluent Philadelphians had invested in gas lighting, an illuminant they would have grown accustomed to and been reticent to replace. People enjoyed gas lighting from chandeliers, wall sconces and movable fixtures with wall nozzles and hoses. Philadelphians of moderate means illuminated with oil lamps or sconces, chandeliers

³² Member organizations of the Association included the American Institute of Electrical Engineers, the Association of Edison Illuminating Companies, the National Board of Fire Underwriters and the National Bureau of Standards. For more on the concerns of electricity by insurance companies within the National Board of Fire Underwrites, see: Brearley, *Fifty Years of a Civilizing Force*, 80-94.

³³ Toby, *Technology as Freedom*, 30-31.

and other fixtures with oil or candles.³⁴ Electrical promoters needed to compete not only with each other and the gas company, but also people's entrenched habits.

By 1905, Philadelphia had 16,000 customers.³⁵ This small subset of Philadelphia homeowners and businessmen choose to trust the Philadelphia Electric Company, its metermen, its wiremen, and its accountants to provide fair service and billing. The year prior, Philadelphia had an estimated 1.4 million people and 270,000 homes along with thousands of commercial buildings, public buildings, and factories.³⁶ A little over 5 percent of the city's structures were electrified. That number comprised few domestic structures, at most a third (4400 homes), and those would have likely been affluent customers building new homes, or what later analysts would call early adopters.³⁷ Data from 1911 provides a snapshot of electrical adoption trends. That year the company gained 6800 new customers, and in an advertisement, noted that "between two and three thousand dwellings were wired," and "four or five hundred of them were two story residents."³⁸ Using the median of 2500, roughly thirty-six percent

³⁴ Roger W. Moss, *Lighting for Historic Buildings* (New York: Wiley and Sons, 1988).

³⁵ PECO statistics do not distinguish between commercial, industrial, or domestic use. PECO, *Bulletin* 4, 4 (December 1909): 3.

³⁶ Taylor, *The Philadelphia Electrical Handbook*, 7.

³⁷ Unfortunately, PECO did not report whether these numbers were industrial or domestic customers in their Annual Reports, *Bulletin*, or *Current News* at this time; those statistics came later.

³⁸ Gain from PECO, *Bulletin* 14, 4 (1919), 14. Dwellings from "If it Isn't Electric," *Philadelphia Inquirer*, April 8, 1912.

of total new connections for 1911 were dwellings. Out of those connected houses, only eighteen percent, or seven percent of all connections, touched the two-story homes of the lower working class. Since a majority of Philadelphians rented (over seventy percent), the overwhelming lack of agency experienced by most Philadelphians likely explains the slow rate of wiring adoption; landlords were far less likely to adopt the latest technology. The statistics provide a rough idea of how few Philadelphians used electricity by the beginning of the 1910s.

Selling Domestic Service

PECO had room for growth, and in the coming decades, the company and their counterparts around the country began a new phase of advertising and corporate development to cultivate the domestic market. Previously overlooked by the industry for being unprofitable, electrical companies experimented with attracting and servicing homeowners for the first time.³⁹ Beginning in 1906, PECO began enacting an array of approaches to cultivate Philadelphians. Many of the approaches that emerged during this first decade have been well covered by scholars, including soliciting door-to-door, coordinating with the appliance manufacturers, and catering to middle-class women.⁴⁰ This material uncovers the ways in which electrical companies

³⁹ Historians have observed the lack of interest in domestic consumers in the initial years of many companies. Many companies initially assessed domestic lines as not profitable enough. Historian David Nye cites 1905 as a turning point for interest in domestic customers, explaining the introduction of the *Bulletin* in 1906. Nye, *Electrifying America*, 260; Toby, *Technology as Freedom*, 12-14.

⁴⁰ Carolyn M. Goldstein, *Creating Consumer: Home Economists in Twentieth-Century America* (Chapel Hill: University of North Carolina Press, 2012); Hughes, *Networks of Power* (Baltimore: Johns Hopkins University Press, 1983); Nye,

tried to cultivate ordinary homeowners in preexisting homes and nullify their concerns. Some of the concerns were about the electrical technology. However, to a larger degree people's concerns about adopting house wiring was about the cost and inconvenience. Through the 1910s, promoters experimented in ways to address these concerns, eventually developing the full service installation program.⁴¹

PECO spent many of its initial years trying to combat efforts for municipal ownership and counteract its negative public image as a “grinding monopoly” and “soulless corporation.”⁴² Helping its effort was the well-known corruption of the gas company and the tax expense that would have been required to build a municipal electrical system if it was owned by the city. In reality, the capital investment to build an electrical system was enormous. In 1906, the company launched the *Bulletin*, which was distributed to current customers with their bills.⁴³ PECO officials said the insert

Electrifying America(Cambridge: The MIT Press, 1990); Pursell, *The Machine in America* (Baltimore: Johns Hopkins University Press, 2007).

Tobey, *Technology as Freedom* (Berkeley: University of California Press, 1996). Patterns in PECO marketing approaches are evident from a mixture of internal, trade, and advertising sources, including the internally-circulated *Current News*, externally-distributed *Bulletin*, solicitors' handbooks, and reports to trade organizations such as NELA and trade journals.

⁴¹ Ronald Toby argues that utilities had “little understanding of domestic consumers and marketing.” He suggests this is particularly the case with home household management. Toby, *Technology as Freedom*, 13. An example of this dynamic in Philadelphia: Clara Zillessen, “What I Found out on a Residence Survey,” *Electrical World* 80, 3 (July 1922): 125-127.

⁴² PECO, *Bulletin* 1, 1 (1906): 2.

⁴³ In the early years of publication, authors were rarely named in these pieces. Later, they incorporated “guest” authors, though the names and credentials could have

was meant to “boost confidence and satisfaction,” but in reality, the company used it to help improve the perception of the company and its practices.⁴⁴ As company authors explained, “The generating and selling of electricity contains no secrets, there is nothing arbitrary or unusual about it. It is a plain business proposition, no more involved than in the every-day purchase and sale of any ordinary commodity.”⁴⁵ Coincidentally, one of the first articles, aptly titled the “Truth about Meters” explained to customers how the meter worked and how the meterman measured their usage.⁴⁶ Reading this article, they hoped, would turn the meter from “a monster of aggression” to “a very good friend.”⁴⁷ Building trust in the company, the service, the wires, and even the meter, were initial company concerns.

Marketing electrical service went hand-in-hand during this period with efforts to solidify the integrity of the company. This first period of domestic marketing saw the emergence of the electrical solicitor, the man from the central station who went door-to-door selling electrical service. PECO employed solicitors in the commercial department of every district, and they served as an advertising arm reaching into communities and neighborhoods and often coordinated between the customer, contractor, and company for installations. These men sometimes had no electrical

been fictitious. PECO, *Bulletin* 1, 1 (1906): 1. For more on the initiation of the *Bulletin*, see: Wainwright, *History of the Philadelphia Electric Company*, 91-92.

⁴⁴ PECO, *Bulletin* 1, 1 (1906): 1.

⁴⁵ *Ibid.*

⁴⁶ PECO, “The Truth About Meters,” *Bulletin* 1, 1 (1906): 4.

⁴⁷ *Ibid.*

experience, and learned about electricity from handbooks often distributed by the station.⁴⁸ When selling electrical service, the solicitor's primary objective was to defeat the "widespread ignorance" about electrical service that kept the public prejudiced against electricity.⁴⁹

The personal dynamics of the electrical solicitor provide an invaluable perspective to how Americans reacted to electricity in these early years. The knock at the door by the trolling solicitor often met an unwelcoming public, a scenario well understood and satirized by company employees in the internally-circulated *Current News*, which depicted a diminutive man greeted by a bulky and angry looking woman brandishing a threatening rolling pin. Yet, the solicitation effort was far more aggressive than the diminutive man implied. The solicitor maintained a systematic and organized card index that recorded the electrification status of every house in a district. On the index card might be notes about the house including its condition and value, the current means of illumination, and personal information about the residents.⁵⁰ The card also logged previous solicitation attempts and recorded if the

⁴⁸ R. S. Hale, "Value and Use of Solicitors' Handbook," *National Electric Light Association, Thirteenth Convention* (Washington, D.C.: NELA, 1907), 91-92. Out of the many handbooks that were distributed by power companies around the country, NELA consolidated twenty into a nationally-circulated handbook in 1909; PECO was not among the contributors: National Electrical Light Association, *The Electrical Solicitors' Handbook* (New York: NELA, 1909).

⁴⁹ National Electrical Light Association, *The Electrical Solicitors' Handbook* (New York: NELA, 1909), 4.

⁵⁰ These index cards and any other company information about installation and solicitation appears to have been long discarded because of company record retention policies. An exhaustive search of the Corporate Archive at the Philadelphia Electric Company headquarters in Philadelphia, PA yielded no retained records of this kind.

house was already wired without a connection. Ideally, a solicitor would conduct personal interviews with the head of every household, a job often done in the evenings. The spotty nature of connecting old houses and soliciting one household at a time was less profitable and took more time than securing large industrial clients; however, the increasing attention paid by the PECO to its domestic market illustrates the necessity of that sector for business expansion.

These door-to-door efforts were supplemented by material in the *Bulletin* and other company departments, which largely attempted to expand the service of existing customers or along existing lines. To facilitate this, PECO established the Commercial Inspection Department, staffed with engineers who could study people's lighting to ensure they were using the right candlepower and shades in each room. While the company offered to make the lighting sufficient and economical, the inspection service also likely served as a very convenient opportunity to sell more lighting, or even additional services, to customers.⁵¹ With the inclusion of promotions and special offers, the *Bulletin* editors also asked readers to pass the material on to friends and neighbors, presumably to acquire new customers near a preexisting line of service. This promotional approach allowed PECO to boost profits on preexisting lines, saving the company construction costs.

One of the most prevalent advertising approaches in the *Bulletin* was the promotion of electrical appliances. While many scholars have focused on the ways in which manufactures advertised their products, there has been less examination of the

⁵¹ There are no records of this department in the corporate archives to substantiate what employees attempted to accomplish during these inspections. PECO, "Inspection Economy," *Bulletin* 1, 2 (1906): 4.

dependence of utility companies such as PECO on this same approach when trying to reach domestic consumers.⁵² Just like their manufacturer counterparts, PECO marketers directed much of their material towards women, and joined the push by Progressive domestic scientists and home economists for more scientifically managed households, particularly efficient kitchens with electrical appliances.⁵³ In 1906 editors were borrowing from articles that had previously appeared in *Ladies Home Journal*.⁵⁴ In 1907, PECO highlighted the “Home of the Idealist,” which included a kitchen full of electrical devices.⁵⁵ By 1911, well-appointed “Gibson Girls” in advertisements provided by General Electric (GE) were shown serving food from electric chafing dishes and coffee urns.⁵⁶ The strategic marketing approach was even overtly described by PECO advertiser Clara H. Zillessen in “Capitalizing the Feminine Appeal,” which summarized PECO’s effort to cultivate female household members for readers of the

⁵² There is a wide body of literature on advertising electricity through appliances, much of which focuses particular attention to GE products, whose marketing had a far reach. For examples, see: Nye, 262-265; discussion of illumination and refrigeration advertisement in Roland Marchand, *Advertising the American Dream: Making Way for Modernity, 1920-1940* (Berkeley: University of California Press 1985).

⁵³ Cowan, *More Work for Mother* (New York: Basic Books, 1983); Goldstein, *Creating Consumer* (Chapel Hill: University of North Carolina Press, 2012); Dolores Hayden, *The Grand Domestic Revolution: A History of Feminist Designs for American Homes, Neighborhoods, and Cities* (Cambridge, Mass.: MIT Press, 2000 (first printing 1982); Gwendolyn Wright, *Moralism and the Model Home: Domestic Architecture and Cultural Conflict in Chicago, 1873-1913* (Chicago: University of Chicago Press, 1980).

