

ON THE PRESERVATION OF PRINCIPLES: DETERMINING THE ADEQUACY OF HISTORIC
PRESERVATION THEORIES, CHARTERS, AND GUIDELINES FOR THE PHILADELPHIA POLICE
HEADQUARTERS

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DEDICATION

*For my mother,
Brooke, and Jake*

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1.1. Historic Preservation and Mid-Century Architecture: More Than a Fad

Recently, much debate has been centered on the preservation of mid-century architecture. During the years following the Second World War, the United States, saw a substantial number of building campaigns as the country emerged as an economic and political powerhouse. Now, more than 50 years later, preservationists are being tested by the plethora of challenges presented by post-war architecture. The numerous theories, charters, and guidelines developed over the years to guide preservation efforts are being contested and revisited in response to mid-century architecture. There are collective calls for a reevaluation of preservation principles while, conversely, arguments for continuing to apply the same proven principles persist. There is, however, a vital discussion missing from this overarching conversation and that is the in-depth understanding of how and why the numerous challenges actually create challenges.

Over the past 25 years, the discussion on preserving post-war architecture has developed substantially. Practitioners are growing increasingly interested in addressing this young body of resources. Organizations such as DOCOMOMO, ICOMOS's International Scientific Committee on Twentieth Century Heritage, the Los Angeles Conservancy's Modern Committee, and the World Monuments Fund's modernism initiative, and others, are dedicated to raising awareness and encouraging conversation on the subject. To supplement these organizations, the National Trust for Historic Preservation continues to publish articles in *Forum Journal* focusing on the ever-evolving issues surrounding preservation of twentieth-century resources. Moreover, the Association for Preservation Technology's *APT Bulletin* provides articles concerning conservation-related issues of modern buildings. In addition to these efforts, the Historic Preservation Education Foundation's published *Preserving the Recent Past* in 1995 followed by *Preserving the Recent Past 2* in 2000. These and other examples demonstrate that the literature on the subject continues to expand alongside increasing support.

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As mid-century architecture reaches the 50-year mark and accrues historical significance, traditional preservation practices are coming up against unprecedented obstacles. While challenges for a given building are numerous, five persistently trouble preservationists in light of post-war architecture. The first obstacle is the assessment of significance and how mid-century architecture is testing preconceived notions. Intertwined with this first challenge is the concept of authenticity. This second obstacle has stirred a series of debates and is revealing a transformative shift for one of preservation's longstanding concepts. Substantiating this shift is partly due to the third challenge that involves the large number of extant buildings that date from the mid-twentieth-century. In doing so, these buildings are introducing complications in management and surveying. Parallel to this daunting task of the third obstacle are contentions of adaptive reuse considering many mid-century buildings were designed to accommodate a specific function. Muddling these four obstacles are the negative perceptions infecting this era of architecture resulting in ill-informed, misguided decisions.

These challenges are raising the question of whether or not preservation strategies need to be retooled to effectively preserve mid-century architecture. Scholars and professionals alike are flagging methodologies that are failing to adequately accommodate these resources. However, there are few, if any, publications that compare and contrast emerging preservation principles with traditional principles in light of mid-century architecture. Certain elements in practice will undoubtedly remain the same, but other aspects will require modifications. Introducing novel approaches requires the necessary testing and adjusting before being touted as the answer to these preservation woes. Ultimately, mid-century architecture is shaking the foundations of the preservation field. This thesis aims to uncover how and why such forces are at work, and if traditional practice truly is on the verge of evolution. Determining whether or not the field's methods remain adequate will be conducted through a useful case study—

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the Philadelphia Police Headquarters. Throughout this analysis, the pieces revealed as inadequate will provide the groundwork from which to create a new methodology to better guide the preservation of mid-century architecture.

1.2. The Philadelphia Police Headquarters: A Useful Case Study

In order to evaluate whether or not post-war architecture requires new preservation principles, this thesis will employ a select number of theories, charters, and guidelines in light of the Philadelphia Police Headquarters (fig. 1). This building, also known as the Roundhouse, was designed by Geddes, Brecher, Qualls and Cunningham (GBQC) in 1959 and constructed by 1962. The construction of this building presents a wide range of problems faced by similar buildings of the time. In discussing mid-century buildings, this thesis will be limited to a 20-year period beginning with 1950 and spanning until 1970.



Figure 1. View looking southwest from Franklin Square at the Philadelphia Police Headquarters.

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Understanding the complex history of the Roundhouse prior to the evaluation is necessary. The context surrounding this building during the mid-twentieth-century sheds light on the influential factors that gave way to both the impetus and design. The architects, GBQC, were practicing during some of Philadelphia's most formative years. Together, Mayor Richardson Dilworth and city planner Edmund Bacon guided the city through its postwar years. During this time, the city was a hotbed in both architectural design and education, and is largely commended for a group of architects and engineers responsible for transforming the city's landscape. Today, this influential group is known as the Philadelphia School and includes Louis Kahn, Robert Venturi, Robert Geddes, and others. Also included in this group is August Komendant, the Roundhouse's structural engineer. Komendant was an innovator in his field and championed the precasting method of Schokbeton—used to precast the Roundhouse's panels. The Roundhouse is one of GBQC's earlier works that quickly became one of their most significant projects. Collectively, the firm's work spans the globe and demonstrates the group's progressive ability to engage with the urban context.

A review of the Roundhouse's history sets the stage for discussing the preservation issues now surrounding the building. The theories, charters, and guidelines to be subjected to evaluation in the fourth chapter will include: John Ruskin's "The Lamp of Memory" from *The Seven Lamps of Architecture*, William Morris's "The Principles of the Society for the Protection of Ancient Buildings," Eugène Viollet-le-Duc's "Restoration" from *Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle*, Alois Riegl's "The Modern Cult of Monuments: Its Essence and Its Development," the Venice Charter, the Burra Charter, the Nara Document on Authenticity, and the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Each work will be examined to reveal which aspects are inapplicable to the Roundhouse. Approaching this topic with an evenhanded attitude is key to ensuring a comprehensive and fair analysis. Throughout testing, this thesis will explain why one

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does or does not work, and the possible implications this may include. In addition, this assessment will ask what the advantages or disadvantages are as they relate to mid-century buildings.

Following this evaluation is the fifth chapter responding to the five challenges introduced and analyzed. In an effort to mitigate misunderstandings and shortsighted decisions, the author formulated a new set of preservation guidelines for mid-century architecture. The foundations for this new framework were laid by extracting elements from the evaluation found to be inadequate for effectively preserving the Roundhouse. These proposed guidelines are not conclusive; rather, they serve as the catalyst for preservationists to continue to develop a more comprehensive list tailored to mid-century architecture.

1.3. Contributing to a Growing Conversation

Professionals working with mid-century architecture likewise contribute to the swelling collection of scholarship and information surrounding the topic. Preservation architects, and architects in general, who are commissioned to work on mid-century buildings have been publishing and sharing their experiences. These publications speak of the challenges, roadblocks, and opportunities that informed the authors' decision-making processes during a given project. Throughout this scholarship is a resounding sense of frustration due to the five identified challenges. Consequently, traditional methodologies informing practice are increasingly proving to be deficient in light of these obstacles.

There exist myriad examples demonstrating how the field of preservation has been incorporating new approaches. To illustrate the importance of these arising tactics, a select number of projects will be discussed. Largely piloting this discourse is David

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Fixler of EYP Architecture & Engineering.¹ In addition to being a preservation architect, Fixler is an expert on the Modern Movement and mid-century architecture who works intimately with these resources. When beginning a project on a modern building, Fixler and his team create a set of design guidelines to direct their work. Most recently, Fixler has begun work on Louis Kahn's Richards Medical Research Laboratories (1962-1965) that has resulted in a multivolume set of guidelines (fig. 2). This act of creating a document to guide the project is one example of a novel preservation approach to mid-century architecture. Traditionally, the Secretary of the Interior's Standards informs most projects, but only to a certain degree.



Figure 2. Richards Medical Research Laboratories (Louis Kahn, 1962-1965).

1. In addition to being a principal at Einhorn Yaffee Prescott Architecture & Engineering, David Fixler is president of DOCOMOMO/US-New England and co-chair of the APT Technical Committee on Modern Heritage.

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Similarly, Avanti Architects in London have developed design guidelines for the new heritage management plan for London's Barbican estate (Chamberlin, Powell and Bon, 1965-1976) (fig. 3). These guidelines outline what residents may or may not change in their flats. Additionally, these guidelines offer a detailed analysis of why the Barbican is significant and the character-defining features contributing to this importance. The English have done well to acknowledge the significance of their country's modern resources as well as to recognize the challenges these buildings present. In contrast, the United States lags behind in effectively, and responsibly, managing its mid-twentieth-century resources. Conversely, England's National Trust embraces opportunities to continue the heritage inherent in this architecture for both current and future generations. Moreover, English Heritage promotes the use of their Conservation Principles by all, especially when it concerns the preservation of a modern building.



Figure 3. The Barbican is one of England's largest heritage resources with approximately 2,000 residential units. (Chamberlin, Powell and Bon, 1965-1976).

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Jason Hart, an architect and co-founder of CUBE design + in Boston has written on the idea that preservationists must begin rethinking tactics when preserving mid-century architecture. His discussion was sparked by the controversy surrounding Richard Neutra's Cyclorama (1958-1962) on the Gettysburg Battlefield (fig. 4).² In his argument, Hart offered bold design interventions for the building in hopes of inspiring preservation over demolition, and thus avoiding the loss of an important historic resource (fig. 5).³ Hart, similar to Fixler and Avanti Architects, approached preservation strategies by addressing issues directly relevant to mid-century architecture that are, consequently, inappropriate to older buildings.



Figure 4. Cyclorama Building, Gettysburg Battlefield, Adams, PA (Richard Neutra, 1958-1962).

2. At the beginning stages of writing this thesis in 2012, the legal battle to keep the Cyclorama standing was in full swing. As of March 2013, the building has been demolished.

3. Jason Hart, "Rethinking Preservation – Part I," UrbDeZine, September 13, 2011, accessed October 5, 2012, <http://urbdezine.com/rethinking-preservation-part-i/>.



Figure 5. Rendering of possible reuse option of Neutra's Cyclorama Building used to advocate preservation instead of demolition.

With widespread discussions and projects underway, there is empirical evidence to support that preservationists are troubled with the problems presented by mid-century buildings. Whether or not new principles are the answer is debatable, but there lacks an in-depth study exploring both sides in an effort to justify one over the other. This thesis fills that need for such a study, as well as offers a framework from which to develop new preservation guidelines to amply accommodate mid-century architecture.

The new methodology found in the fifth chapter was formed to respond directly to the challenges imposed by post-war architecture. The format and language of these guidelines draws from a number of preservation-related charters and theories, but aims to provide greater flexibility for preserving mid-century architecture. As this thesis will expound on, post-war buildings are necessitating a shift from a reliance on tangible elements to an increased acceptance of a more tangible, conceptual approach. This philosophical shift initiated an attempt to expand the purviews of two essential preservation-related concepts—significance and authenticity. Certain key words—

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tangible, intangible, significance, authenticity, and others—found throughout this new methodology hold specific meanings in light of mid-century architecture. Therefore, included with the eight new preservation principles is a section providing definitions for a select number of words. This section affords clarity and intends to prevent misunderstandings or wrongful interpretation.

1.4. Become Immersed in All Things Mid-Century: A Methodology

The research devoted to the Roundhouse was used to develop a comprehensive understanding of its history, current state, and future implications. This research entailed primary and secondary sources as they related to the Roundhouse, its architects and engineers, and its moment in history. The questions that animated this thesis originated in the in the University of Pennsylvania’s Historic Preservation praxis studio during fall of 2012. The announcement made by the City of Philadelphia to relocate its police department to 4601 Market Street in West Philadelphia has left the Roundhouse vulnerable, with its future uncertain. Born out of this studio is the “Save the Roundhouse” advocacy campaign co-led with a fellow student, Kimber VanSant.⁴ Evolving into a real-world opportunity, this campaign works to engage the public in support of the preservation and reuse of this iconic piece of Philadelphia’s Modern architectural legacy.

Participating in this advocacy campaign paralleled the research of current and past preservation approaches of mid-century resources. In these approaches, similarities and differences are outlined as a means to develop a broader perspective for the Roundhouse’s analysis. The advocacy campaign was used as a platform to engage the public and obtain a tangible sense of how the five challenges interact. The Roundhouse has garnered support and opposition from people all over the world. Ongoing praise or

4. Stay connected with the campaign on Facebook: facebook.com/SaveTheRoundhouse.

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disapproval of the campaign suggests various obstacles surrounding the assessment of this building's significance. Refusal to acknowledge the importance of the Roundhouse has provided valuable insight into the stigmas plaguing this building, and other similar buildings.

The stigma attached to many mid-century buildings is typically related to their association with misguided redevelopment initiatives of the post-World War II years. This creates a roadblock of sorts among preservationists. Saving these buildings seems counter-intuitive because they replaced a large number of older historic resources. However, this does not justify the neglect and disregard of these buildings. The construction of the Roundhouse was intertwined with Philadelphia's urban redevelopment efforts, as it required the demolition of an entire block of nineteenth-century rowhouses and commercial buildings. The razing of this older building fabric was intended to improve the conditions of an area then referred to as "Skid Row," which included Franklin Square, located on the north side of Race Street. The implications of the city's current plans to relocate the police present an immediate need to address the preservation of the Roundhouse.

The other challenges—authenticity and functional obsolescence—reveal unprecedented difficulties questioning the adequacy of traditional preservation methodologies. Authenticity is a contentious and ambiguous issue in light of mid-century buildings considering they employed materials that do not age well, are no longer in production, and/or are failing. Examining authenticity raises the salient question of whether or not there needs to be greater flexibility in the overall treatment. As of late, opposition to pursuing adaptive reuse has grown as adversaries argue many mid-century buildings are functionally obsolescent. Limited examples of successful adaptive reuse projects for such buildings exist. This is attributed to factors such as the inadequate recognition of a building's significance due to its young age—compared to older resources readily recognized as historically significant—desirable land locations

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where value exceeds the building, and, again, a general bias against mid-century buildings. Applying each theory, charter, and guideline will help transcend this issue and aid preservationists in evenhandedly working with these buildings.

My research methods undertook the collecting and understanding of literature that range in topic. The following discussion reviews current research and conversations as they relate to the preservation and understanding of mid-century architecture. The Roundhouse's advocacy campaign has provided networking opportunities to connect with other professionals working with similar post-war architecture. Engaging the public through this arena cultivated a more meaningful evaluation of the challenges at hand for this particular set of buildings.

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2.1. The Challenges Facing the Preservation of Mid-Century Architecture

While there is no shortage of discussions regarding the preservation of mid-century architecture, there is scant attention to how and why certain aspects of preservation philosophies and methodologies need adjusting. As empirically evidenced by scholars and professionals, the field is on the verge of change due to challenges imposed by post-war buildings. These unprecedented obstacles have imparted the need to analyze longstanding preservation beliefs that have soundly guided the field over the years. Numerous publications are chronicling the ways in which practitioners are navigating these new complications.

Included in the literature on the preservation of mid-century buildings are numerous publications, largely in the National Trust for Historic Preservation's *Forum Journal* and the Association for Preservation Technology's *APT Bulletin*. Since the early 1990s, the articles published by these two organizations have continuously called attention to similar challenges. Mike Jackson, architect and former president of the Society for Commercial Archeology, set the stage for this now ongoing conversation when he served as a special guest editor for *APT Bulletin* in 1991.⁵ At the time, Jackson stressed the need to apply current principles of preservation to structures of the recent past in light of material authenticity. He dutifully acknowledged the increasing rate of change of technology and the effects this had on longevity. However, Jackson's arguments are now dated considering such transient materials have proven to impart bigger challenges—which will be discussed in greater detail throughout this literature review.

Taking note of the issues transcending preservationists' constricted purview on authenticity were Montreal-based architect Susan Bronson and architectural historian for the National Park Service Thomas Jester. Together in 1997, the authors identified

5. Mike Jackson, "Preserving What's New," *APT Bulletin* 23, no. 2 (1991).

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a number of obstacles hindering preservation of the built heritage of the post-war years.⁶ Bronson and Jester's article illustrates how this younger body of resources raises complex philosophical and technical questions of authenticity. Furthermore, they noted the substantial number of extant buildings cluttering the built environment. In conjunction with this large body of resources, facilitating the identification of values of this heritage must take into account the rapid technological advances and changing social, economic, and political conditions that affected post-war construction.⁷ Bearing in mind these challenges, both articles both speak to the overarching notion of significance.

As the number of unprecedented difficulties grew, Adrian Scott Fine, the director of the National Trust for Historic Preservation's Center for State and Local Policy, narrowed the growing number of problems into one concise list. In his 2010 *Forum News* article, Fine outlined 13 specific challenges related to preserving mid-century architecture.⁸ These specific choices stemmed from Fine's observations that "mid-century places are considered too new, too ordinary, too many, and too 'everyday'—leaving a lot of 1950-70s properties unnoticed, unloved, and now often under threat."⁹ Fine then goes on to attribute these problems to us, asserting that personal biases cloud our ability to accept a mid-century building's significance—again, this overarching concept of significance is undeniably integral to the field of preservation. However, five out of the 13 identified challenges—three of which were introduced by Jackson, Bronson, and Jester—resurface repeatedly through recent and emerging literature.

This literature review discusses in detail the five challenges that are continuously complicating the preservation of mid-century architecture. The first hindrance to be addressed is the concept of significance. Assessment of a building's importance often details the kind of work needing to be done so as to preserve authenticity and augment

6. Susan D. Bronson and Thomas C. Jester, "Conserving the Built Heritage of the Modern Era: Recent Developments and Ongoing Challenges," *APT Bulletin* 28, no. 4 (1997).

7. Ibid., 8.

8. Scott Adrian Fine, "Top 13 Challenges for Saving Modernism and the Recent Past," *Forum News* 16, no. 11 (July 2010).

9. Ibid.

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integrity. Dovetailing from the first obstacle is the second challenge, which involves notions of authenticity. Preservationists are being increasingly tasked with conserving fugitive architecture; that is, materials and other elements that are impermanent in nature and lack long service lives. Further complicating the difficulties of authenticity is the fourth challenge concerning the sheer number of extant buildings erected during the mid-twentieth century. The substantial number of buildings that comprises the post-war built heritage posits obstacles in surveying and management. The fifth challenge is what Fine calls the “Favorite Child Syndrome,” or in other words, biases. Preservationists and the general public alike are encumbered by stigmas, which are inhibiting their ability to acknowledge the significance of a mid-century building. These stigmas exist for various reasons, but they no doubt risk creating a piecemeal collection of mid-century architecture.

2.1.1. Significance: Making the Case for Preservation

Beginning the in-depth analysis of these five prevalent preservation challenges is the complications associated with both understanding and assessing significance. The two factors that are most frequently associated with the importance of a historic building are age and rarity. Age-related biases typically correlate with resources of the distant past, and concepts of rarity often refer to iconic buildings worthy of preservation. Therefore, both of these preconceived notions cannot be easily associated with mid-century architecture. When these two objective components are removed from the assessment of a resource’s significance, understanding importance is consequently burdened with having to rely on subjective values.

In reaction to this increasing reliance, preservationists began analyzing the various ways in which the concept of significance has changed over the years. But are slow to anticipate how the notion may be on the verge of forming into yet another

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variation. Mapping the changing perceptions over the years illustrates how evolving theories influence the meaning of significance. As this shift in understanding looms over the preservation field, a growing imperative is the need for practitioners to expand the notion of significance's purview. If resisted, many mid-century buildings will fall to the wayside and likely become victims of neglect and demolition.

Wrestling with the complexities of the significance concept are Joseph Tainter, an anthropologist and historian, and G. John Lucas, an archeologist. Together, the two authors posit that cultural resources either inherently lack or possess significance.¹⁰ The trouble with this belief is that it is not objectively applied. Tainter and Lucas contend that significance is, in fact, not inherent and suggest the term to be more ambiguous in nature. Instead, they allege "meaning is assigned rather than fixed to inherent properties" and "subject to variation between individuals, and to change through time."¹¹ Theoretical frameworks within which we happen to be thinking influence the assigned meaning of the significance of a resource.¹² This scholarship proves that changes in significance parallels changes in theories over time.

With mid-century architecture capturing the attention of preservationists, biases related to age and rarity must be distanced from assessing significance. Architectural historian Richard Longstreth addresses the hindrances imposed by these two factors in two widely reproduced articles written during the 1990s. The first, "The Significance of the Recent Past," argues the widespread desire for "people to live and work in a world that continually gives reminders of what has been accomplished in the past as well as what is being accomplished today," which serves as one of the greatest cultural values of preservation.¹³ Neglecting the preservation of mid-century architecture would consequently create an artificial separation "between contemporary life and that of our

10. Joseph Tainter and John Lucas, "The Epistemology of the Significance Concept," *American Antiquity* 48, no. 4 (1983).

11. *Ibid.*, 714.

12. *Ibid.*

13. Richard Longstreth, "The Significance of the Recent Past," *APT Bulletin* 23, no. 2 (1991): 15.

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forebears.”¹⁴

The second article, “I Can’t See It; I Don’t Understand It; And It Doesn’t Look Old to Me,” illustrates how the progressive theories developed during the Modern Movement have obstructed preservationists from thinking like historians as opposed to critics.¹⁵ Moreover, Longstreth observes that the field has become overly bureaucratized with procedures driven by economic influences, which has consequently “led to an increasingly formulaic view of the past.”¹⁶ Paralleling this concern, Longstreth warns that if preservationists continue to rely on casting these resources under buzzwords, themes, and styles, then the field will likely render itself irrelevant. Architecture of the Modern Movement deserves proper recognition of its historicity; Longstreth cautions we cannot afford to not know what we have as we lack the luxury of time.¹⁷

As scholarship has increasingly surfaced over the past 25 years, the implications that Tainter, Lucas, and Longstreth have expounded on are beginning to wane. In their essay, Tainter and Lucas partially initiated this weakening when they questioned whether or not significance could be standardized for use as a planning and management tool. However, the two authors stress that the mutability of the concept has obvious consequences in the face of standardization. Conversely, instead of standardizing, Longstreth advocates for stricter prioritization for preservation purposes allowing for better analysis of resources that may still be actively shaping

14. Ibid.

15. Richard Longstreth, “I Can’t See It; I Don’t Understand It; And It Doesn’t Look Old to Me.” *Forum Journal* 10, no 1 (Fall 1995). This obstruction that Longstreth wrote about is due to the design principles driving architects during the Modern Movement. Visually, mid-century buildings appear to have severed ties with the past, they make no reference to what came before in architectural design—often described today as being ahistorical. Longstreth described this misunderstanding that preservationists struggle with when he wrote, “Modern architecture did not just eliminate ornament; it did not just eschew references to the past; it did not just emulate a machine aesthetic; it entailed challenges to theretofore basic assumptions about the properties of design.”

16. Ibid.

17. Ibid.

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both the physical and cultural environment.¹⁸ The significance of mid-century buildings should take into consideration more than just age and rareness. Assessing a resource's significance should additionally consider elements of artistry, symbolism, functionalism, technology, and social and cultural ideas that fruitfully contribute to this understanding. In fact, Longstreth is discussing wide-ranging ideas of values to inform significance that have been adapted to international charters and guidelines. The use of these kinds of values should equally be applied to mid-century resources. However, when employed to post-war architecture, these doctrines fall short in adequately assessing their significance.

Preservation priorities have historically been shaped by the antiquarian bias towards older resources.¹⁹ The older a resource is, the greater the imperative to save it as an individual relic.²⁰ Mid-century architecture is often forced to rely heavily on arbitrary, subjective judgment by professionals when deciding which resources are important. In doing so, a mid-century building's significance is found to be increasingly buttressed more so by conceptual notions instead of physical fragments of fabric. This reason for this shift is because as these buildings show signs of age, patina appears more like signs of failure as opposed to the desired picturesque appearance. Traditionally, weathered materials are often thought to be integral to the experience and integrity of historic fabric.²¹ This introduces the current debates surrounding authenticity in light of

18. Longstreth, "Significance," 15. What Longstreth means by stricter prioritization in light of younger historic resources is that "if we initially examine everything, there is still the need to prioritize for preservation purposes, and it is at this stage where the matter of historicity must be resolved. From an administration standpoint, it has often been argued that some distinct time frame is needed." With that, he goes on to suggest, "rather than thinking about age in absolute terms, it can be more fruitful to concentrate on what a given work in that gray area of the recent past represents. If the representation is of ideas and practices—artistic, symbolic, functional, technical, social and/or cultural—that are clearly different from those in common use today, those differences can allow us to analyze the work as part of a historic phenomenon, rather than one which is still actively shaping the environment." However, working under this purview is best left to historians who must apply strict methods of scholarship so as to distance themselves and avoid subjective, critical associations. Experts cannot risk their assessments of significance to be informed by esthetics, personal taste, or emotion as this "will probably render little insight on the past and make a case for preservation that is easily challenged."

19. Ibid., 14.

20. Ibid.

21. Ibid., 56.

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preserving mid-century architecture, which is addressed in the next section. To this end, Longstreth cautions further that age is not a qualitative yardstick—an important creed to remember.²²

The ubiquitous nature of mid-century architecture does not negate the imperative to preserve these buildings. Preservationists are notorious for acting in the eleventh hour resulting in the loss of a number of important resources. By disregarding what is physically available, far more resources will be wasted instead of preserved.²³ However, are there consequences for assigning significance to resources not immediately threatened? Tainter and Lucas expound on the idea of future significance, whether it is inhibited by premature assignment or to be anticipated. Despite this ambiguity, cultural resources provide important links to society's heritage and inherently serve as a balancing force.²⁴ The ways in which the human mind assigns meaning are evolving. Reworking the widespread understanding of significance for the preservation of mid-century architecture is a healthy avenue for the field to pursue. As the evolution of the significance concept intersects with the preservation of mid-century architecture, scholarship is beginning to suggest that sensory experiences of a historic resource need to abandon reliance on the physical appearance of age and patina. However, severing ties with the tangible cues of age brings into question the validity of a resource's authenticity.

22. Longstreth, "Significance," 17.

23. Ibid., 23.

24. Ibid., 15.

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2.1.2. Authenticity: The Controversy of Conflicting Values

The importance of conserving physical evidence to convey authenticity has been a longstanding precept of the preservation field. The post-modern era of preservation, however, has shown emerging expressions of both the tangible and intangible for conveying authenticity.²⁵ Primarily, the tangible supersedes the intangible as such remnants provide physical links to the past; however, as mid-century buildings age, they are proving problematic for meeting the demands of this priority. The materials used in post-war buildings were born out of innovative experimentation and, in some cases, employed in buildings designed for shorter lifespans. Extensive preservation-related scholarship has been heavily devoted to the general subject of authenticity since the 1990s. As for mid-century architecture, scholarly debates are illustrating the overarching argument that authenticity should rely on the original design intent as opposed to fragments of original fabric. To demonstrate this emerging belief, a select number of publications that address this will be discussed.

The ways in which mid-century architecture conveys authenticity is becoming problematic for preservationists due to a number of unprecedented reasons. In her 1996 essay, architectural conservator Susan Macdonald identifies the following as the causative factors hindering authenticity: material features, detailing failures, outmoded production, maintenance failures, the patina of age, functionalism (and its obsolescence), and shortened lifespans unable to endure the effects of time and decay.²⁶ Each of these contributes to the challenges plaguing authenticity and are the subjects of myriad scholarly writing. Contending with materials that are no longer available and lack the ability to age gracefully propagated the notion of a “throwaway society.” As issues of sustainability became integrated with both architecture and preservation, post-war

25. Pamela Jerome, “An Introduction to Authenticity in Preservation,” *APT Bulletin* 39, no. 2/3 (2008): 4.

26. Susan Macdonald, “Reconciling Authenticity and Repair in the Conservation of Modern Architecture,” in *Modern Matters: Principles and Practice in Conserving Recent Architecture*, ed. Susan Macdonald (Shaftesbury: Donhead Publishing, 1996), 97.