⁵⁴ PECO, “Confessions of a Burglar,” *Bulletin* 1, 2 (1906): 13.

⁵⁵ PECO, “The Home of the Idealist,” *Bulletin* 2, 1 (February 1907): 8.

⁵⁶ PECO, “The Use of Electricity in Summer,” *Bulletin* 6, 2 (June 1911): 8.

nationally-distributed *Electrical Merchandise*.⁵⁷ Marketers at the utility companies were one of many voices contributed to a widely-dispersed set of messages and images that promoted these appliances, much of which was geared towards women.

Much of the appliance advertising described the many ways that electrical devices would improve people's comfort and convenience or save money. Electric fans dominated marketing in the warm months.⁵⁸ If readers enjoyed coffee "well made" they were advised to use an electric coffee urn.⁵⁹ By the late 1910s, arguments for appliances were being framed by middle-class concerns about finding and retaining household servants. One advertisement for washing machines reminded readers that "a washer-woman's wages and meals will cost nearly \$100 per year; an Electric Washing Machine will do the same amount of washing as the woman at a cost of about \$7.50."⁶⁰ In this approach, PECO attempted to reach customers by circumventing the electrical service they provided, and instead focusing on the appliances that customers would use.

Hoping to lure people into electrical service with appliances, power companies like PECO also created programs to help homeowners to acquire them. One method

⁵⁷ Clara H. Zillessen, "Capitalizing the Feminine Appeal," *Electrical Merchandise* 16, 6 (December 1916): 261-263.

⁵⁸ Such pieces appeared annually, but one example was: PECO, "The Use of Electricity in Summer," *Bulletin* 6, 2 (June 1911): 8.

⁵⁹ PECO, *Bulletin* 1, 2 (1906): 8-11.

⁶⁰ PECO, "Short Circuits," *Bulletin* 9, 1 (1914): 24. The connection between advertising electrical appliances and the "servant problem" has been covered by scholars, for example see: Cowan, *More Work for Mother* (New York: Basic Books, 1983); Nye, *Electrifying America*, 271-272.

was to allow customers to try appliances for free on a 30 day trial.⁶¹ Reporting on this policy to the National Electric Light Association in 1907, F. H. Golding advised that solicitors could use an electric iron, hot pad, sewing machine, “or any other appliance that he thinks will most appeal to his prospect....”⁶² Eventually, he reassured, “before the householder realizes it, he is relying on electricity for his light and various other needs and wondering how he could have gone without it so long.”⁶³ Within the electrical trade industry, this approach was known as a “wedge,” and it allowed the company solicitors to “gradually extend the uses of electricity in a home....”⁶⁴ The industry reliance on the “wedge” reflected an anticipation that once homeowners had begun incorporating wiring and associated lighting or appliances, people would soon rely on them and eventually expect them.

Perhaps ahead of its power generation partners, NELA also suggested using electrical installation as a wedge in 1907. PECO did not use this approach until 1916, but others counterparts did with great success. With a “liberal” policy of installation, central station operators were advised to connect houses, no matter how small the anticipated usage; this would have been appealing to customers who only wanted illumination. NELA argued that eventually, the electricity would become a habit and inevitably leads to a more extended use.” One company who followed the scheme

⁶¹ PECO, *Bulletin* 2, 1 (February 1907): 13.

⁶² F. H. Golding, “How to Get the Old Buildings Wired,” *National Electric Light Association, Thirteenth Convention* (Washington, D.C.: NELA, 1907), 72.

⁶³ *Ibid.*

⁶⁴ *Ibid.*, 8-9.

increased its business in the preexisting home market by 700 percent in 18 months.⁶⁵ Perhaps skeptical of the true profitability of such an approach, PECO did not adopt liberal installation policies until the next decade when the company's lines were more pervasive and such an approach required little capital.

By 1908, marketers at PECO and throughout the industry suggested that electrical service was integral to the middle-class standard of living, hoping to transition electrical service from a luxury into a necessity.⁶⁶ Looking to set the tone of the effort, in 1908 PECO unveiled its new catchphrase: "If it Isn't Electric, it Isn't Modern!" Many middle class Americans experienced modern standards while traveling; realizing this, marketers rhetorically asked, "You wouldn't stay at a Hotel that did not use Electric Light—why do you tolerate anything else in your own home?"⁶⁷ Tapping into the competitive nature of middle-class social advancement,

⁶⁵ *Ibid.*, 71.

⁶⁶ For broader discussion of middle-class standard of living, see: Lawrence B. Glickman, "Inventing the 'American Standard of Living.'" *Labor History* 34, 2 (1993): 221-235; Marina Moskowitz, *Standard of Living: The Measure of the Middle Class in Modern America* (Baltimore: Johns Hopkins University Press, 2004). This kind of transition has been covered for many objects and services in a variety of periods, for example see: Richard L. Bushman, *The Refinement of America: Persons, Houses, Cities* (New York: Alfred A. Knopf, 1992); John E. Crowley, "The Sensibility of Comfort," *American Historical Review* 104, 3 (June, 1999): 749-782; Daniel Horowitz, *The Morality of Spending: Attitudes toward the Consumer Society in America, 1875-1940* (Chicago: I.R. Dee, 1992). For electricity specifically this has also been covered, for example, see: Nye, *Electrifying America*, 243-247, 264-270; Tobey, *Technology as Freedom* (Berkeley: University of California Press, 1996).

⁶⁷ PECO, *Bulletin* 7, 1 (March 1912): 12. Historian Andrew K. Sandoval-Strausz shows how many middle-class Americans first experienced and acquired a taste for luxuries like electricity at hotels. Andrew K. Sandoval-Strausz, *Hotel: An American History* (New Haven: Yale University Press, 2007).

electrical solicitors were encouraged to “play upon [the] social pride” of homemakers by discussing what her neighbors were doing.⁶⁸ When demonstrating the safety, comfort, convenience, or savings of electricity did not move enough sway, marketers tapped into an undefined and subconscious middle-class culture of propriety and upward mobility.

In this early wave of advertising, PECO also targeted the real estate market. In a city with majority renters (73.4 percent in 1910), this approach was particularly important. PECO and other electrical promoters attempted to drum up market demand for wired rental houses. As early as 1907, NELA was directing its members to place ads in the newspaper real estate and rental sections “advising the prospective purchaser or lessee to consider the desirability of electricity and avoid houses without it.” By the end of 1909, despite the fact that only a minority of houses had electricity, PECO insisted no renter or buyer should choose a house that was not electrified.⁶⁹ “You can ‘pick and choose’ now-a-days,” prompting readers, “so simply refuse to consider any property which is not wired for Electricity.”⁷⁰ This strategy was likely more influential in new construction rather than in preexisting houses; many poor and

⁶⁸ National Electrical Light Association, *The Electrical Solicitors’ Handbook* (New York: NELA, 1909), 11.

⁶⁹ PECO had only 27,000 customers in a city of nearly 286,000 dwellings. 1910 Census cites 295,220 dwellings. US Census, “Table 5,” in *U.S. Census, 1910: Abstract with Pennsylvania Supplement* (Washington: Government Printing Office, 1913). Licenses and Inspections reported 8991 new buildings in 1909. “...no one should think of making a purchase or signing a rental contract unless the owner or builder has an electrically wired property to offer” PECO, *Bulletin* 4, 4 (December 1909): 16.

⁷⁰ PECO, *Bulletin* 5, 2 (June 1910): 3.

working-class Philadelphians who could not afford the higher rents of electrical houses sufficed without electricity.

As the largest group of home owners in the city, landlords played the greatest role in the electrification of Philadelphia houses, and their priorities often did not match those of their renters. Owners of rental housing had little incentive to invest much capital if higher rates were not a guarantee. Landlords also needed to balance the investment of installation with the increased return they might receive in rentals.⁷¹ Landlords could only raise the rate according to the capacity of their rental market. Market demand for electrified homes needed to be high enough to warrant the investment; in poorer communities this was less likely than in more prosperous areas of the city.

Between 1905 and 1910, 16,000 customers purchased electrical service, nearly doubling the usage during that period.⁷² However, the electrification rate of houses in the city was no more than 11 percent; in 1910 the city had 295,220 dwellings and 31,783 electricity customers.⁷³ To place it in economic perspective, there were only 87,051 houses owned and of those 38,041 houses owned free of a mortgage in the city that same year, these people would have been far more likely to invest in wiring than

⁷¹ In 1910, 73.4 percent of families rented. Newman, *Housing in Philadelphia*, 33.

⁷² PECO, *Bulletin* 14, 4 (1919): 14.

⁷³ Electrification numbers do not distinguish between property types. A far greater proportion of commercial and industrial properties were electrified. For housing number, see: US Census, "Table 5," in *U.S. Census, 1910: Abstract with Pennsylvania Supplement* (Washington: Government Printing Office, 1913). For electrification number, see: PECO, *Bulletin* 14, 4, (1919): 14.

their renting neighbors.⁷⁴ The reality was that few in the working-class city of Philadelphia had the expectation of electrical service, and 73.4 percent of Philadelphia families rented, making their access to electrification dependent on the economic decisions of their landlords.⁷⁵ In 1911, the average working-man's home was constructed with gas and plumbing, and reformers advocating for better housing standards for the poor were satisfied when these services were provided—electricity was noticeably absent from the set of middle-class Progressive expectations for Philadelphians.⁷⁶ Marketers at PECO and national trade organizations encountered consumers who were apprehensive about electrical service or who could not see an immediate benefit for housing that they often leased to rented.

In the 1910s, electrical promoters developed a new approach to selling electricity that targeted owners of preexisting homes and concentrated on the wiring process. In doing so, the industry employed the rhetoric and strategies for selling home alteration projects that architects, tastemakers, and manufactures developed in the preceding decades. Like Woollett and Mason, electrification promoters sold a project—wiring—instead of a product—electricity or appliances. Also like Woollett and Mason, electrical promoters ignored the material disruption that a large alteration project created. Like Mason, promoters encouraged homeowners (especially women), to understand the technical workings of electricity and plan their installation. Like

⁷⁴ 43.7 percent of the owned properties were owned free, 26.6 percent of all dwellings were owned: Newman, *Housing in Philadelphia*, 33

⁷⁵ Newman, *Housing in Philadelphia*, 33

⁷⁶ Helen L. Parrish, *One Million People in Small Houses* (Philadelphia: National Housing Association Publications, 1911).

manufacturers and professional builders, the middle-class marketers assumed their audience would hire contractors instead of doing work themselves. To speak to owners of old houses, electrification promoters had to educate consumers (through a rose colored lens) by describing the wiring process. They demystified the installation and mechanical processes of a technological system for marketing purposes.

In reality, the advertising approach illustrates the multifaceted problems homeowners of old houses posed for PECO. Unlike a builder constructing an entire block of new speculative houses, the company needed to solicit owners of preexisting homes individually.. In addition, each preexisting house was connected separately, diminishing any potential for efficiency, unlike a row of new houses that could be connected all at once.⁷⁷ This problem largely explains why PECO and many other companies hesitated to introduce a liberal installation policy in 1907. The costs were prohibitive until their lines permeated more of the city. Old houses required more time and labor for the company during solicitation and installation. Even within a radius of a few blocks, the electrification process could be drawn out over several years.

Yet, by the 1910s this large pool of potential customers could not be ignored. When it focused on preexisting homes, PECO directed its marketing at the quarter of a million households living in old houses. In 1910, at least 263,000 Philadelphia households opted out of or were excluded from electricity.⁷⁸ That same year, 54,000

⁷⁷ For a perspective on working with new construction, see: J. Sheldon Cartwright, "How to Get the New Buildings Wired," *National Electric Light Association, Thirteenth Convention* (Washington, D.C.: NELA, 1907), 80.

⁷⁸ PECO reported 31,783 customers for that year (no detail of industrial, commercial or domestic. PECO *Bulletin* 14, 4 (December 1919): 14. According to the 1910 census, Philadelphia had 295,220 dwellings: US Census, "Table 5," in *U.S.*

houses were at least ten years old, 187,000 houses were at least twenty years old, 89,976, houses were at least fifty years old, and 15,814 houses were 100 years old.⁷⁹ In other words, most dwellings in Philadelphia were already built: at least 241,589 of the 295,220 reported in 1910.⁸⁰ At the time electricity was first introduced to Philadelphia, there were already 187,000 houses to wire, and because of the slow rate of adoption, that number mounted every year.

In 1912, PECO changed its tactics by explicitly addressing owners of old homes for the first time. Borrowing heavily from a pamphlet entitled “Wiring a Home,” *Bulletin* editors tried to educate Philadelphians on the wiring process and convince them the project was only a minor irritation.⁸¹ In an ambitious effort to brush over the messiness of wiring, PECO marketers cautioned, “Don’t believe for a moment that the work of wiring involves noise, dirt, confusion or inconvenience for

Census, 1910: Abstract with Pennsylvania Supplement (Washington: Government Printing Office, 1913).

⁷⁹ House numbers: 1910: 295,220; 1900: 241589; 1890: 187,000; 1860: 89,976; 1810: 15,814 US Census for 1910, 1890; for 1810: James Mease, *The Picture of Philadelphia*, 32-35.

⁸⁰ For perspective, as of 2014 there are approximately 449,000 “dwellings.” Census reported 670,401 housing units, with 33.2 percent of those as housing units in multi-unit structures. With the advent of condos, an equal comparison with older statistics is difficult. It should be noted that there have always been instances of multiple families per dwelling. U.S. Census Bureau, *State and County Quick Facts*, <http://www.census.gov/quickfacts/table/INC910214/42101> (Accessed: October 14, 2015).

⁸¹ I have been unable to locate the original version of this pamphlet (see foot note 1), so must rely on quotes as reprinted by the Philadelphia Electric Company. While the *Bulletin* was circulated to current customers, the advertising campaigns that occurred in it were also often replicated on trolleys, in newspapers, etc.

even a short space of time in your household.”⁸² Marketers’ use of this pamphlet suggests that they perceived the disruptive nature of wiring as the primary inhibiting factor for owners of old homes.

To prove otherwise, PECO provided extensive, though optimistic, detail on the installation process. According to the pamphlet, the electrician entered the home with only a few requisite supplies in a neat leather bag and put his tools and other equipment out of the way in the garret or cellar—both work spaces removed from social activities. All estimates and costs would be set before hand, an implicit reminder that home occupants would not have to squabble with workers over price or the quantity of service. Authors of the pamphlet explained the ways that a wire might enter the house, thus connecting it to the power system. Readers of the installation process also learned how a wire was installed, and the pamphlet went so far as to explain the technical processes of “fishing” and the “snake,” a thin steel tape. In an educational blitz, authors attempted to remove any ignorance or confusion about the wiring process. (Figure 22)

For modern illumination options, the ease of electrical installation far surpassed that of gas. Electrical wires were flexible; they passed through joists in ceramic tubes and could be snaked through the floor spaces and other gaps that existed in nearly every building. Gas piping was far more challenging; gas flowed through solid metal pipes that were larger and less flexible. When electrical wires reached a box, they were spliced and connected to a light fixture or outlet that fix on the exterior of preexisting walls or inserted next to studs by cutting away plaster and lath. The fire

⁸² PECO, “Is Your House Wired,” *Bulletin*, 7, 3 (September 1912): 6.

risk was encased in the box, and the fixture was safe for occupant use. For gas, conduits of piping came from walls and ceilings directly to the fixture, at which point users opened or closed the gas valve on the burner. When modernizing a house, people surely considered factors about installation materials, usage rates, and flexibility of the house before purchasing an upgrade.

Literature about installation brushed over the messiest realities of modernizing a home. Wiring promotional material explained that the house would be free of “litter, noise and mental anguish.”⁸³ Authors described the installation as quiet, with only the sound of the occasional hammer or saw being audible. The process would be clean. The electrician would repair all parts of the house damaged during the project, which authors assured was minimal. A few floor boards, isolated to overlooked closets, would be pulled up and nailed back down. No holes would be visible. Furniture and bric-a-bracs would be undisturbed. “All you have to remember the electrician by when he is gone,” authors concluded, “is the mark of handy-work—the fixtures, the switches, the light.”⁸⁴ The description portrayed the process as painless, easy, and clean.

⁸³ *Ibid.*

⁸⁴ *Ibid.*, 6-9.

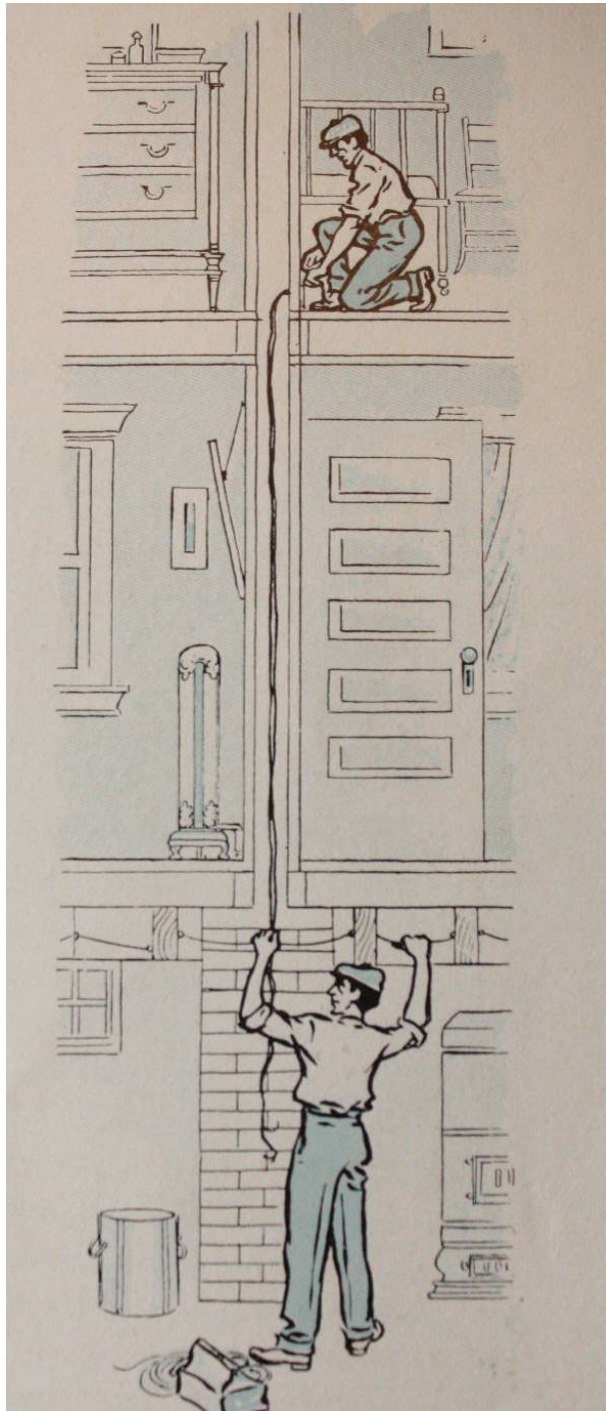


Figure 22 Demonstration of fishing wires. PECO, *Bulletin*, 1912.

Predictably, there was a divergence between the reality of wiring a house for electricity and the way marketers described the process.⁸⁵ Readers who previously brushed with construction projects (even minor) would have known that wiring a house was not so simple. An electrician with time and consideration could perhaps attempt to lift a floor board; however, tongue and groove flooring when pried apart from the once snug joint did not disassemble or reassemble so neatly. With an indifferent installer, floorboards were often cut indiscriminately, at times in visible spots or even across planks.⁸⁶ Once through joists and in walls, getting the wire to the right location also created more of a mess than the authors described. An inexperienced electrician might miss the correct spot or underestimate the location of his wire, resulting in excessive drilling. Plaster did not fall away in “little chunks.” Working with high-quality plaster walls results in dust in the air, which settles everywhere including on furniture, bric-a-bracs, clothes, and food. Poor quality plaster containing too much sand crumbles upon impact, resulting in a gritty mess that fell on the floor and scattered around the room. At times, whole chunks of plaster might separate from the lath and fall away from the wall, requiring patches beyond the

⁸⁵ For an example of contemporary wiring guide for old houses, see: Terrell Croft, *Wiring of Finished Buildings* (New York: McGraw-Hill Book Company, Inc., 1915). There is little mention of damage or clean up.

⁸⁶ Field work conducted by the author at one location found electrical wires fished through a house from the front to back by drilling holes through joists and cutting diagonally in planks in the central halls to access them. To hide the scarring from such a messy installation, the owner installed linoleum. This was perhaps planned beforehand and might explain the messiness of the installation.

fixtures and switches, all of which the electrician might be unqualified to fix.⁸⁷ If owners had parquet floors or solid (brick) walls, or the installation required cutting through excessive plaster, the owner was responsible for the cost of repairing the damage.⁸⁸ Many homeowners likely knew installation was a messy business.

Education alone was not enough to budge the rate of electrification in Philadelphia. The rate of expansion was 117 percent in 1912, average for a period of growth ranging from 114 to 122 percent.⁸⁹ Despite the seemingly positive data, the numbers were in actuality only a small fraction of all Philadelphia dwellings. Owners were making decisions based on fixed costs, and, with experience, PECO was better able to gauge the market. Perhaps explaining some of the growth, that same year, PECO reduced its rates, lowering them by 20 percent from .15 to .12 cents per kilowatt. Customers who used more power or paid within ten days received further discounts. At the same time, PECO also reduced its minimum rate charges to \$3 a month, down from \$4.62.⁹⁰ The minimum rate helped ensure a profitable business, and

⁸⁷ Author observed plaster damage during an electrical wiring installation in a plaster-on-lath home dating to ca. 1920. While the moisture content in the plaster primary and secondary coat is possibly different than in houses only 20-30 years old or the plaster keys more secure in the lath, the subsequent mess caused by drilling, etc surely existed in some degree to the one observed.

⁸⁸ This was customary (and still is) and such arrangement is detailed in subsequent policies for installation in 1916. PECO, "Wire-Your-Home League," *Philadelphia Inquirer* (June 12, 1916): 5.

⁸⁹ PECO customer numbers for 1909 to 1919. PECO *Bulletin* 14, 4 (December 1919): 14.

⁹⁰ PECO, "A Reduction in Rates," *Bulletin* 7, 1 (March 1912): 19.

PECO combined that policy with minimum periods of service that helped stabilize.⁹¹ Nevertheless, neither better rates nor education did much to shift Philadelphians' acceptance of electricity.

Noticeably absent from the 1912 campaign was the cost of installation. It is perplexing that electrical marketers experimented with new approaches that focused on detailed technical information but ignored budgeting and cost. At the time, the financial investment needed to wire a home was prohibitive for most Philadelphians: an estimate from 1914 quoted the average cost of electrical installation at \$92.00 (roughly \$2,100 in 2014), or 5 percent of the average value of a Philadelphia home, which was \$2000.⁹² By that time, the average installation project included twenty-five outlets (plugs and light fixtures) at \$4 each. The company suggested that illumination customers had an average of fifteen outlets: a porch light, a cellar light, a light in each room, and a few convenience outlets in parlor, dining room, or kitchen.⁹³ For many

⁹¹ Sample Residence Contract ca. 1910s, Album 16, PECO Corporate Archives.