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buildings proved to be the most offensive to these environmentally conscious efforts. Therefore, shifting towards a more intangible interpretation of authenticity affords a tangible result of a cleaner, healthier environment.

However, placing greater emphasis on a building's overall design intent contradicts many traditional preservation methodologies. Theodore Prudon, president and founder of DOCOMOMO/US, addresses this issue early in his seminal book, *Preservation of Modern Architecture*. Before discussing other salient topics of preservation, Prudon highlights the implications of the temporal character of mid-century architecture that are forcing this shift towards the intangible. The cosmetic issues resulting from weathering signal a sign of impending failure, which creates inherent contradictions and raises certain questions.²⁷ Moreover, these materials were mass-produced and standardized making the craftsman obsolete. Preservation is often devoted to celebrating the work of the craftsman by deterring further decay in order to sustain the remaining fragments for future generations. In contrast, mid-century buildings were intended to look machine made, further negating the emphasis on the craftsman. These buildings employed innovative, experimental forms and materials capturing the zeitgeist of the post-war years. Prudon asserts, "With the larger assemblies or integrated systems that characterize modern architecture, it is often less economical, plausible, or physically desirable to address a building in partial or separate entities; greater emphasis is thereby placed on the overall building—its performance as a system, and its intended appearance—and thus the artistry of its design."²⁸

Converging from conventional preservation practices necessitates the need to reconsider technical questions of authenticity. Along with Prudon, David Fixler is leading the conversation on the preservation of modern architecture in both scholarship and architectural practice. The problems facing the adequate preservation of this era of

27. Theodore H. Prudon, *Preservation of Modern Architecture* (Hoboken, NJ: Wiley, 2008), 42.

28. Ibid., 45.

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design are thoroughly addressed, but Fixler's discussions are rooted in the philosophical issues surrounding authenticity. In his 2008 *APT Bulletin* article, Fixler succinctly notes that:

“many modern buildings were meant to express the cutting-edge technology of their time, and we may argue that, as this technology is transient by its very nature, it is appropriate to periodically update building systems and components in accordance with contemporary standards of performance and sustainability.”²⁹

Through this statement, Fixler echoes the theories of Viollet-le-Duc. Replacing aging, or failing, materials to demonstrate the intended newness value of an industrial product leads to preserving the overall design intent. Fixler often remarks that this parallels the vigorous, bold spirit in which the building was built.³⁰

The amalgam of Prudon and Fixler's research results in the overarching call to embrace a broader definition of authenticity. Elevating design intent and visual experience over original materials inherently creates dangers.³¹ Such caution is acknowledged in the Nara Document on Authenticity, the Burra Charter, the Venice Charter, and the Secretary of the Interior's Standards—even though most of these documents strongly discourage substitute materials. These broader criteria are not to be interpreted as a license to remove all historic material. Therefore, greater responsibility is placed on the person performing the restoration work. The practitioner is tasked with making expert judgment calls ensuring the overall design intent is fully understood and properly interpreted.³² As promoted by Fixler, replacing materials may be within keeping of the spirit of the design; the original architect would have likely used a material or system if it were available at the time.³³ Advocating for these types of preservation measures, which are widely cautioned against by many charters, guidelines, and

29. David Fixler, “Appropriate Means to an Appropriate End: Industry, Modernism, and Preservation,” *APT Bulletin* 39, no. 4 (2008): 34.

30. Ibid.

31. Prudon, *Preservation of Modern Architecture*, 36.

32. Ibid.

33. Ibid., 37.

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practitioners alike, allows for the controversial theories of Viollet-le-Duc to infiltrate longstanding philosophies.

With traditional preservation theories being penetrated by provocative new methods, the belief that original fabric serves as the ultimate testimony to a resource's history and origin is being compromised. There are arising calls to reassess traditional preservation methodologies. The influences behind this reexamination stem from the number of causative factors previously identified. However, what this unifying voice is failing to consider are the established theories, charters, and guidelines used for preservation practices worldwide. Prudon broaches an examination of these doctrines, but not in great detail. Conflicting notions of authenticity merit a comprehensive investigation of these relied-upon publications so as to afford a better understanding of how and why broader criteria are required for mid-century architecture. Revisiting these works is imperative considering a substantial number of post-war buildings largely populate the built environment. As preservationists work more frequently with this era of architecture, notions of significance and authenticity must be reconsidered. However, the large number of extant mid-century buildings introduces additional complications, which will be expanded on next in this literature review.

2.1.3. The Number of Extant Mid-Century Buildings: If It's Not Rare, Why Bother?

The sheer prevalence of mid-century buildings, as well as their relative newness, tends to undermine efforts to preserve them. The two factors of rareness and age often spur many preservation efforts. However, the substantial inventory of mid-century architecture contrasts these two prevalent values and, as a result, is consequently thwarting the necessary protection for many buildings. Consequently, questions are raised concerning how to best approach the preservation of this young body of architecture. Cognizant of this overarching challenge, scholars and practitioners are

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developing anxieties regarding the efficient and effective management of such a large inventory.

Serving as a counterpart to the discussion of significance is the subject of rarity. This topic has become increasingly more prevalent in the contemporary preservation discourse regarding mid-century architecture. Bronson and Jester address issues of rarity in their 1997 *APT Bulletin* article. Although yet to come to fruition, the authors proposed that preservationists consider redefining how mid-century resources are evaluated “in terms of scope of resources [the post-war built heritage] encompasses and the period it covers.”³⁴ Preservationists cannot help but acknowledge that the definition of cultural heritage has been broadened due to mid-century architecture. Given the large number of extant buildings, there is a “growing interest in the non-monumental resources that in many respects are more revealing of the culture of their day [than the well-known landmarks of the Modern Movement,] and the preoccupations of those who designed, built, and used them.”³⁵ Bronson and Jester’s suggestion for an expanded purview serves as the impetus for considering new identification and management tactics.³⁶ However, before undertaking this kind of novel approach, Fine acknowledges the difficulties involved in identifying and surveying this substantial inventory of resources, which he refers to as the “Bunny Rabbit Dilemma”—this phrase is defined a later as this argument expands.³⁷ Until preservationists understand the magnitude of the problem, professional practice will continue to be clouded with uncertainty surrounding best judgment.

The challenges associated with surveying the large inventory of post-war resources introduce serious obstacles in managing these buildings. The dissenting opinions stemming from those not yet convinced of mid-century architecture’s significance argue that it is impractical to attempt any efficient means of preservation.

34. Bronson and Jester, “Conserving the Built Heritage,” 5.

35. Ibid.

36. Ibid.

37. Fine, “Top 13 Challenges.”

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Prominent preservation economist and principal of PlaceEconomics, Donovan Rypkema trumpets his wariness in light of preserving mid-century architecture in his 2005 *Forum Journal* article, “Saving the Recent Past: A Philosophical and Practical Decent,” when he writes:

“[I]f the preservation movement in America allows itself to abandon measures of quality, significance, and value that have been the threshold to our saying ‘this is important to save,’ in order to redefine ‘historic’ to accommodate designating much of what is advocated by some of the recent past proponents, we will quickly lose both our credibility and the impact on the quality of cities that preservation has begun to have.”³⁸

The potential for compromising the quality and standards for the sake of preserving post-war architecture is reason enough for practitioners to disregard mid-century architecture for the time being. Conversely, others argue it is irresponsible to squander these resources. As aforementioned, Longstreth cautioned that “if we continue to disregard so much that is all around us, we may waste far more than we preserve and bestow upon future generations the difficult task of deciphering the carcass.”³⁹ Mitigating these disconcerting issues begins with greater interdisciplinary participation between preservationists, architects, city planners, and other relevant professional bodies.

This increased interaction between fields cannot be postponed until a building is on the chopping block, or until certain building types become endangered species. On separate accounts, architectural historian Andrew Saint and Mike Jackson assert that waiting for a greater passage of time to appease the adversaries is irresponsible stewardship of our historic resources. Fine further substantiates this argument when he defines the phrase “The Bunny Rabbit Dilemma:”

38. Donovan Rypkema, “Saving the Recent Past: A Philosophical and Practical Dissent,” *Forum Journal* 20, no. 1 (Fall 2005).

39. Longstreth, “Significance,” 23.

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“The sheer quantity of buildings from this era—80 percent of the built environment—challenges the methods that have previously been used to focus our preservation efforts. In most cases, we don’t know what’s out there because it’s never been surveyed or identified. You have to know enough about what to tear down as much as what to preserve. Until we fix the problem, this leaves us exposed and constantly playing catch up—with a lot to save *and* lose.”⁴⁰

The ubiquitous nature of mid-century architecture makes appreciating these buildings difficult to do for the general public. In response to this struggle, Jackson advises that these buildings “comprise much too large a part of the built environment to be excluded from the preservation process.”⁴¹ Saint provides further insight to this dilemma when he states that “precisely because there are so many recent buildings, the Darwinian argument for a process of natural selection, for the survival of the fittest and the luckiest without the intervention of the state to protect weaklings or obsolescent specimens that stand in the way of younger, thrusting new species, is an attractive one.”⁴² Throughout these scholarly discussions, the bigger questions evidently become whether or not greater flexibility needs to be exercised, and if the 50-year rule warrants serious reconsideration.

Setting aside these arguments, the preservation of mid-century architecture is an opportunity to practice environmental responsibility under the umbrella of sustainability. Throughout his scholarship, Fixler is diligent in emphasizing how the preservation of mid-century architecture supplements the ever-increasing drive toward sustainable design and construction.⁴³ However, post-war buildings do add “complexity to the equation of repair versus replacement and returns us to the simple mantra that to re-use something rather than to replace it conserves the energy embodied within

40. Fine, “Top 13 Challenges.”

41. Jackson, “Preserving What’s New,” 7.

42. Andrew Saint, “Philosophical Principles of Modern Conservation,” in *Modern Matters: Principles and Practice in Conserving Recent Architecture*, ed. Susan Macdonald (Shaftesbury: Donhead Publishing, 1996), 17.

43. Fixler, “Appropriate Means,” 35.

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an object.”⁴⁴ Weighing whether or not reuse of an existing building is the best solution over demolition takes into account a number of different factors. Mid-century buildings complicate the decision-making process considering so many of them are highly inefficient in terms of energy consumption. In response to this environmental concern, Fixler continues to echo Viollet-le-Duc when he argues:

“that the sensitive incorporation of sustainability upgrades into a building whose generative philosophy included a mandate to be technologically and environmentally up-to-date is not only ecologically the right thing to do, but it is also compatible with the original intent of the work.”

Mounting pressures to be sustainability conscious descend from political and economic entities. Preservationists have grown cognizant of these demands by developing comprehensive feasibility studies. Over time, these economic studies have successfully proven that rehabilitating an existing structure instead of demolishing and replacing it with new construction is more sensitive to the bottom line. Stubborn, insensitive developers offer polemics about the impossibilities involved in adapting function-specific buildings to new uses. However, given the large number of extant mid-century buildings, greater efforts and increased interdisciplinary partnerships need to set the precedent for adapting these structures to contemporary uses.

2.1.4. Functional Obsolescence: The Preservationist Who Cried Wolf

The design and construction of function-specific buildings proliferated during the mid-twentieth-century introducing new, complex systems. With the acceleration of technology’s rate of change, post-war buildings inherited a transitory quality in materials; meaning, technology changed so rapidly that materials were quickly superseded by newer, better materials. This rapid turnover paralleled an equally fast-

44. Ibid.

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paced turnover of evolving standards of health and safety codes, mechanical and electrical systems, and interior finishes.⁴⁵ Materials and systems that date from the post-war years were experimental and have consequently imposed new conservation-related challenges for preservationists. As a result of this fleeting architecture, preservationists and architects alike are arguing that post-war buildings are functionally obsolescent.

For the sake of this literature review, the phrase “functionally obsolescent” means the building’s original use is no longer needed and has become outdated due to the evolution of expectations.⁴⁶ Many practitioners are equipped with comprehensive training making them capable of adapting older, traditional buildings to new uses. However, older buildings were often less functionally determined making their adaptability easier. Unlike these traditional resources, mid-century buildings present complexities resulting in barriers. As a result, such blockades are preventing preservationists from fully considering the full range of adaptive reuse options for mid-century buildings.

Amid the general building stock, the rate of technological change began accelerating at an unprecedented pace in the mid-twentieth-century. Buildings from this era became susceptible to alterations and modifications further challenging traditional preservation methodologies. These renovations—both small and large in scale—technically become part of a building’s history; but, given the limited passage of time, whether or not these changes should be considered significant confronts a number of preconceptions addressed earlier in this literature review. The formulaic approach utilized for traditional resources are unsuitable for mid-century buildings. Saint’s discussion of the philosophical principles concerning modern conservation explains that each building presents a unique set of problems and that “generalization on viability is hazardous, because it depends on so many unpredictable, specific circumstances,

45. Ibid., 25, 30.

46. Prudon, *Preservation of Modern Architecture*, 30.

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economic and political as well as architecture.”⁴⁷ The future practicality of a building, as Saint notes, hinges on the viability of reuse. Mid-century architecture continues to heavily teeter on this hinge as preservationists and architects work to find feasible solutions.

When driven by preservation forces, the acceptable scale of changes in adapting a building for a new use avoids any alterations or modifications that would diminish, or destroy, a resource’s character-defining features. Saint calls for radical projects to be embraced, but cautions that this does not afford a license to disregard what makes the building significant.⁴⁸ Contrasting function-specific architecture are vernacular buildings, which are found to be more flexible in adaptive reuse due to their lack of architectural ambition. As opposed to the iconic buildings of the Modern Movement, these modest buildings are products of an entire historical process as opposed to the invention of designers.⁴⁹ In light of the number of post-war vernacular buildings—and as stressed in the previous section—a more radical approach may be necessary considering the heightened sensitivity to sustainability. Macdonald shares qualms regarding this topic in that these buildings, in spatial and planning terms, are difficult to upgrade to modern service requirements.⁵⁰ The inability to meet today’s environmental performance requirements is problematic and further deterring adaptive reuse.