⁹² It should be noted that while the monetary value is not comparable the average electrical installation in 2016 (\$8000 based on estimates received by author), a wiring project is estimated to be 5 to 15 percent of a house's value as quoted by electrician in: Emily Leaman, "Philly's Next Real Estate Boom," *Philadelphia Magazine*, March 6, 2016. Average home price in 1910s: Helen L. Parrish, *One Million People in Small Houses* (Philadelphia: National Housing Association Publications, 1911). No known PECO installation contracts from this period exist. A potential source was the PECO Corporate Archives, which contained a file of old electric bill from a 1940 contest. However, it yielded no installation information for PECO (it contained a few earlier installation contracts from incorporated companies). PECO, "\$92.00 the Average Cost of Installing Electric Wiring in 400 Already-Built Philadelphia Homes," *Bulletin* 9, 3 (September 1914): 16.

⁹³ PECO, "\$92.00 the Average Cost of Installing Electric Wiring in 400 Already-built Philadelphia Homes," *Bulletin* 9, 3 (September 1914): 17.

people, pursuing a full installation of electricity, even in the small Philadelphia row house, was invasive and costly.

When choosing to upgrade homes, homeowners weighed electrical service against many other options and priorities; the lack of enthusiasm expressed in the electrical adoption rates helps us understand how ordinary people balanced the convenience of new technologies in the face of budgets. The \$92 needed for the average installation could also permit a homeowner who lacked a bath to mail-order a full suite of fixtures for nearly the same cost.⁹⁴ Philadelphia-based plumbing dealers offered complete bathroom installations for as low as \$54.⁹⁵ To place the price in broader economic perspective, Philadelphia's average new home selling price for the working class was \$2000, and these houses most often had only sewer, water, and gas. For many working-class Philadelphians, the cost of installation was equivalent to over half a year's rent or mortgage payment.⁹⁶ For most Philadelphians who rented, this choice was beyond their means, and landlords balanced these same numbers with the potential return in increased rental.

Full-service home alteration

In 1916, PECO launched a revolutionary marketing approach to preexisting homes. It incorporated every stage of a wiring installation project into its sales

⁹⁴ For an example, see: Standard Sanitary Manufacturing Co., *Modern Bathroom* (Pittsburgh: The Company, 1903).

⁹⁵ Norman and Smith, Advertisement, *Philadelphia Inquirer* (April 19, 1909): 13.

⁹⁶ Helen L. Parrish, *One Million People in Small Houses* (Philadelphia: National Housing Association Publications, 1911).

practices, mirroring its own corporate structure and even consumer credit services used by department stores and appliance manufacturers.⁹⁷ In a dramatic expansion of services, the company offered assistance in planning, financing, installing, and finishing. The goal was to make a turn-key operation. PECO hoped to “smooth out” difficulties customers encountered in trying to find a contractor, thereby preventing a customer from “becoming discouraged or indifferent or deciding to put the job off until next season.”⁹⁸ Integral to this approach was converting customers who only paid for lighting to full service and persuading customers on preexisting lines to electrify. This effort maximized profits on existing power lines with fewer capital costs. The approach became the model for domestic electrification efforts used by the company thereafter, and became instrumental for the mass adoption of electricity in Philadelphia during the interwar years.⁹⁹

⁹⁷ For credit, see: Susan Porter Benson, *Counter Cultures: Saleswomen, Managers, and Customers in American Department Stores, 1890-1940* (Urbana: Illinois University Press, 1986); Calder, *Financing the American Dream* (Princeton, NJ: Princeton University Press, 1999); William Leach, *Land of Desire: Merchants, Power, and the Rise of a New American Culture* (New York: Pantheon Books, 1993); Martha L. Olney, *Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s* (Chapel Hill: University of North Carolina Press, 1991); Martha L. Olney, “Credit as a Production-Smoothing Device: The Case of Automobiles, 1913–1938,” *Journal of Economic History* 49, 2 (1989): 377-391. For corporate operations in general, see: Alfred Dupont Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass: Belknap Press, 1977). For PECO corporate structure specifically, see: Wainwright, *History of the Philadelphia Electric Company*.

⁹⁸ “‘Wire Your Home’ Month,” *Electrical Merchandise* 15, 2 (February 1916): 44.

⁹⁹ In an assessment of domestic electrification rates in 1922, the company credited recent success to the 1916 campaign, stating, “The development of this activity in the wiring of homes is largely the result of a definite selling policy which was adopted in 1916.” M. C. Huse, “New Business from Old Houses,” *Current News* 18, 7 (May 1922): 1-2.

Amidst a growing war in Europe and a commission investigation closer to home, PECO launched its campaign in coordination with a “nation-wide wiring propaganda” to spur electrification of pre-existing homes.¹⁰⁰ NELA and the Society for Electrical Development initiated the national campaign to unify the many small advertising efforts around the country and “weld together every interest in the electrical field,” including power companies and manufacturers.¹⁰¹ The campaign began with “Wire-Your-Home” month in March and culminated with “America’s Electrical Week” in December.¹⁰² The 1916 campaign marks a shift in the industry-wide approach to domestic consumers in old houses, and set into place approaches used later when war-weary Philadelphia homeowners were suddenly eager for electrical service.¹⁰³

In Philadelphia, PECO expanded this initiative by establishing the “Wire-Your-Home-League,” a group of electrical contractors who worked with the

¹⁰⁰ The investigation by the Public Service Commission of Pennsylvania concerned fair rates and monopolization. See: Wainwright, *History of the Philadelphia Electric Company*, 116-119; quote from “‘Wire Your Home’ Month,” *Electrical Merchandise* 15, 2 (February 1916): 43.

¹⁰¹ The campaign was initiated in January 1916 at a meeting hosted by the Society for Electrical Development and included representatives from manufacturers and power companies, including PECO. “A ‘Wire Your Home’ Month,” *National Electric Light Association Bulletin* 10, 2 (February 1916): 119. (Hereafter *NELA Bulletin*); quote from “‘Wire Your Home’ Month,” *Electrical Merchandise* 15, 2 (February 1916): 43.

¹⁰² “‘Wire Your Home’ Month,” *Electrical Merchandise* 15, 2 (February 1916): 43-52.

¹⁰³ Wainwright, *History of the Philadelphia Electric Company*, 149.

company.¹⁰⁴ The Wire-Your-Home League brought a new level of customer service that enveloped the entire alteration project of wiring throughout PECO departments. The company cultivated a group of contractors who were allegedly “reliable,” and “trustworthy.”¹⁰⁵ It guaranteed installation by League contractors, improving quality control and created a standard set of fixtures for customers to choose from, reducing prices because they were bought in bulk. It developed a flat-rate wiring program that removed customer’s worry about unfair estimates. PECO even provided financing so customers could pay for installation, offering to pay the contractor bill directly and then allow the customer to repay PECO on an installment plan. As PECO dramatically increased the level of convenient services, it sought to nullify many of the concerns that kept home owners away from adopting electricity.

PECO management’s interest in increasing domestic service was in large part driven by the desire to increase returns on existing investments. George Levett, PECO employee in District “D,” reminded attendees of the Commercial Department meeting of NELA, that, “the primary purpose of the [Wire-Your-Home League] is to load up existing lines and that every new line built increases the void to be filled.”¹⁰⁶ In advertisements for the Wire-Your-Home League, one of the few conditions PECO

¹⁰⁴ “A ‘Wire Your Home’ Month,” *NELA Bulletin* 10, 2 (February 1916): 119.

¹⁰⁵ In a paper read before the Commercial Department of NELA, George Levett explained that the contractors were “the best in the business.” It went on to describe the men as timely, reliable, and having a “perfect knowledge of the rules and regulations of the Philadelphia Fire Underwriters Association and the Philadelphia Electric Company.” George Levett, “Wire Your Home League,” NELA, Commercial Department Branch Meeting, November 27, 1916, PECO Corporate Archives.

¹⁰⁶ *Ibid.*

included limited the program to buildings along existing lines.¹⁰⁷ Potential customers lacking electricity were left unsolicited until a line was closer, making installation economically beneficial for the company.

PECO introduced the League and campaign to the public through newspaper and journal advertisements, bill inserts, and trolley advertisements.¹⁰⁸ Perhaps cognizant of a skeptical public, one advertisement in the *Philadelphia Inquirer* opened with, “Wire-Your-Home League is more than an advertising or sales slogan....” and insisted it was a program that could help homeowners.¹⁰⁹ The campaign focused on preexisting houses, but directed the approach to a variety of occupants and owners. PECO hoped the owner of a house, the landlord with unsatisfied tenants, and even the tenant who “likes the “old home” and who needs only Electricity to be perfectly contented” would respond. At times embracing a Colonial Revival tone, PECO followed step with manufacturers who boldly claimed “No house is too old to be wired for Electricity” along with images of colonial houses.¹¹⁰ (Figure 23) For all who had an old and out-of-date house to consider, this was “their chance.”¹¹¹

¹⁰⁷ PECO, “Wire-Your-Home League,” *Philadelphia Inquirer*, June 12, 1916.

¹⁰⁸ PECO, *Bulletin* 11, 2 (June 1916): 24. An advertisement for this effort appeared in the *Proceedings of the Engineers Club of Philadelphia* 33, 140 (July 1916): 77.

¹⁰⁹ PECO, “Wire-Your-Home League,” *Philadelphia Inquirer*, June 12, 1916.

¹¹⁰ PECO, “No House is too old...,” *Bulletin* 11, 3 (September 1916): 17; General Electric, “No House is too old...,” *Electrical Merchandise* 15, 2 (February 1916): 51.

¹¹¹ PECO, “Wire-Your-Home League,” *Philadelphia Inquirer*, June 12, 1916..

THIS house, a particularly fine example of colonial architecture and associations, was wired for Electricity a few years ago, although it has been continuously occupied for nearly 150 years. It was in the thick of some of the Revolutionary fighting, and later was occupied by General Washington.

THIS house is nearly 200 years old. It has been wired for Electricity for a number of years, thus completing, one might say, the cycle of illuminants—from the candle of years ago to the electric light of today. This fine old house served as Washington's headquarters during the Battle of Germantown.

NO house is too old to be wired for Electricity; these two fine colonial houses have been brought up to date

Figure 23 Advertisement depicting Deshler-Morris house (top) in Germantown. PECO, *Bulletin*, 1916.

The biggest shift in the 1916 campaign from previous years was PECO's financing, coupled with lower rates and fixed fees, which made an installation project and service costs more affordable.¹¹² One advertisement for the League quoted the average installation costing \$63.34 for wiring and 59.20 for lighting fixtures.¹¹³ If customers arranged an installation with one of the contractors in the League, PECO would pay the bill and allow the homeowner to pay it back to PECO on installment in twelve or twenty-four months with no interest.¹¹⁴ The company also paid the bill for fixtures and allowed the customer to repay within two to six months with no interest. Like appliances, homeowners could also buy wiring installations on credit. This offer was popular: that year PECO reported that 85 percent of all new wiring customers used the deferred payment plan.¹¹⁵

The flat-rate schedule was another innovation that removed homeowner's confusion about wiring installations. With clearly published fee, customers could

¹¹² PECO enacted a deferred payment plan in 1914, but the specifics of what services were covered or the arrangement for repayment was not outlined in the PECO *Bulletin*, the only known reference to such a program. PECO, "\$92.00 the Average Cost of Installing Electric Wiring in 400 Already-built Philadelphia Homes," *Bulletin* 9, 3 (September 1914): 16. PECO set a city-wide flat rate of .09 cents a kilowatt and reduced minimum to .75 cents (it had been \$1 in alternating current districts and \$3 in direct current districts). PECO, *Bulletin* 11, 2 (June 1916): 1. The rate adjustment was largely in reaction to an investigation of the company: Wainwright, *History of the Philadelphia Electric Company*, 116-119.