Functional obsolescence of a mid-century building also stems from the expected lifespan for which it was designed. A number of these buildings were not intended for permanency. For example, a number of defense housing complexes constructed during the Second World War were meant to provide homes for employees during wartime. Once the war ended, the federal government ceased ownership and, in many cases, demolished these structures. Prolonging the service life of a temporary building requires

47. Saint, “Philosophical Principles,” 24.

48. Ibid., 23.

49. Ibid.

50. Macdonald, “Reconciling Authenticity,” 95.

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prohibitive amounts of money and disregards the architect's original intent.⁵¹ During the mid-twentieth-century, continuing to build on the long-term monumental pattern of the distant past was impractical against the unrelenting evolution of technology and societal demands.⁵² However, the architect-designed buildings that employed innovative, experimental forms and systems contrast against the homogenous building campaigns that pervasively erected structures to satisfy the demanding needs of everyday life.

Posing the biggest challenges in adaptive reuse are the more monumental buildings of the Modern Movement. Preservationists must use these iconic buildings to serve as signature projects to establish precedents that will inform future projects. In order to effectively set this preservation trend in motion, the widespread negative perception of post-war architecture must be reversed, or at least diluted. A number of different stigmas dominate both the discourse of preserving mid-century buildings and the general public's mode of thought.

2.1.5. Stigma: Objective Observation is a Myth

Assessing the significance of a historic resource is meant to be an objective process, but, as underscored by Tainter and Lucas, totally objective observation is a myth.⁵³ A range of biases affect preservation decisions, and in some cases, prevents certain actions. The evolution of events during the mid-twentieth-century has cultivated a series of stigmas plaguing the preservation of post-war buildings. As emphasized earlier, determining the significance of a building relies heavily on the expert judgment of professionals. Therefore, these professionals cannot allow ill-informed and shortsighted decisions to guide preservation efforts.

Many mid-century buildings were erected under the pretenses of urban renewal

51. Saint, "Philosophical Principles," 22.

52. Ibid.

53. Tainter and Lucas, "Epistemology," 714.

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campaigns and innovation and experimentation. Moreover, a large percentage of the generation alive during these buildings' construction is still alive today making acknowledgment of a building's importance difficult. Unless architecture was meant to be a deliberate monument, commemorating post-war buildings is counterintuitive to many people's natural tendencies to presuppose a basic orientation in art history; this makes separating age value from historical value difficult.⁵⁴ By the end of the 1960s, critiques of the Modern Movement claimed that urban planning was a disguise for neo-capitalism, and had effectively become "a tool for pushing around the poor."⁵⁵

The contentious history of urban redevelopment is charged with tumultuous stories of destroyed communities. City planners that envisioned fundamental redesigns of the landscape were ignorant of residents who were made to feel expendable, and were pushed out from their homes. As will be addressed in the history of the Roundhouse, adjacent areas of the building's site unjustly displaced a considerable portion of Philadelphia's residents. Civic groups tirelessly fought for equality while governmental entities bulldozed through older building stock to make way for architecture later accused of being anti-urban. These building campaigns had both negative and positive consequences. The impacts from displacing families were unsettling—and in many ways, still are—but, as emphasized earlier by Longstreth's scholarship, disregarding an entire era of architecture creates a gap generating a discontinuity in history. As for the positive consequences, there is critical didactic potential in the perspective: out of destruction come great things.

The negativity that radiates from certain mid-century architecture cannot inhibit preservation efforts. Prudon stresses the importance of understanding how public perception of a building evolves so as to develop a comprehensive preservation

54. Alois Riegl, "The Modern Cult of Monuments: Its Essence and Its Development," in *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed. N. Stanley Price et. al. (Los Angeles, CA: The Getty Conservation Institute, 1996), 76.

55. William J. R. Curtis, *Modern Architecture Since 1900* (Upper Saddle River, NJ: Prentice Hall, 1996), 555.

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approach.⁵⁶ This helps develop an informed basis from which to engage the public, and initiates conversations that allow the general public to participate in the preservation of a building that may contain dark history. The first hurdle is demonstrating the significance of a mid-century building. Much of the public struggles to comprehend why a building is important if so many of its contemporaries are still around. This bias is coupled with age-related biases where the public at large yearns for a nostalgia for an idealized past.⁵⁷ Fixler writes on the power of memory that is “produced at least partly through the encounter with materials that have acquired patina, the natural product of weathering and use that enables the material to be seen as having withstood the passage of time, thereby attaining heritage value.”⁵⁸ If people cannot visually recognize a building as being old, then the building must not be important or worthy of preservation.

This optical hindrance adds further complexity to preserving the integrity of a post-war building. Preservationists understand integrity as a building’s ability to convey its significance, which is underlined by the tangible pieces of a resource that constitute its authenticity. One could argue that preservationists use historic resources to manipulate the viewer to recognize the object as old, and thus important. In contrast, the significance of mid-century buildings cannot be conveyed through materials that appear old. Preservationists have unintentionally instilled the habit of associating significance with rustic-looking materials. Therefore, when a mid-century material fails to display patina that conjures notions of picturesqueness, viewers are plagued with reflexive stigmas that invoke associations with material failure and obsolescence. In addition to these negative preconceptions cultivated by preservationists, stigmas related to architectural design aesthetics further impair a post-war building’s significance from being recognized by preservationists and the general public.

56. Prudon, *Preservation of Modern Architecture*, 30.

57. Fixler, “Appropriate Means,” 32.

58. Ibid.

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Architect-designed mid-century buildings received much acclaim when constructed. Since then, most have developed a negative public perception. For example, Boston City Hall (Kallman, McKinnell & Knowles, 1963-1968) and Orange County Courthouse in Goshen, NY (Paul Rudolph, 1963-1967) are largely disliked (figs. 6 & 7) are each associated with the Brutalist style of architecture, an off-putting name to those who are unaware of the style's origins. These two buildings, and others like them, appear as cold, hulking structures. Today, many abhor Philadelphia's Police Headquarters, but this negative association stems from the heavy-handed years Frank Rizzo served as Police Commissioner (1967-1971) and Mayor of Philadelphia (1972-1980). As will be discussed later in this thesis, cycles of taste create awkward phases affecting perception, as well as influence the evolution of stigmas.

Striking a balance between preservation and new development is key for any city or town. Also valuable is a diverse building stock that celebrates the cultural heritage of a place over the years. Buildings from the recent past are experiencing an inverse relationship where people are living longer and surpassing the lifespan of buildings.⁵⁹ Building for permanence is no longer a prerogative in a majority of contemporary construction. This will culminate in an even greater challenge for future preservationists. As suggested in the discussion of functional obsolescence, overcoming stigmas and working towards effective preservation solutions for mid-century buildings will lay the groundwork for tackling similar issues in the coming years.

59. Theodore Prudon, "The 'Modern' Challenge to Preservation," *Forum Journal* 24, no. 4 (Summer 2010).

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Figure 6. Boston City Hall (Kallman, McKinnell & Knowles, 1963-1968).

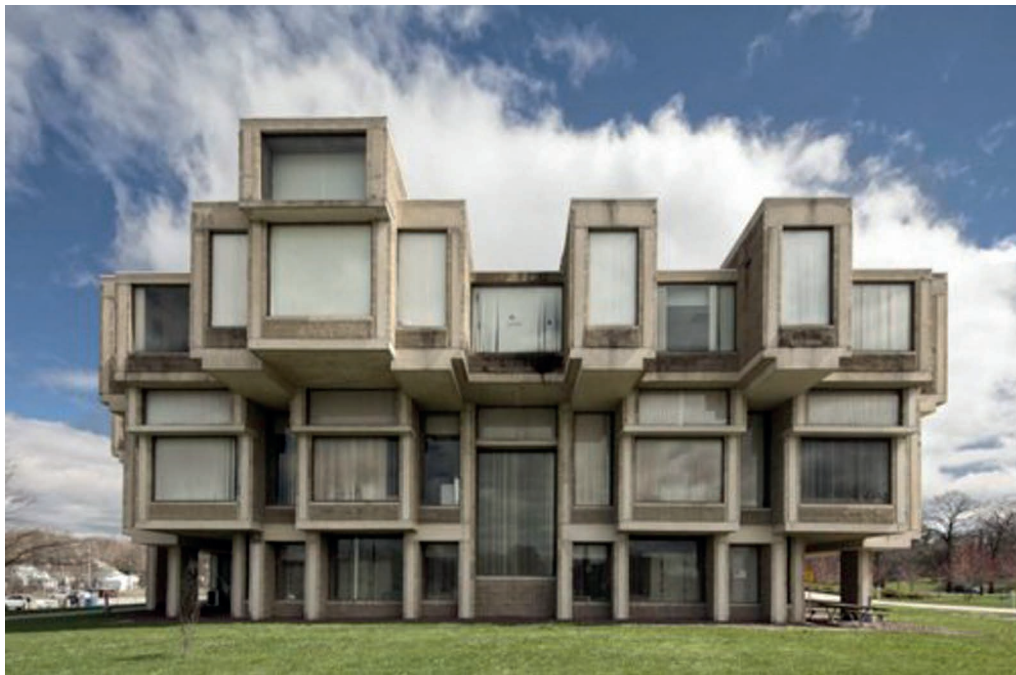


Figure 7. Orange County Courthouse, Goshen, NY (Paul Rudolph, 1963-1967).

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2.2. Rethinking Preservation Strategies for Mid-Century Architecture

As this literature review has demonstrated, those that feel preservation standards need to be reevaluated in light of mid-century buildings have begun to provide myriad perspectives. These come in the form of conferences, books, lectures, articles, and numerous other outlets. While the conversation proves to be pervasive and provides compelling perspectives, few offer any concrete solutions. Preservation strategies must be adjusted so as to allow for the field to evolve and remain relevant; resistant practitioners will quickly become isolated from this discourse. As leaders in the field, both Fixler and Prudon are directing the conversations that are advocating for a reevaluation of traditional methodologies.

2.2.1. What Needs to Change: Points to Consider

Today, the field is fixated on both the regulatory process and material conservation. This preoccupation has diverted attention away from the pressing factors concerning the successful preservation of mid-century architecture.⁶⁰ Traditional preservation strategies quickly fall short when addressing the five challenges identified in this literature review. Mid-century architecture currently affords a substantial repository of primary resources, which is wholly advantageous to historical and technical research. Due to this, evaluative criteria are facing unprecedented aspects and are unfit to effectively assess mid-century buildings. Moreover, the economic implications behind this preservation conundrum raise questions regarding fiscal responsibility. As a result of these concerns, change is afoot for the preservation field.

As delineated throughout the recent scholarship included in this literature review, practitioners are working towards obtaining a better understanding of why such

60. David Fixler, "Is It Real and Does It Matter? Rethinking Authenticity and Preservation," *Journal of the Society of Architectural Historians* 67, no. 1 (March 2008): 11.

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amendments are threatening traditional methodologies. Prudon's book acknowledges the longstanding commitment of preservationists to preserve as much of the original fabric as possible for more than a century. Mid-century architecture is deemphasizing this desire, which Prudon attributes to three changes:

- The prominence of the role of the designer as the primary creator;
- The dominance of manufactured, standardized materials and components over handcrafted ones; and
- As a result of the first two, the ascendancy of overall design over the work of individual artisans.⁶¹

Furthermore, Prudon stresses the need for reevaluation as architecture is becoming increasingly more transitory in both styles and materials.⁶² Reliance on tangible materials to denote authenticity is losing prominence in preservation. Bronson and Jester highlight such difficulties when they stated, "To what extent does the built heritage of the recent past enjoy protection against neglect, insensitive rehabilitation, and demolition?"⁶³ In response to the question raised, mid-century buildings enjoy scant protection against these harmful actions. Therefore, reconsidering traditional methodologies begins with the evaluative criteria within regulatory processes.

Intertwined with this fixation on the regulatory process is an emphasis on material conservation. Fixler cautions preservationists to be prepared to rethink traditional notions about architectural conservation by taking into account the values that shaped mid-century buildings, such as:

- The purpose-built nature of many of the works, whose builders consequently imagined that once the program for which they were built was exhausted, the building would likely be demolished;
- The value placed upon experimentation in design and fabrication, which resulted in the development and use of many materials that has been inadequately tested and consequently have proved to lack durability over

61. Prudon, *Preservation of Modern Architecture*, 35.

62. *Ibid.*, 22.

63. Bronson and Jester, "Conserving the Built Heritage of the Modern Era," 8.

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time. The materials themselves were often experimental or insufficiently understood substances whose conservation is either impractical or impossible, and the value of their conservation is highly questionable from the standpoint of sustaining the integrity of the artifact; and

- The importance of the structure's newness to the impact of the work.⁶⁴

The difficulties of these considerations carry considerable economic implications.

Preserving a mid-century building that was meant to serve a temporary service life confronts the overarching imperative to prolong a resource for future generations—this complication will be discussed in detail in a later chapter. Fixler's second point substantiates Prudon's arguments for shifting emphasis to the intangible values of a resource further underlining the need to reassess evaluative criteria. The third statement speaks to the concept of values placed on historic resources. Preserving the newness value of a mid-century building directly conflicts with many conservation practices informed by traditional methodologies.

In addition to pursuing modifications to preservation strategies, new methods of managing and researching historic resources need to be further developed and put into practice. Surveying the extensive number of extant mid-century buildings so as to develop a comprehensive inventory should exploit the burgeoning technology currently available. This will develop a base from which to begin researching and evaluating the myriad types of extant mid-century buildings. The preservation field is slow to utilize new technologies and many historic resources have suffered as a result. Furthermore, employing new technological strategies should be coupled with greater cross-disciplinary participation. Incorporating the efforts of architects, city planners, and other fields equips preservationists to better respond to the hurdles mid-century architecture situates. Engaging post-war buildings through these means promotes the constructive evolution of the preservation field.

64. Fixler, "Appropriate Means," 31.

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2.2.2. What Remains the Same: Preserve What Works

Mid-century architecture may be forcing adjustments to the field, but developing a resource's historical narrative remains imperative. Rethinking preservation strategies in light of post-war architecture should not be misunderstood as a call to completely retool the entire profession. Certain guiding assumptions will remain the same and continue to serve as sound qualitative steps. This includes conducting in depth research and analysis of a resource preceding any preservation treatment. Formulating a comprehensive, thorough history is key to informing adequate, effective approaches. Moreover, understanding how the perception of a building has evolved is equally important to developing a comprehensive preservation strategy.⁶⁵

Approaching the preservation of a mid-century building should continue the practice of being guided by a set preservation strategy. Despite the emerging evolution of practices, consistent preservation philosophies are critical.⁶⁶ Methodologies organize information and require practitioners to analyze each step prior to undertaking any work. Although mid-century architecture is introducing novel approaches, retaining clearly defined strategies preceded by scholarly research will help ensure a professional quality of work.

As the preservation field evolves, there are practitioners arguing against any proposals that may change longstanding methodologies. After having attended the National Trust's "Recent Past Forum" in Phoenix, Arizona, Rypkema serves as one of the more vocal advocates. In his 2005 *Forum Journal* article, he fears that preservation professionals are on the verge of lowering the field's standards. He advises that broadening the perspective of historic preservation should not spell the abandonment of what historic preservation is about.⁶⁷ The same rigorous standards that have served

65. Prudon, *Preservation of Modern Architecture*, 30.

66. Jackson, "Preserving What's New," 7.

67. Rypkema, "Saving the Recent Past."

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the field for the past 60 years ought to be applied to mid-century architecture, otherwise, “it is intellectual abrogation to be unwilling to be discriminatory in our selections.”⁶⁸ Moreover, Rypkema claims preservation, by definition, recognizes resources as being scarce evoking the rareness value. His opinion on the matter is starkly black and white.

Rypkema provides sound arguments describing the implications of allowing the field to evolve. However, much of his polemic addresses extreme instances and purports that every single mid-century building is being advocated for preservation. Sound judgment and leadership are underlying qualities that will endure as strategies are reevaluated. Additionally, this reexamination of the field will likely result in a new methodology catering to recent past resources—in the case of this thesis, the new methodology presented in the last chapter caters to mid-century architecture. By revisiting current principles, the field of preservation will set a precedent for future practitioners to responsibly manage younger resources.

68. Ibid.

2.3. Conclusion

Architecture serves as a physical link to society's heritage and does so successfully with ample examples. Acknowledging this importance inherent in buildings will help articulate the significance of mid-century architecture and continue to provide this lineage with key components. In doing so, biases influenced by age and scarcity must be shed to subsequently allow for a broader definition of authenticity. Embracing this widened purview relieves mid-century architecture from having to rely on original fabric to serve as the ultimate testimony to a resource's history and origin. Otherwise, disregarding an entire era of architecture will result in a gap fostered by shortsighted decisions.

With these evolving standards, preservationists are likewise faced with new management tasks affording the field an opportunity to address unprecedented demands. Adjusting to responsibly identify and assess the large number of extant mid-century buildings not only parallels sustainability goals, but also allows for the development of innovative survey strategies. As expounded by the scholars included in this literature review, preservationists cannot ignore post-war architecture and must stop acting in the eleventh hour to save a building. By jumpstarting these actions sooner than later, tackling blockades such as functional obsolescence will be easier to overcome and ultimately set a precedent for future projects. In light of Rypkema's assertion that "historic preservation is a responsibility movement," practitioners need to welcome new, resourceful solutions—coupled with sound judgment—for the successful preservation of mid-century architecture.⁶⁹

However, in adopting these innovative approaches, it is important to recognize that there are few publications that compare and contrast emerging preservation principles with traditional principles in light of post-war buildings. As this literature

69. Rypkema, "Saving the Recent Past."

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review has illustrated, there are a number of barriers inhibiting the effective preservation of mid-century architecture. Much of the scholarship surrounding these issues negates performing a comprehensive analysis of current doctrines as a means to underline where and how these trials are occurring. This thesis will fill this void with an evaluation of selected theories, charters, and guidelines in the fourth chapter. Based on this evaluation will follow a framework for a new methodology from which to afford a better understanding of mid-century architecture.

Prior to this much-needed analysis is a comprehensive overview of the Roundhouse. Intertwining numerous contexts, the history of this building is multifaceted making the assessment of its significance a complex endeavor. Consider the Roundhouse on a larger scale: the construction of the building occurred during a pivotal moment during America's Modern Movement. Parallel to these formative years, the building stands as a tangible vestige to Philadelphia's post-war years and the city's role in architecture at the time. Exemplary of this post-war architectural moment is the Roundhouse's iconic curvilinear form. This design grew out of the collaboration between GBQC and August Komendant. This partnership exploited the highly innovative technology of Schokbeton, which further posits the building as an impressive engineering feat. With these key strands of the Roundhouse's significance introduced, the ideas formed from the literature review will help guide the evaluation of preservation-related doctrines in the fourth chapter.

CHAPTER 3:
MID-CENTURY ARCHITECTURE
&
THE PHILADELPHIA POLICE HEADQUARTERS

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The city of Philadelphia's Police Administration Building was designed in 1959 by the architecture firm Geddes, Brecher, Qualls, and Cunningham (GBQC). The building, widely known as the Roundhouse, was constructed in 1962 on the south side of Race Street between 7th and 8th Streets. The design for the Roundhouse exemplifies core principles set forth by GBQC that both stress and celebrate the building's architectural significance (fig. 8). The iconic curvilinear skin that defines the building's form contrasts with the grid plan of Philadelphia, but does so in a sweeping, poetic nature that can be considered under the stylistic term Expressionist rather than Brutalist—a common misnomer. In addition to defining the building's envelope, the precast concrete panels also integrate the structural, mechanical, and electrical systems. These panels were manufactured using the Schokbeton process, an innovative method of precasting concrete that flourished during the mid-twentieth-century. This system was skillfully executed by August Komendant, an engineer who worked closely with GBQC as well as other prominent mid-century architects, most notably Louis Kahn. The Roundhouse is one of the first buildings in the United States to use this precasting system on such a large scale.⁷⁰

The cultural significance of the Roundhouse is multi-layered creating an informative, dynamic understanding. Strong visual associations and public perceptions have been attached to the Roundhouse from its construction date through to today. The building has long been associated with the Philadelphia Police Department and some of the city's most significant figures such as Mayor Richardson Dilworth, Frank Rizzo, and Edmund Bacon. Moreover, the Roundhouse is often used as a gathering place for public demonstrations and is popularly known for its physical resemblance to handcuffs. The building and its designers are emblematic of the architectural design movement known

70. Prior to the Roundhouse, Philip Johnson's Lake Pavilion (1962) in New Canaan, Connecticut was the first structure to use the Schokbeton process. Both Johnson and GBQC commissioned Eastern Schokbeton, one of the first licensees of this system, in 1960, and set the stage for Schokbeton's proliferation in architectural design. Jack Pyburn, "The Role of Architectural Precast Concrete Technology in the Internationalization of Postwar Modernism," in *Eighth International DOCOMOMO Conference: Postwar Modernism in an Expanding World, 1945-1975* (New York, 2004), 117.

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as the Philadelphia School. As part of this school, Robert Geddes and his firm played a major role in the development of mid-century American architecture. Most of GBQC's work was largely for civic institutions and is expressive of the progressive manner in which the firm engaged with the urban context.



Figure 8. A view of the Roundhouse looking northwest from 7th Street.

Socially, the Roundhouse recalls the vast urban redevelopment projects that swept across the city during the 1960s. When the building was constructed, Franklin Square and its surrounding neighborhood were known as Skid Row, an area plagued with crime and blight. Today, the building is located amid several prominent Philadelphia neighborhoods: Independence National Historical Park, Old City, and Society Hill to the east; Chinatown and Penn Center to the west; and Market East to the south. This site was chosen not only to improve the surrounding area but also to benefit the city's other police districts as its central location afforded greater accessibility for the city's police department.

Developing this multi-layered narrative of the Roundhouse's significance requires an understanding of the different contributing mid-twentieth-century

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contexts. With the preceding literature review providing the framework of the current preservation discourse, this chapter presents the key historical background of the Roundhouse. This incursion begins with identifying GBQC's position amid the Modern Movement during their years of practice. After establishing this broader contextual understanding, it is important to recognize the Roundhouse's role in post-war Philadelphia. Chronicling this building in relation to these formative years involves knowing the history of GBQC and their role in the Philadelphia School, and how this affected the design of the Roundhouse. Furthermore, Komendant's engineering expertise and the employment of Schokbeton contribute to the ways in which the Roundhouse vitally contributes to mid-century Modernist architecture.

3.1. An Abbreviated Overview of the Modern Movement

Imparting the Roundhouse's relation to the architectural discourse of the Modern Movement is fundamental to knowing how this building relates to history at large. Although comprehension of this movement is ambiguous, it is best understood as an architecture conscious of its own modernity that was striving for change.⁷¹ In light of this, various architectural styles emerged as architects were using technology to develop new forms. Following the Second World War, this mode of thought was most prevalent in the United States as architects found modern design as the most effective means for expressing power and wealth. In Philadelphia, the Modern Movement is marked by two national trends. The first trend being the spread of the International Style and the subsequent styles that followed, and the second being the city's longstanding history of

71. Alan Colquhoun, *Modern Architecture* (New York: Oxford University Press, 2002), 9.

regional modernism.⁷²

The beginning of America's Modern Movement is difficult to pinpoint, but many agree that Modernism hit the shores of the states when Philip Johnson and Henry-Russell Hitchcock published *The International Style* in 1932. This book was written to accompany the International Exhibition of Modern Architecture at New York's Museum of Modern Art (MoMA) during the same year. The influential architects, designers, and architectural historians during these years contributed numerous critiques and theories determining the Movement's direction. Reyner Banham's extensive writing on the Machine Age and the role of technology in architecture largely sets the tone for discussing GBQC's design for the Roundhouse.⁷³

Prior to 1959, when GBQC was designing the Roundhouse, the implications of defining styles spurred myriad discussions resulting in today's understanding of the International Style, Functionalism, Brutalism, and Expressionism. In 1948, MoMA held the symposium entitled "What's Happening to Modern Architecture." This brought together a number of architects to debate current architectural thought as it related to the International Style and Functionalism—two terms often used interchangeably. Two points of view dominated the discussion: those who spoke in terms of styles and standards, and those who denounced all labels and "isms" as secondary to the problem of production.⁷⁴ Throughout the evening, participants pondered the role of the machine and other forces influencing architecture as it related to stylistic labels. For example, Walter Gropius felt that styles should be named and outlined by the historians for the

72. Malcolm Clendenin with Introduction by Emily T. Cooperman, "Thematic Context Statement: Modernism: 1945-1980," (2009). Available: Preserve Philadelphia, www.preservephiladelphia.org/wp-content/uploads/HCSModernism.pdf. As clarified by the authors, the phrase "regional modernism" may be better termed "American modernism" to include the works of Frank Lloyd Wright. Furthermore, this phrase refers to Beaux Arts-inspired architecture that shaped much of the city's landscape both before and after the war; e.g. Paul Philippe Cret and Louis Kahn.

73. Reyner Banham's *Theory and Design in the First Machine Age* (1960) provides a comprehensive understanding of the origins of the Modern Movement and the influence of theory on design. Moreover, Banham concentrates considerably on the mechanization of the environment by analyzing select theories and architects.

74. Alfred H. Barr, et. al., "What's Happening to Modern Architecture," *The Bulletin of the Museum of Modern Art* 15, no. 3 (Spring 1948): 4.

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past periods only.⁷⁵ Sharing similar concerns, Alfred Barr found style to be inhibiting to the architect, as it is a menace to individual freedom and to the free development of architecture itself.⁷⁶

In reaction to the International Style and Functionalism developed the ideas of Brutalism. This design theory, along with additional reactionary designs, emerged due to the general mood of dissatisfaction with the restrictive minimalism of the International Style in America.⁷⁷ Prior to Brutalism's arrival in the states, Alison and Peter Smithson first introduced the term in the December 1953 issue of *Architectural Design*.⁷⁸ In describing their Soho House Project in London, the Smithsons "decided to have no finishes at all internally, the building being a combination of shelter and environment" using bare brick, concrete, and wood.⁷⁹ The term, New Brutalism, was coined as an allusion to the *béton brut* of Le Corbusier's Unité d'Habitation (1946-1952) in Marseilles; this building came under attack during construction when a French official described it as "brutal."⁸⁰ This criticism carried itself over the years causing many Brutalist buildings to be tainted with a negative stigma.

Taken by the Smithson's design philosophy, Banham became a fervent proponent of using materials honestly and celebrated buildings that followed this creed.⁸¹ One such building is Louis Kahn's Art Center for Yale University (1951-1953), which Banham praised for its uncompromising frankness about its materials.⁸² Through the 1950s, truth to materials remained at the fore for Brutalist architecture, which manifested

75. Ibid., 11.

76. Ibid., 6.

77. Curtis, *Modern Architecture*, 517.

78. Joan Ockman, comp., *Architecture Culture 1943-1968: A Documentary Anthology* (New York: Columbia University School of Architecture, Planning, and Preservation: Rizzoli, 1993), 240.

79. Ibid.

80. Ibid.

81. Reyner Banham, "The New Brutalism" in *A Critic Writes: Essay by Reyner Banham* (Berkeley: University of California Press, 1996): 7-15. In his essay, Banham illustrates how critics and architects have misinterpreted the concepts behind this design theory. As a consequence, Banham notes the Modern Movement has become saddled by the myth that any great building grew unconsciously through anonymous collaborative attention to structure and function; "all great architecture has been 'conceptual,' has been image-making.