¹¹³ PECO, "Wire-Your-Home League," *Philadelphia Inquirer*, June 12, 1916; the same rate also appeared in PECO, *Bulletin* 11, 3 (September 1916): 15.

¹¹⁴ PECO, "Wire-Your-Home League," *Philadelphia Inquirer*, June 12, 1916.

¹¹⁵ PECO, "Mrs. Happy Homemaker: Your Story and Mine," *Bulletin* 11, 3 (September 1916): 12.

determine on their own the scope of their wiring in a “mix and match” approach. Installations started at \$15 to \$25 based on the size of the house; basic ceiling boxes, or “outlets” started at \$2 and increased based on whether the customer wanted a switch.¹¹⁶ Industry promoters acknowledged the effectiveness of flat rates company profits, characterizing such an approach as “bait,” that drew an interested customer at a low price but would be susceptible to upgrades.¹¹⁷ This schedule made obtaining estimates from contractors within the League simple for customers, and also allowed any salesman to provide estimates, no matter how “ignorant” of the actual wiring process they were.¹¹⁸

As with previous electrical marketing efforts, PECO and other electrical promoters solicited women in the 1916 campaign. Standing center-stage of the campaign was “Mrs. Happy Homemaker,” a “sane, sensible, clear-headed, capable and likeable” woman developed by PECO advertiser Clara Zillessen.¹¹⁹ As part of the advertisements, Mrs. Happy Homemaker went over wiring plans and schedules, studying every component of the electrical service and deciding how to install it. This approach assumed a basic competency in lighting and electrical service (at least among middle class women), serving as a direct contrast to other advertisements and

¹¹⁶ *Ibid.*

¹¹⁷ “‘Wire Your Home’ Month,” *Electrical Merchandise* 15, 2 (February 1916): 49.

¹¹⁸ *Ibid.*, 52.

¹¹⁹ She was introduced in June 1916 and featured in a multi-page spread in September 1916. Zillessen explained the character in: Clara H. Zillessen, “Capitalizing the Feminine Appeal,” *Electrical Merchandise* 16, 6 (December 1916): 261-263.

the views held by home safety experts, who lamented women's ignorance of electricity.¹²⁰ Zillessen also intentionally avoided portraying the character as "shackled by the chains of household drudgery."¹²¹ However, reflecting idealized middle-class marital dynamics, Mrs. Homemaker still left the final decision about wiring to her husband.

While fictional homeowners featured prominently in the 1916 campaign, we know little about the actual homeowners who used the service.¹²² Many Philadelphians were beyond the service lines, excluding them from the offer.¹²³ The load map of 1917 reflects the disparate nature of the power distribution. (Figure 24) In the immigrant neighborhoods of South Philadelphia and Pennsport and the mill neighborhoods of Manyaunk and Kensington, there was almost no load distributed except for dock and factory locations. For overall program use the number is unclear; PECO reported 20,000 new contracts in the *Bulletin*, while PECO recorded 13,620 new consumers in their annual report (not all of whom were domestic); and historian Nicholas Wainwright noted that in actuality only 6,000 houses were wired under the program.¹²⁴

¹²⁰ For home safety experts, see: Tarr and Tebeau, "Managing Danger in the Home Environment," 802-803.

¹²¹ Zillessen, "Capitalizing the Feminine Appeal," 261.

¹²² No customer records exist in the PECO Corporate Archives, and no articles about its use appeared in the *Philadelphia Inquirer*.

¹²³ Because there are no customer installation records, I am also unable to take a sample of a street/ block/ neighborhood/ and assess the electrification.

¹²⁴ There was a lack of any reference to the Wire-Your-Home effort in the annual report. PECO, "America's Electric Week," *Bulletin* 11, 4 (December 1916): 1; PECO,

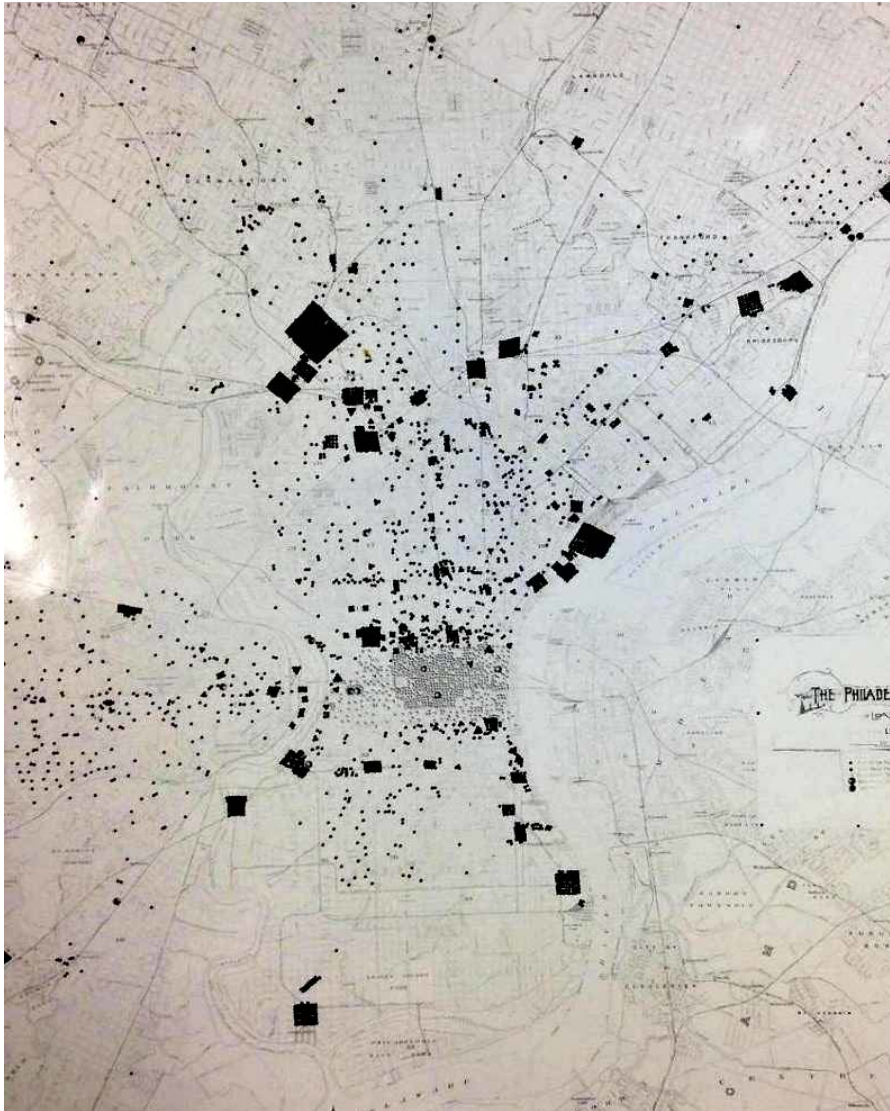


Figure 24 Load distribution 1917. PECO Corporate Archives.

Annual Report (Philadelphia: PECO, 1917), 6; Wainwright, *History of the Philadelphia Electric Company*, 149.

Philadelphians who used the program largely preferred doing so with deferred payment—an astounding 85 percent—suggesting that for the people who did want electricity, they perhaps lacked savings for the project but had the income to do it on credit.¹²⁵ PECO manager George Levett reported that amidst the 1916 campaign, middle-class householders with seven to nine rooms valuing \$2500 to \$4000 ordered an average of nine outlets, which cost \$72.12 to install (this number did not include fixtures).¹²⁶ This was far more conservative than the ambitious 15 or 25 outlets the company prescribed in 1914.¹²⁷ The disparity suggests that when the average Philadelphia household plunged into electrical service, they did so at a conservative level.

The contractors who composed the “League” for the Wire-Your-Home campaign are also an elusive group of historical actors¹²⁸ Described as the “dirtless workman,” PECO marketers lauded their virtues amongst Philadelphia electrical contractors.¹²⁹ PECO sales staff members were responsible for securing the contracts, and central station employees then coordinated with the contractors. PECO also took care of delivering the estimates and completing the billing. The scheme eliminated

¹²⁵ PECO, “Mrs. Happy Homemaker: Your Story and Mine,” *Bulletin* 11, 3 (September 1916): 12

¹²⁶ Levett, “Wire Your Home League,” PECO Corporate Archives.

¹²⁷ PECO, “\$92.00 the Average Cost...,” 17.

¹²⁸ No records in the PECO Corporate Archives, and I have had no success in locating an surviving records for the Philadelphia Electrical Contractors’ Association.

¹²⁹ Zillessen, “Capitalizing the Feminine Appeal,” 262.

much of the overhead for contractors, and it also dramatically diminished the level of interaction between the homeowner and the installer.

Many contractors had tenuous feelings regarding house wiring campaigns. Much of the apprehension stemmed from the profitability for contractors, who faced central stations wanting the lowest installation rates possible.¹³⁰ To meet the low schedule rates, many contractors felt compelled to use subpar materials or perform low-quality work, thereby endangering the public or requiring costly future repairs. Summarizing the dilemma, one contractor complained to readers of the *National Electrical Contractor* that “the manner of conducting these campaigns is conducive neither of high standards of workmanship, nor to legitimate profit....¹³¹ Most vexing to contractors was when the central stations conducted the wiring themselves, leaving them out of the business entirely.¹³² Finally, it did not escape the contractors’ notice that the central stations were only concerned with filling lines thereby increasing the sale of electricity and consequently increasing revenue. None of these problems helped the relationship between power companies and local electrical contractors.

¹³⁰ Editorial (unattributed), “The Wiring of Old Houses from the Contractor’s Point of View,” *Electrical Review and Western Electrician* 68, 1 (March 4, 1916): 418.

¹³¹ George E. Shepherd, “Should the Electrical Contractor Boost ‘Wire Your Home Time’ Campaign?,” *National Electrical Contractor* 16, 4 (February 1917): 50-51.

¹³² Editorial (unattributed), “The Wiring of Old Houses from the Contractor’s Point of View,” 418. This was a long-standing concern among electrical contractors. As early as 1907, NELA reported a backlash against central station wiremen. PECO complained that when contractors came in to add more outlets to a house, the estimate was higher than it ought to be to cover the “assumed profit they would have received on the original work.” Golding, “How to Get the Old Buildings Wired,” 75.

Collaboration like the Wire-Your-Home League reflects Philadelphia's unique positive relationship between a central station and contractors.¹³³ This was partly due to a long, proactive effort on the part of PECO to cultivate a working relationship with the local Philadelphia Electrical Contractors' Association.¹³⁴ Early in its operation, PECO had an installation department and sent out in-house wiremen, but ended the practice and instead coordinated with local contractors on behalf of the homeowner. Instead, there was active coordination between the electrical companies and local electrical contractors.

In 1916, the electrical industry summarized old house owners' concerns within three categories: First, homeowners were either ignorant or indifferent towards electrical conveniences; Second, homeowners were concerned about the mess of installations; Third, homeowners could not afford the high cost of wiring.¹³⁵ Within the span of a decade, between 1906 and 1916, PECO's advertising efforts, often coordinated with manufacturers and promotion associations, attempted to overcome all three of these. In addition, all approaches would continue in coming year. However, the "Wire-Your-House" campaign ultimately would serve as a model for the next decade, when more Philadelphians back from warfront and factory were ready for

¹³³ Complaints from contractors about the relationship with their central station in other cities can found in Shepherd, "Should the Electrical Contractor Boost 'Wire Your Home Time' Campaign?," 50-51.

¹³⁴ "Philadelphia's Good Work," *National Electrical Contractor* 13, 3 (January 1914) :54.

¹³⁵ By industry, I mean the central stations, the promoters such as the Society for Electrical Development, the manufacturers, and the contractors, all of whom noted these same concerns in various forms.

electrical service.¹³⁶ Lower rates and an integration of all steps in the alteration project was an important combination; yet, it was the deferred payment that resonated most with Philadelphians. As one electrical contractor observed, “pianos, phonographs, and automobiles are now very commonly purchased on installment plan,” so a “good wiring system with decent fixtures” could be carried out in the same way.¹³⁷

Old homes were instrumental for the growth of PECO, but convincing homeowners to adopt electricity was difficult. In 1918 amidst a war, Philadelphia had 104,000 customers, with the slowest period of growth that year at 107 percent. However, afterwards, Philadelphians resumed normalcy, and seemingly gained an appetite for electricity. That, coupled with a housing shortage, meant a dramatic rise in electrification in the early 1920s. PECO along with electrical industry promoters used the principles of the 1916 campaign—deferred payment for wiring, set schedules, and PECO managed overhead. Added to it was the requirement for one appliance procurement from PECO, which the customer could buy on deferred payment as well. In the first week of March, owners wired six hundred old houses.¹³⁸ Between 1920 and 1923, 79,000 owners of old houses became PECO customers.¹³⁹

Philadelphians like people around the country did not embrace electricity to the rate or degree that those in the electrical industry desired. Few American homes could

¹³⁶ Wainwright, *History of the Philadelphia Electric Company*, 148-150.

¹³⁷ Editorial (unattributed), “The Wiring of Old Houses from the Contractor’s Point of View,” 419.

¹³⁸ PECO, *Bulletin* 15, 1 (April 1920): 3.

¹³⁹ Wainwright, *History of the Philadelphia Electric Company*, 148-149.

accommodate the new range of popular appliances. In 1921, only about 30 percent of all American houses had electricity.¹⁴⁰ By 1919, an estimated 2 million Philadelphians lived within PECO's service area but only 102,000 of them were customers.¹⁴¹ In addition, these customers could have varying scale of wiring ranging from lighting systems to full service houses.

Increasingly, Philadelphians seemed swayed towards electrification by the growing sophistication of appliances. Like many counterparts, PECO sold appliances directly to its customers, often requiring a purchase to go along with new wiring financing. In 1923, electrical companies nationwide sold 31 to 41 percent of appliances. In an industry survey from 1925, utility companies sold 42.5 percent of appliances.¹⁴² To sell appliances, PECO continued to nag at women's social pride in pieces like "The Mrs. Who Wouldn't Be Electrified," which portrayed a worn housewife falling behind her more beautiful and successful neighbor.¹⁴³ The company continued its cyclical feature of fans, security lighting, kitchens, and electrical Christmas gifts and even supplemented that approach with model kitchens and houses.¹⁴⁴ Like their nation-wide counterparts, they also continued to incorporate

¹⁴⁰ *Ibid.*, 148.

¹⁴¹ *Ibid.*, 147.

¹⁴² Toby, *Technology as Freedom*, 20-21.

¹⁴³ Livingston Larned, "The Mrs. Who Wouldn't be Electrified," *Bulletin* 17, 1 (March 1922), 11-13.

¹⁴⁴ PECO unveiled its model kitchen in its electrical appliance shop in 1920. PECO, "Model Electric Kitchen and Laundry Open for Visitors," *Bulletin* 15, 1 (April 1920): 15.

changing servant class dynamics into their material.¹⁴⁵ Central stations continued to dominate the appliance market until the 1930s.

The rapid development of household appliances quickly outstripped earlier designs for electrical loads or safety. To PECO's dismay, many people relied on illumination wiring to meet their desire for appliances. Instead of upgrading their wiring, some people with an insufficient number of outlets used light sockets for plugs. (Figure 25) This unsafe practice was partly due to the fact that many early twentieth century appliance manufacturers developed cords with light-socket plugs that attached to ceiling lights or wall sconces instead those intended for outlets.¹⁴⁶ Later, light sockets came with an outlet to accommodate a small appliance used nearby. In an effort to sway its readers otherwise, PECO marketers insisted, "We must do away with climbing on chairs to connect the vacuum cleaner to the lighting bracket in the hall, and we want to stop connecting the toaster and percolator to the fixture over the dining room table and having the cords dangle down from the chandelier."¹⁴⁷ Yet, like many Americans, Philadelphians often functioned with patched together electrical service that was dangerous.

¹⁴⁵ "The Marys and Bridgets we have known are being replaced by a strange new type, who prefers to be called Miss Jones or Mrs. Smith." PECO *Bulletin* 14, 2 (July 1919): 6-8.

¹⁴⁶ For more on this and the development of the pronged plug, see: Fred E. H. Schroeder, "More 'Small Things Forgotten': Domestic Electrical Plugs and Receptacle, 1881-1931," *Technology and Culture* 27, 3 (July 1986): 525-543, particularly 529- 531.

¹⁴⁷ PECO, *Bulletin* 17, 1 (March 1922): 17.

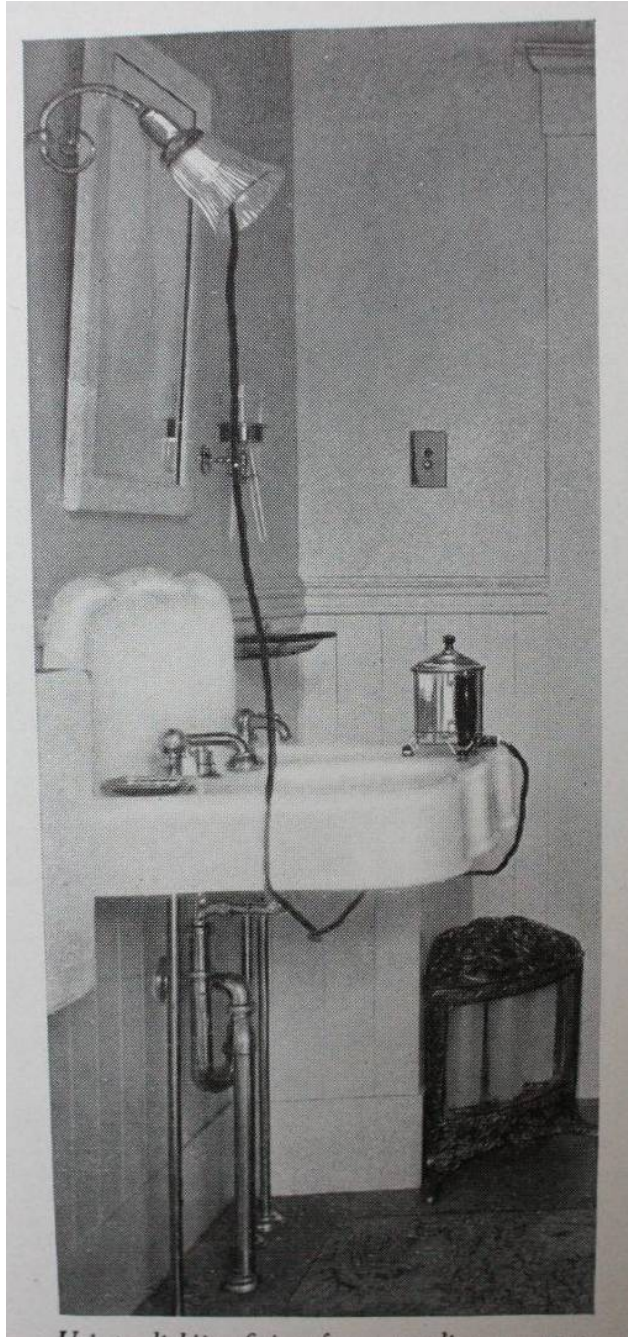


Figure 25 Light fixture for plug. *Bulletin*, 1920.

Part of this behavior was explained by evolving standards in the National Electric Code and its local adoption by cities. In earlier versions of the code, outlets for small appliances needed dedicated, heavier circuits (wires and fuses) capable of handling higher amperages; contractors were not supposed to add these outlets to illumination circuits that were limited to sixteen sockets, or fixtures. To save money, however, most contractors would install all illumination sockets on one circuit in the house, and forgo a separate circuit for convenience outlets. In addition, few cities required separate outlets for appliances because the earliest uses of electricity were usually confined to lighting and municipal codes seldom kept up with evolving appliance requirements. For their part, contractors and homebuilders had little incentive to install more than the bare minimum of one light socket per room.¹⁴⁸ Consequently, many state and municipal electrical codes were a confusing mixture of overlapping regulations and silences. Philadelphia's electric code was set by the state, but primarily focused on industrial settings, electrical equipment, and electrical service.¹⁴⁹ In practice, the Philadelphia Fire Underwriters' Association set the standard and conducted inspections.¹⁵⁰

¹⁴⁸ Toby, *Technology as Freedom*, 30-31.

¹⁴⁹ "Electric Code" *Engineers Club of Philadelphia* 34, 10 (October 1917): 450-476.

¹⁵⁰ *Annual Message of the Mayor...* (Philadelphia: City of Philadelphia, 1913): 252. I have thus far been unable to locate records of the Philadelphia Fire Underwriters' Association. Regulations only stipulate that they follow the "National Electric Code," and it most likely applied to new work, just as is practice today.

Electrical companies cooperated with appliance manufactures to promote full service and the adoption of more convenience outlets. They reminded Americans that appliances required separate outlets, a safety requirement seldom mentioned in advertisements. The absence of visual representations meant that people saw appliances that lacked a physical connection to an actual electrical system: the appliance was advertised, but not the electrical service that powered it. In 1919, John Learned, Chairman of the NELA Commercial Section proposed coordinating with appliance manufacturers to include electrical receptacles in their advertising material. In this approach, the advertisement would show the particular appliance and a cord connecting it to a receptacle. These advertisements were proposed for popular publications that primary catered to female audiences, including *Good Housekeeping*, *Women's Home Companion*, *Ladies' Home Journal*, and *House and Garden*.¹⁵¹ The intent was to boost consumer demand for full electrical service, reminding audiences that to get the convenience of an appliance, they needed to first adopt the service.

Even if houses had full service, it did not mean the household would liberally use it. Although PECO suggested there was a “quiet domestic revolution,” many householders were apprehensive about the cost of electricity itself, and housewives modulated electrical usage in order to maintain a low bill.¹⁵² People used vacuums monthly instead of every other day. Housewives use electric flatirons on the best

¹⁵¹ John G. Learned, “Complete Electrical Equipment for the Home,” *National Electric Light Association Bulletin* 6, 8 (September 1919): 473.

¹⁵² PECO, *Bulletin* 15, 1 (April 1920): 5.

fabrics while instructing their maids to use irons heated on the stove for other items.¹⁵³ As PECO vice president Charles J. Russell observed of Philadelphians, even as late as 1926, people resisted “an increase in the annual expenditure even in the face of continual education effort as to the advantages and economic benefits of a more liberal use of electric service.”¹⁵⁴ Concerned about controlling their electrical bills, people still used the new conveniences conservatively even if they could afford installation and appliances..

The National Electric Code ultimately changed much of the way Americans approached domestic electrical wiring. In 1923, changes to the code allowed for more outlets per circuit, reducing cost for full service. In addition, the code also made several changes to discourage plugging appliances into lamp sockets. The code required a separate circuit of heavier wire for convenience outlets and even heavier for large appliances like heaters. The code cautioned against socket plugs because appliances could burn out illumination wiring, causing a fire. Even though many cities delayed in adopting the code, it nonetheless set the new standard for modern electrification.¹⁵⁵ By prescribing a standard for electrical service, it helped inform a high quality electrical service, and implicitly set old houses that did not meet that standard as falling behind.

¹⁵³ Clara H. Zillessen, “What I found Out on a Residence Survey” *Electrical World* 80, 3 (July 1922): 126-127.

¹⁵⁴ Charles J. Russell, “Philadelphia Resident Studies,” *Electrical World* 87 (May 8, 1926): 1004. Quoted in: Tobey, *Technology as Freedom*, 12.