82. Ibid., 11.

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“itself initially in an obsessive concern for the expressive articulation of mechanical and structural elements.”⁸³

This design belief was further substantiated by the Modern Movement’s notions on monumentality firmly established by Sigfried Giedion, José Luis Sert, and Fernard Légard’s 1943 publication, “Nine Points on Monumentality.” In thinking about the coming years, the authors asserted that architecture’s new task in the postwar years would be the reorganization of community life through the planning and design of civic centers, monumental ensembles, and public spectacles.⁸⁴ The problem architects faced with handling public buildings was determining the appropriate degree of presence and accessibility; monumental architecture was to be a democratic design.⁸⁵

While the Roundhouse exemplifies these ideas of monumentality, architectural historians today stylistically categorize the Roundhouse as Expressionist. The Expressionist movement, alongside Futurism in Italy, emerged in 1909 as a movement in the visual arts and literature in Munich, Germany.⁸⁶ In 1914, the Cologne Werkbund Exhibition “gave expression to an ideological split within the Werkbund between the collective acceptance of normative form, on the one hand, and the individually asserted, expressive ‘will to form’ on the other.”⁸⁷ This posited an opposition between the Classical, which was tended towards by Peter Behrens and Walter Gropius, and the ‘will to art’ as exemplified by Henry Van de Velde (even though heralded as one of the great designers of the Art Nouveau period), Bruno Taut, and Eric Mendelsohn.⁸⁸ The latter group of architects designed buildings that gave way to today’s definition of Expressionism as a stylistic descriptor. Taut’s Glass Pavilion (1914) and Mendelsohn’s Einstein Observatory tower (1917-1921) illustrate evolving variations in exploration of form. Buildings of the mid-twentieth-century took note of these design precedents

83. Kenneth Frampton, *Modern Architecture: A Critical History* (London: Thames and Hudson, 1985), 264.

84. Ockman, *Architecture Culture*, 27.

85. Curtis, *Modern Architecture*, 514.

86. Colquhoun, *Modern Architecture*, 87.

87. Frampton, *Modern Architecture*, 116.

88. Ibid.

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and employed sweeping, curved wall surfaces and rooflines in combination with asymmetrical geometric forms.⁸⁹ Eero Saarinen's TWA Terminal (1956-1962) at the Kennedy Airport in New York City and Skidmore, Owings and Merrill's Chapel at the United States Air Force Academy (1956-1962) in Colorado Springs are two iconic mid-century examples of Expressionist architecture. Moreover, a similar government building to the Roundhouse that utilizes sweeping, curving wall surfaces is Marcel Breuer's U.S. Department of Housing and Urban Development Headquarters (1963-1968) in Washington, D.C. These mid-century American examples took to Expressionist ideologies to represent the country's post-war enthusiasm.

In America, designing buildings to capture the country's newfound status as a world power took on elephantine forms that dislodged the classical apparatus for monumental representation.⁹⁰ Architects abandoned historical styles as prominent design schools, such as the Graduate School of Design at Harvard University, the School of Architecture at Yale University, and the School of Fine Arts at the University of Pennsylvania, facilitated the search for a new means of expression. In post-war Philadelphia, George Holmes Perkins began retooling Penn's architectural education in 1951 as he invited Louis Kahn, Robert Geddes, Robert Venturi, Romaldo Giurgola and others to transform the curriculum and promote a progressive image.⁹¹ Perkins described this vigor as the city, after for nearly a quarter-century had been in the doldrums, "awoke with the energy to transform its center and assume a national architectural leadership through its urban renewal."⁹² Integral to these efforts is technology's fundamental role in the development of new forms.

89. Robinson & Associates, Inc., et. al. *Growth, Efficiency, and Modernism: GSA Buildings of the 1950s, 60s, and 70s* (Center for Historic Buildings, U.S. General Services Administration, 2006), 15.

90. Ibid., 515.

91. The architects listed here, along with a few others, would become collectively known as Philadelphia School.

92. George Holmes Perkins, "Part Four: Philadelphia Phoenix: Postwar Civic Renaissance and the Philadelphia School," in *Drawing Toward Building: Philadelphia Architectural Graphics 1732-1986*, ed. James F. O'Gorman et al. (Philadelphia, PA: Pennsylvania Academy of the Fine Arts, University of Pennsylvania, 1986), 204.

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A key factor in the Modern Movement's evolution of aesthetic theory was the humanizing of the machine. In his 1954 essay, "Eight Steps toward a Solid Architecture," Gropius's fifth step advocated for making a better use of science and the machine to serve human life.⁹³ Banham developed this belief further with his concepts surrounding the Machine Age; he characterized this by products of intuition that were either experimental or pragmatic.⁹⁴ Emblematic of the beliefs supported by these two men is Buckminster Fuller's Dymaxion House. Banham describes this structure as a mechanical revolution in domestic service aimed to harmonize man and environment while exploiting every benefit of science and technology.⁹⁵ This confidence in high technology adequately characterizes the Modern Movement in America during the 1960s—especially exemplified by the Roundhouse. The country's architectural profession gravitated towards designing in the spirit of monumentality coupled with a desire to exploit burgeoning technology.

Post-war America amply captures this zeitgeist of the Modern Movement as the country was flourishing in both the economic and political realm, and in technological advancements. The nation's recovery from the Great Depression introduced new challenges sparking a plethora of reforms in both government and architecture. As the population grew, there was a pressing need, or desire, to raze older building fabric to make way for new construction. The architecture of America's Modern Movement served as a catalyst to pervade the country's landscape. Paralleling these building campaigns was the nation's enthusiasm for investing in new technologies in the face of both the Cold War and Vietnam War. With the proliferation of mass production, the construction industry was overflowing with myriad building materials.

The effects of the country's reinstated vigor certainly impacted architectural design in Philadelphia. The architects and engineers recruited by Perkins that

93. Ockman, *Architecture Culture*, 179.

94. Banham, *Theory and Design*, 327.

95. Ibid.

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transformed Penn's architectural education are only a small piece of the larger puzzle. The buildings erected during the mid-twentieth-century in the city were designed by a wide-ranging, diverse group of architects that are often overshadowed by those included in the Philadelphia School. Robert Geddes is the only member of GBQC to be explicitly included in this group giving the other three architects short shrift. However, having briefly outlined the Modern Movement's discourse during these years affords a stronger base of knowledge from which to discuss the subsequent sections. These illustrate the ways in which the Roundhouse participated in and was influenced by the Modern Movement both at large and in Philadelphia.

3.2. The Roundhouse in the Context of Post-War Philadelphia

The history of post-war Philadelphia, much like many other major cities, is dominated by political reform and urban renewal initiatives. The Roundhouse fits neatly into this story, as it was an integral piece to one of the city's major renewal campaigns. The surrounding neighborhood, formerly referred to as Skid Row, was laden with crime and blight during the building's construction. Subsequent years saw a gradual improvement in the surrounding area, most notably including Franklin Square. In addition, from the late 1940s through to the early 1960s, Philadelphia experienced a number of legislative changes that affected development. Often, the Roundhouse goes unmentioned in this part of Philadelphia's history when, in fact, it is fundamentally linked to this narrative, and is reflective of the city's governmental and policy changes in regard to development.

Embracing its newfound position as the economic and political leader in the Western world, America began to shift its attention to the physical appearance of its great cities. New legislation, coupled with substantial funding, supported and encouraged emerging urban renewal initiatives across the country. New construction

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during these years hastily took the place of older existing buildings, Philadelphia being no exception. The city pioneered in legislative reform for redevelopment. The resulting architecture has come to be associated with the Modern Movement with the Roundhouse being exemplary of these national and local trends.

In 1945, Pennsylvania passed the Urban Redevelopment Law making it one of the first urban redevelopment laws to be enacted in the United States. It established the state's redevelopment authority, an agency that was responsible for enacting projects with public monies and was given the ability to acquire properties and land by eminent domain. Shortly after in 1949, President Harry S. Truman passed the Federal Housing Act granting the government the necessary authority to acquire land in city centers, which would then be sold or leased to redevelopment agencies and private developers. This legislation would be revised in 1954 under President Dwight D. Eisenhower resulting in new programs and financing options for renewal projects. The federal government felt redevelopment initiatives were inherently responsibility to relate to larger city plans and so, by law, required a workable program to be established at the local level. These programs were to identify plans that encompassed total city development.

In Philadelphia, as in most American cities, from the 1930s until the end of the Second World War, new construction was sparse. George Howe and William Lescaze's Philadelphia Savings Fund Society tower (1929-1932) at 12th and Market Streets was one of few buildings that reinvigorated optimism for a struggling urban center. The Great Depression left architects and city planners facing new challenges that beckoned for reform. It was not until 1947 with the "Better Philadelphia" exhibit, held at Gimbels Department Store, that newly revived efforts in urban design began to surface and excite the city. This exhibit educated the public about the city's physical development as well as demonstrated the benefits of urban renewal. Visitors were subjected to an array of projects that ultimately spoke to a larger vision for Philadelphia. This didactic effort

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integrated one of the earliest citywide redevelopment programs in post-war America.⁹⁶

During the 1950s, Philadelphia's government underwent substantial restructuring. The Home Rule Charter of 1951 created a stronger mayoral executive branch than had previously existed. Additionally, the city's Planning Commission was allotted increased power allowing them to more effectively direct the physical planning activities of the city's government.⁹⁷ Philadelphia pioneered in redevelopment legislation that paralleled the federal government's urban renewal programs during the 1950s and into the early 1960s.⁹⁸ With the election of Mayor Joseph Clark in 1952, the city's government shifted from Republican to Democratic and, in turn, shifted Philadelphia towards a more rigorous urban renewal agenda. This rigor continued as Mayor Richardson Dilworth came into office in 1956. The success and effectiveness of this reform hinged on the involvement of the city's government in housing and city planning affairs, in addition to non-profit organizations that consisted of concerned citizens and businessmen. These organizations included the Old Philadelphia Corporation, the Greater Philadelphia Movement, the Philadelphia Housing Association, and the Citizens' Council on City Planning.

The Roundhouse is seated amid a number of Philadelphia's most prominent urban renewal areas. These include Washington Square East, Market East, and Independence Mall. The newly empowered Planning Commission, backed by recent federal legislation, was quick to activate the project for Washington Square East beginning in 1957. Plans for the Society Hill Towers were submitted that same year. This area was to be developed strictly for residential use only and was made possible with the help of a federal planning grant.⁹⁹ The Dock Street Market was to be razed as soon as possible following the Redevelopment Authority's acquisition of the entire area via

96. Madeline Cohen, "Postwar City Planning in Philadelphia: Edmund Bacon and the Design of Washington Square East" (PhD diss., University of Pennsylvania, 1991), 2.

97. Ibid, 387.

98. Perkins, "Part Four: Philadelphia Phoenix," 204.

99. Valerie Sue Halverson Pace, "Society Hill, Philadelphia: Historic Preservation and Urban Renewal in Washington Square East" (Master's Thesis, University of Minnesota, 1976), 113.

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eminent domain by 1961.¹⁰⁰

Plans to redevelop Market East were discussed during the 1960s but were not completed until after the Roundhouse was constructed. Between the years 1954 and 1963, the retail sales of the Central Business District of the metropolitan area declined from 30% to 26%. In response to the closing of two department stores along Market Street, the Market Street East plan was written in 1966. This plan aimed to reverse the declining conditions of the area as well as resolve ongoing problems with the city's transportation system.¹⁰¹ Efforts for revitalizing this section of Market Street would continue into the subsequent years. The Gallery Mall opened in 1977 and was followed by the opening of the Market East Station in 1984.

To the east of the Roundhouse is Independence National Historical Park, the closest neighborhood in proximity to the Roundhouse subjected to a redevelopment project and whose plans directly affected the surrounding area. Beginning in the 1930s and 1940s, design proposals for a park began to emerge for Independence Mall.¹⁰² The proposal for the northern portion of the Mall met little opposition and required the demolition of three full blocks containing mostly commercial buildings. Throughout the 1940s and 1960s, this area was laden with blight and often referred to as Skid Row. Abandoned and under-utilized buildings lined the streets at the foot of the Ben Franklin Bridge (1922-1926); it was clear this area of the city lacked stability and any sense of community.¹⁰³

Work on the Mall began in 1951. Edmund Bacon shared his vision for the area in a letter he wrote that same year. He described how large, public spaces were to function differently than the residential areas just south of the park; he wanted commercial and industrial development to pervade the areas north of the Mall.¹⁰⁴ As work continued, a

100. Cohen, "Postwar City Planning in Philadelphia," 521.

101. Redevelopment Authority, *Market Street East General Neighborhood Renewal Plan* (October, 1966), 2.

102. Cohen, "Postwar City Planning in Philadelphia," 332.

103. *Ibid.*, 337.

104. *Ibid.*, 422.

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marketability study was conducted in 1959 that revealed a strong demand for offices surrounding this area of the city. By 1963, government buildings were being erected that would subsequently define the character of the areas contiguous to the Mall. These buildings include Pietro Belluschi's Rohm & Haas building (1964) at 6th and Market Streets and the United States Mint (1965-1969) on 5th Street between Race and Arch Streets by Vincent Kling & Associates. Siting the Roundhouse just west of the Mall was in keeping with this trend of constructing government buildings in this particular section of Philadelphia.

When the idea surfaced to relocate the Philadelphia Police out of City Hall and into their own building, the site for the building was to be carefully, and thoughtfully, selected. A separate building was desperately needed as operations in the basement of City Hall had become cramped and consequently insufficient. At first, Albert Greenfield and Harry Batten of the Old Philadelphia Development Corporation (OPDC) suggested that the new Police Administration Building be located in the Dock Street area.¹⁰⁵ However, John Robin, the executive vice president of the OPDC, rejected the idea arguing that this would be ruinous to Society Hill.¹⁰⁶ Mayor Richardson Dilworth would select the location for the Roundhouse in 1958. The new building was to be built just outside the heart of downtown, which Mayor Dilworth felt was advantageous to both the police and the city.¹⁰⁷ This site was centrally situated in relation to other police districts affording greater accessibility for the city's police department. Additionally, the construction of a new police building in this particular area was to be a catalyst for change and improve the dismal conditions of the neighborhood.

Initially, the Independence Mall Redevelopment Area Plan in 1966 proposed a site plan for the Roundhouse's immediate surroundings—7th Street to 9th Street and

105. Ibid., 465.

106. John Robin, interview by Walter Philips Sr., February 11, 1978, transcript, Philips Oral History Project, Temple University Urban Archives, Philadelphia, PA.

107. "The Changing City," *The Evening Bulletin*, February 27, 1958.

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Vine Street to Arch Street. This plan describes the area as having “unsafe, unsanitary, inadequate or over-crowded conditions of certain buildings.”¹⁰⁸ As a result of this plan’s initiative, many buildings were demolished whose lots remain vacant today, or have otherwise been converted into surface parking. The proposed site plan—set forth by the City Planning Commission—was loosely followed as efforts moved forward. The closing of Ridge Avenue provided the necessary land for the Vine Street Expressway ramps. These ramps would connect to Market East and the Metropolitan Hospital. However, the ramp to Market East was never built. Today, this area serves as a parking lot.