¹⁵⁵ Toby, *Technology as Freedom*, 30-31.

Electricity came to American houses slowly. In old houses in particular, wiring in one room or wiring only for illumination was far more practical. By 1922, 80 percent of the nation's houses had no electricity or minimal electrification for illumination only. Few houses had wiring for small appliances and even fewer had wiring for heating or stoves. Even by 1932, only 34 percent of the nation's houses had sufficient lighting and wiring for appliances. The other two-thirds of the housing stock lacked electricity or could not support appliances.¹⁵⁶ Most dwellings were wired for illumination only after the 1930s when the Federal government subsidized near universal electrification through New Deal programs.¹⁵⁷

Yet, throughout the early twentieth century, electrical industry leaders tried actively to sway people in old homes to wire them. No other industry collectively cultivated interest for home renovation like that of the electrical industry. Nor did any industry facilitate entire renovation projects, including planning and financing. The remarkable effort of central stations, manufacturers, promoters, and even contractors to solicit and finance the business of old house owners allowed the electrification of houses around the country. Yet, these campaigns have escaped much notice. Like most segments of home alteration, the rapid growth of electrification coupled with the mundane nature of home wiring projects resulted in their omnipresent yet ignored imprint on the physical landscape and historical narrative.

¹⁵⁶ *Ibid.*, 33.

¹⁵⁷ *Ibid.*, 29-31.

CONCLUSION

“...when you begin to fix up an old house 'tis a good deal like fixin' up an old coat, you may patch here and there till you are clean sick of it, still, in spite of all the fixin', patchin', and mendin' 'tis old jest the same.”¹

-*Scrabble of the Fairchilds*, 1895

Old houses were (and remain) a perennial challenge, and as long as people occupied them, they finagled and mended the structure, systems, skin, and space plan to suit needs and address decay and failure. The need to fix, patch, and mend old houses was inevitable, and for much of the human experience it had been a mundane aspect of life. In the late nineteenth century, economic, material, and legislative changes complicated the ways in which people could negotiate the physical fabric of their homes. “Fixin’, patchin’ and mendin’” could be enabled by cheaper products; inspired by more sources; prompted by new technologies; constrained or coerced by policy; and facilitated by installation programs. Home alteration was no longer the mundane experience it had once been.

Two ideas about home alteration prevailed and serve as an important barometer with which to assess and understand the changes to home alteration ideas. First, Americans’ continued taste for new construction affirms that most preferred to

¹ A. W. Hamilton, *Scrabble of the Fairchilds* (Boston: James H. Earle, 1895).

avoid the hassle of fixing up old houses.² Reflecting the sentiment that Cibber captured in his 1707 stanza, people feared the cost of mending old houses and many Americans bought new when money and supply allowed. Second, the constant work required in old houses because of changing tastes, decay, failure, or regulatory requirement meant that as long as buildings stood and housed, there was work to be done; this is a reality of old buildings, but people have not always recognized it as a problem. Modern Americans understood alteration within a framework that incorporated these two features as problems.

By 1920, transforming the old home was a more complicated process, but the experience could be eased by tools and services that helped people carry out the everyday upkeep of their homes. Plans helped people visualize solutions, and new materials allowed people to patch up their homes piecemeal as money and inclination allowed. Legislation protected people from unscrupulous contractors, but it also protected renters from landlords who lost interest in maintaining or improving their properties. Home alteration by credit allowed people to implement large-scale projects like house wiring. A much wider swath of Americans could pursue an alteration

² Michael J. Doucet and John C. Weaver, "Material Culture and the North American House: The Era of the Common Man, 1870-1920," *Journal of American History* 72 (December 1985): 560-587; Thomas C. Hubka and Judith T. Kenny, "Examining the American Dream: Housing Standards and the Emergence of a National Housing Culture, 1900-1930," *Perspectives in Vernacular Architecture* 13, 1 (2006): 49-69; Janet Hutchison, "Building for Babbitt: The State and the Suburban Home Ideal," *Journal of Policy History* 9, 2 (April 1997): 184-210; Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985).

project that dramatically transformed their old home into something new, and that process could be cheaper, easier, and safer.

Philadelphians, like most Americans, balanced their personal situations with broader material and economic options. People weighed the longevity of building materials with availability, convenience, and cost. People considered their own transience when contemplating capital investment. For people in bonded communities or with permanent residency, they considered their neighbors' safety and the independence and identity of the group. For people with generational or geographic ambition, the standard of their temporary rented residence might have meant far less than their idealized future home.³ Expectations were relative to time and place.

In Philadelphia, the integration of technology into city-wide infrastructure and building standards challenged people's expectations. The examination of home alteration exposes the reality that dynamic technological changes resulted in people's individual choices becoming ever-more physically fixed. A washstand and lamp could move from room to room (and even house to house) as tenancy and need changed, but a furnace, plumbed sink, and wiring could not. The permanency of new technology required careful thought and consideration. It was an investment that one could not take with them once purchased and installed, and it removed the ability of a household to be mobile and flexible. People needed to be sure that their current home, community, and opportunities were worth an investment of time and money.

³ Ronald Tobey, Charles Wetherell, and Jay Brigham, "Moving Out and Settling In: Residential Mobility, Home Owning, and the Public Enframing of Citizenship, 1921-1950," *American Historical Review* 95, 5 (Dec., 1990): 1395-1422.

Adopting new changes came slowly. Most Philadelphians sufficed with simple row houses with subtle hints of changing fashion that expressed minimal personal taste on the exterior, in contrast to the fashionable villas of the trolley-car suburbs and plan books. Rows of houses were the product of rapid speculative building and most Philadelphians altered them to add space instead of fashionable flourishes. Philadelphians also clung to candles and lamps well into the late nineteenth century. Since landlords owned a majority of Philadelphia houses, demand needed to be high enough and cost low enough to warrant electrification or other major changes. Plumbing and sewage solved vital needs for water and disease prevention, and regulatory requirements mandated basic plumbing by 1915.⁴ The more comfortable three fixture bath (tub, sink, and toilet) marked an important step for a middle-class standard of living that did not universally coincide with plumbing; some of the poorest Philadelphians were still using outdoor plumbed toilets into the mid-twentieth century.⁵ Kitchens and bathrooms were added on to preexisting houses as people could afford to do so. Change was incremental and certainly not linear or universal.

In patterns of home alteration, we can see the ways in which people prioritized significant economic decisions that had long-term consequences. Philadelphians

⁴ In 1915, the city required houses near a sewer to be connected and mandated that, “any house accessible to the sewer should have a water closet.” “An Act, June 3, 1915,” in *Philadelphia, Laws, Ordinances, Rules and Regulations* (Philadelphia: Dunlap Printing Co., 1918), 102-103.

⁵ For the observation about the three-fixture bath: Thomas Hubka: “The Transformation of Working Class Housing and Domesticity: 1880-1940,” Vernacular Architecture Forum Annual Conference, June 4, 2016. Presence of outdoor toilets documented by the Housing Association of the Delaware Valley Photographs, Temple University Libraries, Urban Archives.

witnessed the spread of new houses and the encroachment of new technologies, which they incorporated into their lives in different ways. For renters, it perhaps meant moving to a better house. For landlords, it meant adopting and renovating when market demand would yield profits that surpassed their improvement costs. For homeowner-occupants, it meant altering old houses if they could or would not buy new.

The modern changes to home alteration also illuminate significant public priorities about social and economic inequality that was increasingly expressed on the American landscape. Domestic technologies such as plumbing, heating, and electrical created a stark material contrast between households. The tools and services balanced out the complexities of building construction and the inequality of standards of living. They allowed people to do a primary human function: maintain their living spaces.

Communities, particularly when in close quarters, needed people to keep their homes in functional and safe condition. The living conditions of one's neighbors, whether they rented or owned, created direct economic, social, and physical consequences. People wanted to be surrounded with homes of similar condition, they wanted to eliminate deadly sanitary conditions, and they wanted to maintain home values and the social stature of communities. Cities also needed homes that were safe for the overall public good. When reform groups like the Octavia Hill Association and the Philadelphia Housing Association exposed the living conditions of the poor with muckraking reports, they not only advocated for the poor but exhibited the worst

conditions of neighbors.⁶ There was real incentive for facilitating, inspiring, and requiring home maintenance and improvement.

As Americans developed solutions for home alteration, it caused a shift in the ways in which people thought about their own household pursuits. People needed to strategize how to fit in domestic technology; alteration needed thoughtful planning and economic calculation. People also concentrated attention on the condition of upkeep for their neighbors as well; alteration was regulated and at times compelled. All of these changes required wide-spread acceptance of home alteration as something distinctive. Consequently, home alteration was set apart from the mundane and ascribed economic, social, and political value by modern Americans.

Home Alteration in the Twentieth Century

The changes between the 1870 and 1920s serve as a preamble to the more well-known experience of home alteration in the twentieth century. Beginning in the 1910s, a market geared towards people doing work themselves emerged that shifted people's home alteration experience again.⁷ The Do-It-Yourself (DIY) Movement of the twentieth century built upon the changes of decades prior, but marks a fundamental shift in the ways in which Americans performed and perceived home

⁶ The Octavia Hill Association famously made over old. Emily W. Dinwiddie, *Housing Conditions in Philadelphia* (Philadelphia: The Octavia Hill Association, 1904); Fullerton L. Waldo, *Good Housing that Pays: A Study of the Aims and the Accomplishment of the Octavia Hill Association, 1896-1917* (Philadelphia: The Harper Press, 1917).

⁷ Richard Harris, *Building a Market: The Rise of the Home Improvement Industry, 1914-1960* (Chicago: University of Chicago Press, 2012).

alteration. The phrase “do-it-yourself” was first used in print in 1912. The DIY movement was a self-conscious effort in which people, particularly the middle-class, took on the manual tasks of repairing and renovating their homes.⁸ Scholars such as Richard Harris documented the prevalence of do-it-yourself and “self-building” among the working class, who had technical building skills, or likely knew someone who did.⁹ However, self-building was embraced by the middle class in a new way.¹⁰

In the 1920s and 1930s, home alteration gained new attention amongst national civic leaders and the federal government. During this time, officials lauded the economic and social benefits of home alteration. The Better Homes in America (BHA)

⁸ For discussion of do-it-yourself as a middle-class hobby, see: Steven Gelber, “Do-It-Yourself: Constructing, Repairing, and Maintaining Domestic Masculinity,” *American Quarterly* 49, 1 (1997): 66-112; For a comprehensive catalog of do-it-yourself ephemera, see: Carolyn M. Goldstein, *Do it Yourself: Home Improvement in 20th-Century America* (Washington, D.C.: National Building Museum, 1998).

⁹ Several authors have reiterated the important role that skill and professional practice served to enable working-class individuals to own and maintain their homes. Perhaps most influential to this area of analysis is Richard Harris’s work on “self-building.” Anne Krulikowski highlights working-class families who leveraged building skills to obtain homes at a lower cost in the Southwest suburbs of Philadelphia. Michael Doucet and John Weaver found similar situations in Detroit and Pittsburg, where working-class rates of homeownership were high. These authors focus on working-class home ownership, but I suggest that the practices they observe are equally applicable to my study of home maintenance. See: Richard Harris, “Self-Building in the Urban Housing Market,” *Economic Geography* 67, 1 (Jan., 1991): 1-21; Anne Krulikowski, “A Workingman’s Paradise” The Evolution of an Unplanned Suburban Landscape,” *Winterthur Portfolio* 42, 2 (Winter, 2008): 267-268; Doucet, Michael J., and John C. Weaver, “Material Culture and the North American House: The Era of the Common Man, 1870-1920,” *Journal of American History* 72 (December 1985): 560-587.