Directly north of the Roundhouse across Race Street is Franklin Square, one of William Penn’s original five squares from his 1682 plan. During the nineteenth and early twentieth-centuries, Franklin Square was surrounded by a thriving neighborhood. The years during the 1920s saw a decline in this neighborhood as both automobiles and the construction of the Ben Franklin Bridge created substantial traffic congestion; access to the park quickly became problematic for pedestrians. As stated earlier, this area of Philadelphia took on the name Skid Row. Jane Jacobs provides a telling description of this particular neighborhood in her book *The Death and Life of Great American Cities*:

“The second of Penn’s little parks is Franklin Square, the city’s Skid Row park where the homeless, the unemployed and the people of indigent leisure gather amid the adjacent flophouses, cheap hotels, missions, second hand clothing store, reading and writing lobbies, pawnshops, employment agencies, tattoo parlors, burlesque houses and eateries. This park and its users are both seedy, but it not a dangerous or crime park. Nevertheless, it has hardly worked as an anchor to real estate values or to social stability.”¹⁰⁹

Again, as urban revitalization efforts swept across the area during the 1950s and 1960s, many of the buildings surrounding Franklin Square were demolished. The loss of this building fabric meant a loss of residential character, and was further perpetuated by the creation of Independence National Historical Park. The Vine Street Expressway was

108. Philadelphia City Planning Commission, “Amendment Unit Four” in *Independence Mall: Center City Redevelopment Area* (Philadelphia: City Planning Commission, 1966).

109. Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage Books, 1992), 95.

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constructed in the 1980s making access to Franklin Square increasingly more difficult, and consequently more inviting for crime. Historic Philadelphia, Inc. renovated the park in 2006 reinvigorating its original purpose. Impetus for reinvesting in Franklin Square was spurred by the conversion of the former Metropolitan Hospital into luxury condominiums in 2002. According to architectural historian David Brownlee, the design of the Metropolitan Hospital was built “in sympathy” to the Roundhouse by mimicking its Expressionist form.¹¹⁰

When the Roundhouse was dedicated on April 1, 1963, the building was celebrated as a technological and symbolic tour de force (fig. 9). GBQC was awarded the American Institute of Architects’ Gold Medal Award for the best Philadelphia architecture of the year.¹¹¹ The Roundhouse brought renewed hope and momentum to a blighted neighborhood. The pamphlet accompanying the dedication ceremony praised it as the new “architectural focal point of the northern end of Independence Mall and an important contribution to the city’s downtown renewal.”¹¹² In attendance for the ceremony were approximately 600 people: most notably Mayor James Tate, Albert Brown (the Police Commissioner), GBQC, William H. Parker (Los Angeles Chief of Police), and George Holmes Perkins (Chairman of the City Planning Commission).

When Mayor Richardson Dilworth announced plans for this new police building, the public was diligent in keeping a close eye on its progress. The Philadelphia Police wanted their new headquarters to promote a positive public image. This paralleled the city’s social revitalization efforts as well as the large number of new construction projects. The big-boned, sculptural building bespoke civic pride and safety. Furthermore, the city’s investment in this type of design highlighted the progressive and innovative vision of the city’s governmental decision makers.

110. David Brownlee, interviewed by Kimber VanSant and Karina Bishop, October 24, 2012.

111. “Police Building Wins Awards of Architects,” *The Evening Bulletin*, April 1, 1963.

112. City of Philadelphia, “Dedication of Police Headquarters,” Monday, April 1, 1963, pamphlet from Temple University, Urban Archives, Philadelphia, PA.



Figure 9. Overhead view of the crowd in attendance at the Roundhouse's dedication held on April 1, 1963.

The Roundhouse was not without its critics. Philip Klein, the former Public Property Commissioner, disapproved of the design, stating in 1963: "Architects build this type of building for other architects to discuss and admire, certainly not for the utilitarian use needed in a police headquarters."¹¹³ Other criticism surfaced as wary employees complained of dizziness from the curvilinear circulation pattern, and questioned the round elevators where "passengers feel like a can of people" (fig. 10).¹¹⁴ The form and mass of the Roundhouse was unlike any other public building. The effort

113. Maurice M. Lewis, "Klein Views New Police Building: 'Ugly, Cost too High, Overcrowded,'" *The Evening Bulletin*, March 31, 1963.

114. James Smart, "In Our Town," *The Evening Bulletin*, July 13, 1963.

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by GBQC to create a transparency between the public and the Philadelphia Police through the large number of windows seemed to backfire; members of the public viewed these 432 windows as being the eyes of the police, they are everywhere, inescapable.¹¹⁵



Figure 10. View looking down one of the curving hallways to the central elevators. The wood paneling and light fixtures are original to the 1962 design.

The emerging architects of America's Modern Movement were confronted with a series of dilemmas that placed a strain on their commitment to quality. Some of these quandaries included whether or not to maintain the modern spirit that demanded "a constant quest for innovation in relationship to changing technologies and values," and if attempts should be made to "abandon the operation of modern architecture as too restrictive, and turn to other traditions in [their] formulation of a language."¹¹⁶ In the heart of Philadelphia, the design of the Roundhouse reflects the city's participation in this architectural soul-searching for a national heritage.¹¹⁷

Over the years, admiration for the Roundhouse gave way to skepticism. Frank

115. Michelle Osborn, "A Building That Invites Inspection," *The Evening Bulletin*, December 10, 1965.

116. Curtis, *Modern Architecture*, 548.

117. Perkins, "Part Four: Philadelphia Phoenix," 204.

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Rizzo, former Police Commissioner (1967-1971) and Mayor of Philadelphia (1972-1980), was largely responsible for generating the condemnation that persists to this day. Today, the Roundhouse often serves as the backdrop for local news reports and as a gathering place for groups. As a result, the building has subconsciously embedded itself into Philadelphia's culture and identity. Complimentary to this historical narrative is the Roundhouse's relation to the Philadelphia School. As will be discussed in the following section, this group of architects and engineers provided designs that transformed downtown Philadelphia.

3.3. The Philadelphia School: Its Origins and Influence

The Philadelphia School is a group of architects and engineers who are loosely defined by their work and subsequent design beliefs. This concept of the Philadelphia School was first introduced in a 1961 *Progressive Architecture* article by Jan Rowan entitled "Wanting to Be: The Philadelphia School." This group includes architects Louis Kahn, Robert Venturi, Romaldo Giurgola, Robert Geddes, and two engineers, Robert Le Ricolais and August Komendant. Kahn was pinpointed as the group's "spiritual leader" since his design principles were the driving force for most others.¹¹⁸ Rowan proclaimed that this School was to do for Philadelphia what the Chicago School did for their city during the late nineteenth-century.¹¹⁹ Some of the architects singled out by the *Progressive Architecture* article, including Robert Geddes, were hesitant to be narrowly classified into one style or group.¹²⁰ Yet, the association provided them with wider exposure affording them numerous commissions that reached outside the boundaries of Philadelphia. However, the grouping of these architects and designers is an inappropriate gesture by Rowan. Their individual ideologies are too diverse to constitute a bracketed association.

118. Jan C. Rowan, "Wanting to Be: The Philadelphia School," *Progressive Architecture* 42 (April 1961): 131.

119. Ibid., 163.

120. Ibid., 157.

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By lumping these professionals together, Rowan places limitations in understanding their individual contributions to the Modern Movement, and risks inappropriate assumptions.

In addition to Rowan's article, the Philadelphia School is also understood as a byproduct of the efforts of George Holmes Perkins. Perkins worked diligently to redefine architectural education within both the University of Pennsylvania's School of Fine Arts (today, the School of Design) and the city of Philadelphia. Each individual of this group taught at Penn distinctively influencing students. Largely, the Philadelphia School promoted a greater focus on context and developed their modern style by looking critically at history.¹²¹ These architects and engineers understood that there was an inherent need for Philadelphia to return to being a human-scaled city. Their goal was for the public to be engaged in conversation with architecture through associations buildings could bring forth.¹²²

GBQC's design for the Roundhouse embodies design theories surrounding human-scaled interaction with architecture as championed by the Philadelphia School. The rectilinear concrete panels that define the majority of the building's boundaries were meant to relate to Philadelphia's grid plan. The plaza on the north side of the building deliberately faces Franklin Square and acts as a welcoming civic entrance (fig. 11). The inclusion and design of this plaza was to afford the Roundhouse a grand, public presence along Race Street. Robert Geddes praised the plaza as serving as both the functional and symbolic center of a community, which speaks to the ideas shared by the Philadelphia School.¹²³ Shortly after the Roundhouse was completed, users of the building began entering on the south side for the sake of convenience, as this is where the parking lot is located. This forced the main entrance to close and never be used again. GBQC were deliberate in designing a structure that was to read as an inviting

121. Clendenin, "Thematic Context Statement."

122. Robert Coombs, "Philadelphia's Phantom School," *Progressive Architecture* (April 1976): 58.

123. Robert Geddes, "Possibilities in Architecture," *Architectural Record* 108 (November 1977): 107.

public entity.¹²⁴ The appearance was not meant to elicit the sense of jail, detainment, or an oppressive police force. Over time, however, the nature of the building's function prevailed cultivating a widespread negative perception.

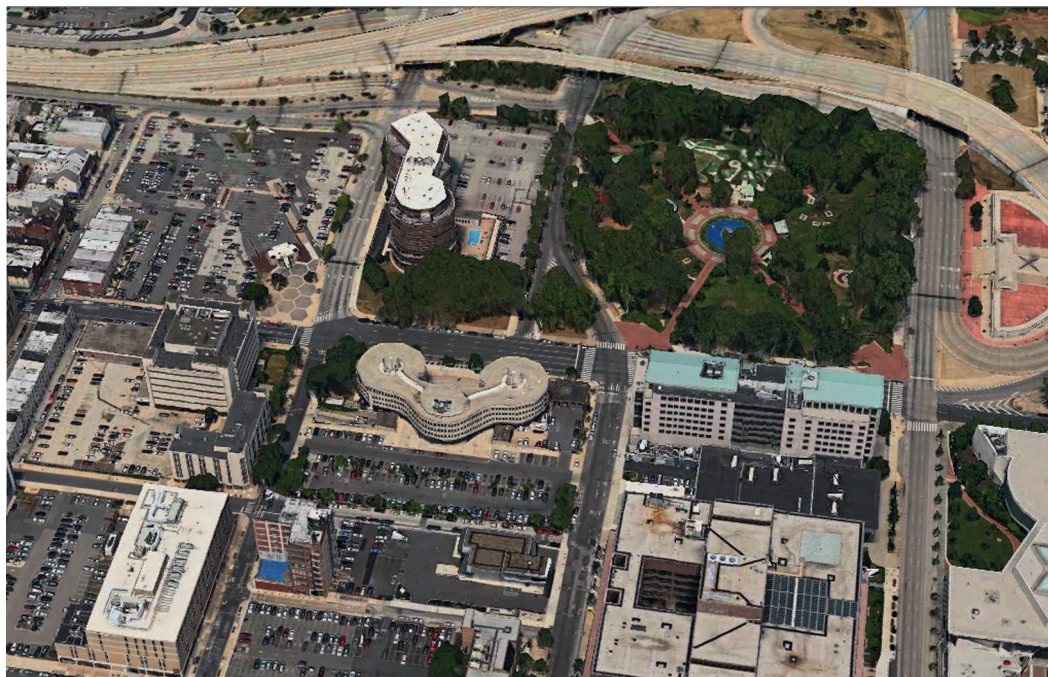


Figure 11. Aerial view illustrating the Roundhouse's relation to Franklin Square and the former Metropolitan Hospital.

3.4. Geddes, Brecher, Qualls and Cunningham: An Abbreviated History

Formed in 1959, the celebrated architectural firm of Geddes, Brecher, Qualls, and Cunningham designed numerous civic institutions in Philadelphia, the United States, and across the globe. After winning the American Institute of Architects' Gold Medal Award for Best Philadelphia Architecture in 1963, the firm won first prize for both the Birmingham-Jefferson Civic Center Design Competition and the Vienna South International Town Planning Competition during the early 1970s.¹²⁵ In 1979, the American Institute of Architects honored the firm with the highest professional honor awarding them the Architectural Firm Award. These achievements are only a small

124. "Circling in the Square," *Architectural Forum* 118 (1963): 120.

125. "Geddes Brecher Qualls Cunningham," Architectural Archives of the University of Pennsylvania, accessed October 21, 2012, <http://www.design.upenn.edu/archives/majorcollections/gbqc.html>.

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sample of the actual number of competitions the firm engaged in and the awards it received.

The beginnings of GBQC began when Robert Geddes and Melvin Brecher met as classmates at Harvard University's Graduate School of Design where the two earned Master of Architecture degrees in 1950. Three years later, Geddes and Brecher formed a practice that was soon succeeded by Geddes, Brecher, and Qualls in 1956. Prior to the creation of this firm, Geddes and Brecher were the runners-up for the Sydney Opera House competition in 1955. Warren Cunningham joined the group in 1958 to specifically collaborate with the firm for the design of the Moore School Pender Laboratory for the University of Pennsylvania.¹²⁶ GBQC officially formed when Mayor Richardson Dilworth commissioned the architects to design a building to house the Philadelphia Police in 1959, the firm's first public building.¹²⁷ At the time, the police department was cramped and confined in City Hall's basement preventing the department from functioning efficiently. Headquartered in Philadelphia and receiving this commission, GBQC was at the frontline of a changing city undergoing vast redevelopment projects. During this time, Philadelphia was vigorously restructuring the way it interacted with the public and soon became a hotbed of innovative architecture.

When Perkins became the new dean of the University of Pennsylvania's School of Fine Arts in 1951, he rebuilt Philadelphia's architectural education. He pursued this mission by restructuring the school's faculty with the incorporation of emerging prominent architects and planners, including both Geddes and Qualls. Perkins laid the foundations for what came to be known as the Philadelphia School. Geddes would remain at Penn until 1965 and then went on to become the dean of Princeton University's School of Design through to 1982.¹²⁸ Today, he is the school's William R.

126. Robert Geddes, "Principles and Precedents: Geddes Brecher Qualls Cunningham," *Process Architecture* 62 (October 1985): 5.