¹⁰ Richard Harris, “Self-Building in the Urban Housing Market,” *Economic Geography* 67, 1 (Jan., 1991): 1-21.

spearheaded by Herbert Hoover is perhaps the best-known group.¹¹ Members of the BHA promoted home ownership and regular home maintenance as means of motivating responsible consumer behavior. Members also distributed government-produced literature on how to do so. For demonstrations, they repaired and modernized old homes throughout the country, with contrasting images of “before” and “after.”¹² Although the BHA was not directly affiliated with the government, because of Hoover’s affiliation with the group the Department of Commerce provided assistance. During this period, the promotion of home alteration at the national level relied upon already engrained ideas about home alteration that had emerged during the nineteenth century.

¹¹ Records of the Better Homes in America are held at the Hoover Institution Archives and the Hoover Presidential Library. They also published guidebooks, manuals and plans that were distributed to local chapters. Some include: Bureau of Information of Better Homes in America, *Better Homes in America: Plan Book for Demonstration Week* (New York, Printed by the Delineator, 1922); Caroline Bartlett Crane, *Everyman’s House* (New York: Doubleday, Page and Co., 1925); Blanche Halbert, *The Better Homes Manual* (Chicago: University of Chicago, 1931); Better Homes in America, *Publication No. 11: Guidebook for Better Homes Campaigns in Rural Communities and Small Towns* (Washington, D.C.: Better Homes in America, 1927); Better Homes in America, *Publication No. 12: Guidebook for Better Homes Campaigns in Cities and Towns* (Washington, D.C.: Better Homes in America, 1927). One of the founders, Marie Mattingly Meloney, was editor of the *Delineator*, a popular women’s periodical. For history of the group see: Janet Hutchison, “The Cure for Domestic Neglect: Better Homes in America, 1922-1935,” *Perspectives in Vernacular Architecture* 2 (1986): 168-178; Janet Hutchison, “American Housing Gender, and the Better Homes Movement, 1922-1935” ((Dissertation, University of Delaware, 1989).

¹² Blanche Halbert, *The Better Homes Manual* (Chicago: University of Chicago, 1931).

Amidst a growing depression, the government increasingly advocated and facilitated ways for Americans to keep up their homes. In 1930, Hoover called for a President's Conference on Home Building and Home Ownership. In 1932, the conference brought together thousands of housing reformers, housing professionals and government officials to Washington, D.C.¹³ The Committee on Housing and the Community was adamant that one way to maintain American values, encourage home ownership, improve communities, and decrease unemployment was to encourage residents to repair and improve their homes. To make home repair easier, they developed checklists that homeowners could use to assess their homes. This conference marks an unusual moment in American housing history when, faced with unprecedented decline in new starts, the government turned its interest to home repair and the condition of extant material.

The conclusions of the conference reflected a growing concern for the state of America's aging housing stock at a time when new housing starts were decreasing. The same year as the conference, *Better Homes and Gardens* inaugurated its "How we Rebuilt" contest in which readers submitted "before" and "after" photographs of their renovation projects. In its first five years, the competition drew 150,000 entrants.¹⁴ Doing work oneself allowed people to save money, which became particularly important during the hard times many Americans experienced leading up to the fall of

¹³ Several scholars cite this conference: Ruth Schwartz Cowan, "The 'Industrial Revolution' in the Home: Household Technology and Social Change in the Twentieth Century," *Technology and Culture* 17, 1 (Jan., 1976):6; Kenneth T. Jackson, *Crabgrass Frontier*, 193; Adam Rome, *The Bulldozer in the Countryside*, 23-24; Tobey, Wetherell, and Brigham, "Moving Out and Settling In," 1416.

¹⁴ Goldstein, *Do it Yourself*, 19.

the stock market in 1929, and it was a way of coping during the Great Depression. In an effort to inspire home improvement, national organizations and national publications promoted ways to transform the old house with methods that were cheaper and easier.

Because of the work at the President's Conference, the Federal government became directly involved in financing and ensuring (and even at times forcing) home alteration, repair, and modernization. These advocates were concerned about standards of living and public health, as well as improving the declining economy. Following his election, Franklin D. Roosevelt and his administration used the findings of the President's Conference to guide a series of projects that enabled improvement and modernization. New Deal programs such as the National Housing Act of 1934 provided homeowners with small loans for home repair, many of whom did work themselves. Large-scale projects like the Tennessee Valley Authority (TVA), which constructed dams and power plants along the Tennessee River Valley, brought electricity to rural residents, although only thirty percent of power entered the farmhouse.¹⁵ Modernizing old homes and the lives of people who occupied them became a priority for the federal government in the inter-war years.

Americans continued to modernize and alter their homes. The Do-It-Yourself movement and the modern building market accelerated the transformations of the late

¹⁵ Michael Adas, *Dominance by Design: Technological Imperatives and America's Civilizing Mission* (Cambridge, Mass: Belknap Press of Harvard University Press, 2006), 209; Mary S. Hoffschwelle, "'Better Homes on Better Farms': Domestic Reform in Rural Tennessee," *Frontiers: A Journal of Women Studies* 22, 1 (2001):51-73; Carroll W. Pursell, *The Machine in America: A Social History of Technology* (Baltimore: Johns Hopkins University Press, 2007), 267.

nineteenth and early twentieth century even further. Serving as a foundation to the more well-known twentieth century story, this study connects the traditional, vernacular practice of building with the mass-market of goods and services for alteration in the recent past. Weaving that story together is the confluence of ideas, goods and technology that emerged far earlier, when increasing density and demand altered old building practices. The challenges posed by new technologies, the dangers of chaotic building practices, and the expense of more complex technological systems meant that many Americans could not make the changes they hoped for. The efforts to make home alteration cheaper, safer, and easier amidst these changes reflects an effort to balance the complications of new building systems with ideals of accessibility and progressive modernity. In a society filled with commercial innovation and progressive reform, more Americans could undertake the home alterations that would irrevocably transform old houses and people's lives.

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Building Developer

Carpentry and Building

Domestic Engineering

Electrical Record

Electrical Merchandise

Electrical World

Godey's Lady's Book

House Beautiful

House and Garden

The Ladies' Home Journal

Manufacturer and Builder

Modern Sanitation

National Electrical Contractor

Philadelphia Real Estate Record and Builders' Guide

Popular Science

Major Depositories of Manuscript Sources

Athenæum of Philadelphia

Germantown Historical Society

Hagley Museum and Library

Historical Society of Pennsylvania

Library Company of Philadelphia

Philadelphia Electric Company Corporate Archives

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Temple University Library, Urban Archives

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Appendix A

POPULATION AND DWELLINGS TABLE¹

Year	Population	Dwellings
1810	96,664 (city and liberties) ²	15,814 (cities and liberties)
1840	93,665 (city) 258,037 (county)	53,078 (county)
1850	121,376 (city) 408,762 (county)	61,278 (county) ³
1860	565,529 (hereafter county)	89,978 (hereafter county)
1870	674,022	112,366
1880	847,170	146,412
1890	1,046,464	187,052
1900	1,293,697	265,880
1910	1,549,008	295,220
1920	1,823,779	402,946 ⁴

¹ Population and dwelling statistics taken from US Census unless otherwise cited.

² For 1810 dwellings and population, includes city of Philadelphia (8,874 dwellings, 53,722 residents) and surrounding liberties of Moyamensing, Passyunk, Southwark, Kensington, Penn Township, and Northern Liberties. James Mease, *The Picture of Philadelphia* (Philadelphia: B and T Kite, 1811), 32-35.

³ For 1840 and 1850 dwellings: Elizabeth M. Geffen, "Industrial Development and Social Crisis," in Russell F. Weigley, ed., *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 309.

⁴ Dwellings stats for 1900-1920: Bernard J. Newman, *Housing in Philadelphia* (Philadelphia: Philadelphia Housing Association, 1921), 33.

Appendix B

BUILDING ACTIVITY STATISTICS TABLE

Year	Total permits ¹	Total projects	New dwellings ²	Percent dwellings	Alt. ³	Percent Alt.	New to alt
1861 ⁴	1045	1877	1535	81%	342	18%	4.5:1
1865 ⁵	1595	2126	1166	54.8%	536	25%	2.1:1
1874 ⁶		6477	4310	66%	1437	22%	4.5:1
1882 ⁷		4357	2371 ⁸	54%	1427	32.7%	1.6:1
1883 ⁹		5956	3762 ¹⁰	63%	1566	26%	2.4:1
1884 ¹¹		6467	4378 ¹²	67%	1524	23%	2.8:1
1887 ¹³		8093	6733	83%	1309	16%	5:1
1889 ¹⁴	4194	11,965	9404	78%	1546	13%	6:1
1891 ¹⁵	4272	9142	5950 ¹⁵	65%	2235	24%	2.6:1
1898 ¹⁶	8237	13,197 ¹⁷	5100	38%	2427	18%	2.1:1
1901 ¹⁸	8713	12,840	4582	35%	2668	20%	1.7:1

¹ This count will be different from total projects because a form might include multiple buildings.

² Includes only dwellings; it does not include commercial, institutional or civic buildings, etc. It also includes dwelling and store combinations.

³ Permits at times record alterations, additions, bay windows, as separate kinds of projects, but for the interest of this study, I combine them. They were all projects on preexisting structures.

⁴ All statistics for that year: Philadelphia Common Council, *Journal of the Common Council of the City of Philadelphia* (1861): 141

⁵ “Report of Building Inspectors,” *Journal of Select Council of the City of Philadelphia* (1865): 444.

⁶ “Annual Report of the Building Inspectors,” *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: E.C. Markley and Sons, 1875), 1209-1210

⁷ “Annual Report of the Building Inspectors,” *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: J. Spencer Smith, 1882), 1489-1490.

⁸ 91 are stores and dwellings. *Ibid.*

⁹ “Annual Report of the Building Inspectors,” *Annual Message of the Mayor of the City of Philadelphia ...for the year 1883* (Philadelphia: Dunlap and Clarke, 1884), 1160.

¹⁰ 136 stores and dwellings. *Ibid.*

¹¹ “Annual Report of the Board of Building Inspectors,” *Annual Message of the Mayor of the City of Philadelphia* (Philadelphia: Dunlap and Clarke, 1885), 1375-1376.

¹² 122 are stores and dwellings. *Ibid.*

¹³ “Annual Report of the Board of Building Inspectors,” *Annual Message of the Mayor of the City of Philadelphia ...for the year 1887*(Philadelphia: Dunlap and Clarke, 1888), 933.

¹⁴ “Annual Report of the Board of Building Inspectors,” *Annual Message of the Mayor of the City of Philadelphia ...for the year 1889* (Philadelphia: Dunlap and Clarke, 1890), 511.

¹⁵ 295 store and dwellings.

¹⁶ “Annual Report of the Bureau of Building Inspection” in *Annual Message of the Mayor of the City of Philadelphia... for the year... 1898* (Philadelphia: Dunlap and Clarke, 1899): 137-147.

¹⁷ Although a down building year, statistics inflated by permits for heaters (772), fire escapes (244), and miscellaneous (4171). In 1891, miscellaneous was 552, and there were none for heaters and fire escapes. It is worth noting that for reporting purposes in *Historical Statistics of the United States, 1789-1945*, Philadelphia permit statistics for 1887-1912 are excluded because of the excessive reporting of miscellaneous operations. Bureau of the Census, "Indexes of Number of Building Permits," *Historical Statistics of the United States, 1789-1945* (Washington, D.C.: U.S. Government Printing Office, 1949), 165.

¹⁸ "Annual Report of the Bureau of Building Inspection" in *Annual Message of the Mayor of the City of Philadelphia... for the year... 1901* (Philadelphia: Dunlap and Clarke, 1902): 501.

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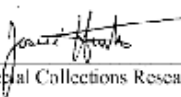
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