127. Ibid.

128. Emily T. Cooperman, "Geddes, Robert Louis (b. 1923)," *Philadelphia Architects and Buildings*, accessed October 4, 2012, http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/23846.

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Kenan, Jr. Professor of Architecture, Emeritus. Qualls stayed with the University of Pennsylvania into the 1990s.¹²⁹

GBQC, alongside Louis Kahn, Vincent Kling, Romaldo Giurgola, and others, worked to reshape the city of Philadelphia at the behest of Mayor Dilworth and Edmund Bacon. The resulting architecture is a representation of the city's desires to expand and adapt to an urban environment that is often largely defined by brick. Mid-century architecture was employed by Philadelphia to erase blight, as well as to implement a series of planning initiatives setting the direction for redevelopment and growth.¹³⁰ The Roundhouse is one of the many structures built as part of this effort, which was—and remains—highly contested among citizens and Civil Rights activist groups.

Following the construction of the Roundhouse, GBQC embarked on an ambitious career designing for both civic and educational institutions. The firm embraced large-scale projects serving a significant number of people. In 1965, GBQC was commissioned to design the United States Embassy in Islamabad, Pakistan. Here, the building acquiesced to the landscape and respected the site and the commanding scale of the surrounding terrain.¹³¹ The complex was completed in 1979.

The same year the firm began work on the Embassy, they began the design for a new dormitory for the University of Delaware. The Rodney Complex was completed in 1967 and accommodated both the private and communal needs of students in a campus setting.¹³² Following the Pender Laboratory and aforementioned dormitory project, GBQC would go on to design for many other colleges and universities. This includes an academic building at Beaver College Science in Glenside, Pennsylvania (1971), the Institute for Advanced Study in Princeton, New Jersey (1971), and Stockton State College in Pomona, New Jersey (1968-1983). These projects embodied spaces organized and

129. Emily T. Cooperman, "Qualls, George Wyckoff (1923-2001)," *Philadelphia Architects and Buildings*, accessed October 4, 2012, http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/23412.

130. Clendenin, "Thematic Context Statement."

131. Geddes, "Principles and Precedents," *Process Architecture*, 21.

132. *Ibid.*, 24.

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oriented towards specific functions customized to each given program. The material of choice was concrete, often accented by other materials, and was used in various ways to facilitate a sense of human scale in their buildings.

As for civic entities, GBQC's projects incorporated widespread planning in addition to architectural design. The commission for the Birmingham-Jefferson Civic Center in Alabama was the result of a national design competition held in 1966 (fig. 12). The plan is composed of four entertainment and cultural facilities surrounding a civic plaza.¹³³ In the wake of an expanding downtown development, this civic center created a new focal point for the community.¹³⁴ Following the completion of this complex in 1976, GBQC began the design for Liberty State Park in Jersey City, New Jersey. This project commenced in 1979 and was the state's first urban state park, and a catalyst for renewing the Hudson River waterfront.¹³⁵ One of the larger designs the firm pursued was the Vienna South International Town Planning Competition in 1971. This design was for a new community of 70,000 people along a 2,500-acre area of land extending four miles south of the city's historic core.¹³⁶ GBQC won first prize "on the basis of the jury's assessment of its rational distribution of movement and activity systems and flexibility for change and growth, its balanced monumental and human-scaled landscapes, and its varied buildings and open spaces."¹³⁷

Other notable buildings by GBQC include the Architects Housing Company in Trenton, New Jersey (1979), the Mobil Environmental and Health Science Laboratory in Hopewell, New Jersey (1983), and the south wing addition to the J. B. Speed Art Museum in Louisville, Kentucky (1983). Each of these accommodated and responded to different programmatic needs while emulating design principles pioneered by the firm.

In hindsight, the design for the Roundhouse was strongly experimental for

133. Ibid., 48.

134. Ibid., 48.

135. Ibid., 59.

136. Ibid., 134.

137. Ibid., 134.

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GBQC. In his 1985 article for *Process Architecture*, “A Technical Odyssey,” Geddes reflected on the building’s shortcomings questioning the use of the round form. As the firm contended with their “love/hate relationship with Mies’ structural clarity and Le Corbusier’s expressive plasticity,” the architects sought to combine the best lessons of both by means of designing a totally integrated building system.¹³⁸ 25 years later, Geddes observed that “first, the circle is a tyrannical form, difficult to enter and limiting in its spatial configuration. Second, integration itself has become so advanced that it was excessive; it offered the users less flexibility in terms of their long-term operations.”¹³⁹ Despite the innovative program created by GBQC, the Roundhouse’s design is not without its faults. Understanding these flaws requires a comprehensive outline of the building’s parti.

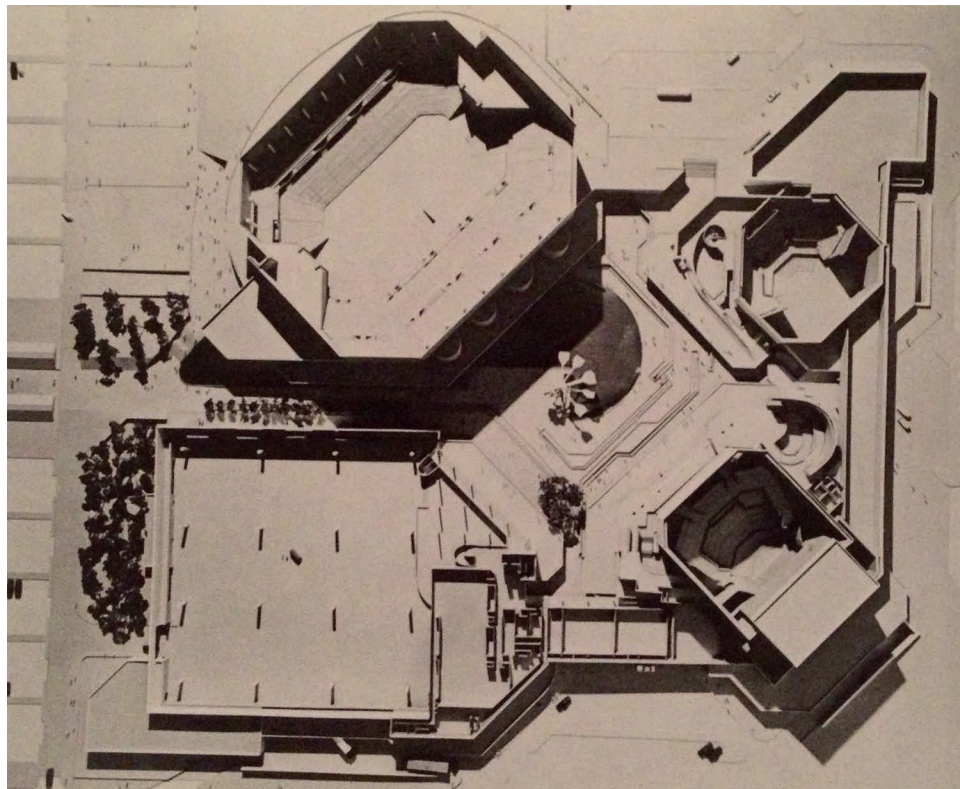


Figure 12. A model of the Birmingham-Jefferson Civic Center presented in the 1985 issue of *Process Architecture* authored by Robert Geddes.

138. Robert Geddes, “A Technical Odyssey,” *Process Architecture* 62 (October 1985): 128.

139. *Ibid.*, 129.

3.5. The Design of the Roundhouse

The design for the Roundhouse demonstrates core principles set forth by GBQC that both stress and celebrate the building's architectural significance. Philadelphia's post-war years ushered in a newly reformed government and police administration that paralleled innovative architectural explorations in materials and technology. The reinstated vigor in the city's governmental bodies translated into architectural design as evidenced by new construction. The form and mass of the Roundhouse was employed not only for its expressive ability, as achieved by the precast concrete panels, but also for the idea that its circular shape fostered efficiency in the building's program (fig. 13). When constructed in 1962, the building became a civic symbol meant to appear publically inviting in an attempt to avoid negative connotations commonly associated with police or governmental entities.

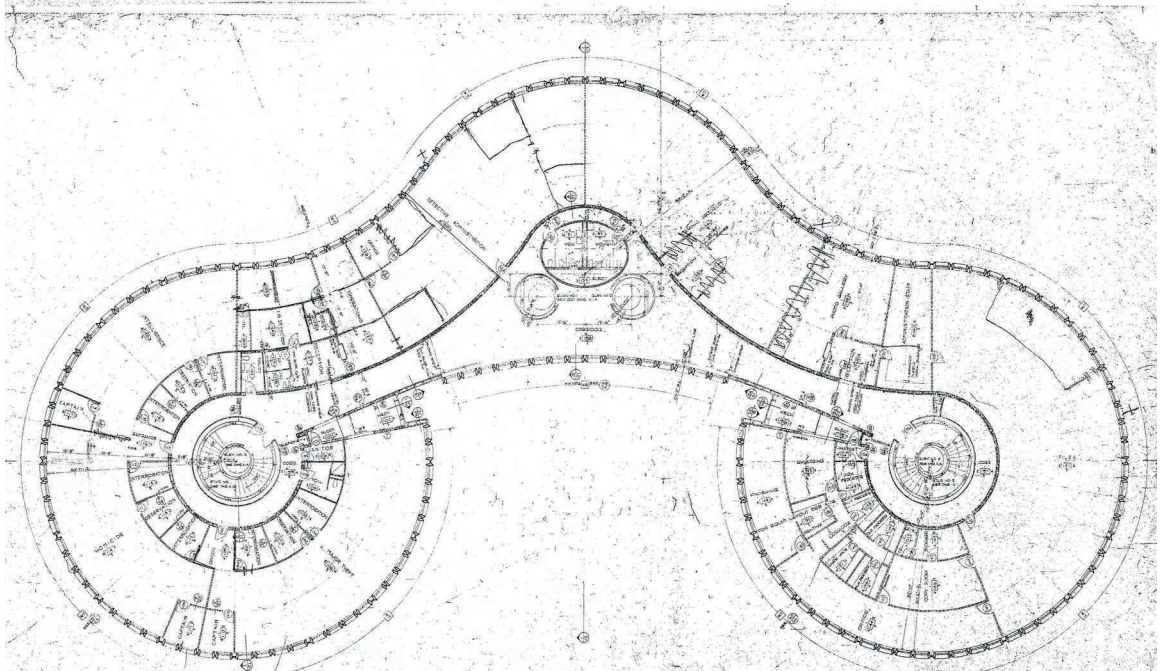


Figure 13. The floor plan of the first floor (one level above the lobby floor) illustrates the curving hallways and circulation patterns that are repeated on the upper two floors.

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There is a total of 125,000 square feet in the Roundhouse accommodating four floors. The basement contains detention cells and prisoner processing facilities, which GBQC purposefully placed underground to hide from public view.¹⁴⁰ The ground floor, originally accessed by the plaza on the north side of the building, presently contains an information desk for controlling traffic and visitors, as well as the Real Time Crime Center, auditorium, cafeteria, and office space. Shortly after the police began operations in their new building, the main entrance was abandoned as employees found the entrances on the south side more convenient with its location adjacent to the parking lot. GBQC's intentions for the building to visually relate to Franklin Square through what was hoped to be a populated plaza backfired. As a result, the plaza has sat vacant and unused further hampering Franklin Square's ability to function as a useful park. As detailed earlier, the design and inclusion of this plaza was to promote and welcome public engagement while being in conversation with the adjacent park. In addition to the plaza, tall concrete, rectangular panels delineate the majority of the building's perimeter as it meets the sidewalk. GBQC included these as a way to relate the rounded masses to the rectangular character of Philadelphia while providing employees of the building outdoor space and areas to house mechanical equipment.¹⁴¹ Today, this wall creates both a literal and figurative stark separation between the Philadelphia Police and the public.

The upper three floors, each comprised of 24,000 square feet, contain offices housing the various administrative departments of the Philadelphia Police Department. The precast panels that frame the main shaft of the building cantilever outward a total of 12 feet from the ground floor. The precast panels vary only slightly in size but are typically 5 feet wide by 32 feet in height. They are richly molded and contain a white quartz aggregate finish with a silicone treatment.¹⁴² On the interior, structural elements

140. "Circling in the Square," 121.

141. "Circling in the Square," 122.

142. August Komendant, "Precasting Makes New Strides," *Progressive Architecture* (October 1960): 191. The use of this silicone treatment was to help make the exterior of the concrete more impermeable to water.

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were treated with a smooth gray finish to allow for surfaces to be painted.¹⁴³ The windows puncturing the panels are deep-set and bronzed-tinted, sloping outward to provide space for the necessary mechanical functions.

The circulation throughout the building follows the curvilinear movement created by the undulating walls. This geometry eliminates the excessive visual length and monotony created by corridors of typical, rectangular office buildings.¹⁴⁴ In addition, the width of the corridors was tailored to the flow of traffic and affords a sense of location within the building.¹⁴⁵ Despite the efforts in maximizing the use of space, an *Evening Bulletin* article included in the January 13, 1963 issue describes the effects the building's design had on employees shortly after police began operations:

“Around is exactly the word.

The halls curve giddily this way and that, until a fellow walking down them begins to list a little like a sailor on a destroyer.

The elevator cars are round. When they're full, the passengers feel like a can of people.

Most of the smaller rooms are shaped like pie wedges. Some of the longer rooms curve gently.

For the first few days after the police department moved into the new headquarters, some of the policemen and the civilian employees, particularly women, complained of dizziness.

One man told me he once momentarily thought he felt the building gently rolling as he sat at his desk next to a curved outer wall.”¹⁴⁶

On the roof, circular, cast-in-place concrete penthouses enclose the mechanical systems (fig. 14). The use of cast-in-place concrete is limited to the foundations, lobby floor, corridor framing, and the cylindrical shafts that enclose the stairs and elevators.¹⁴⁷ These cylindrical cores act as restraining anchors for the precast concrete panels that comprise the building's structure.¹⁴⁸ The panels were post-tensioned as a means to

143. Ibid.

144. “Circling in the Square,” 122.

145. Komendant, “Precasting Makes New Strides,” 186.

146. Smart, “In Our Town.”

147. “Pioneering in Precast Concrete,” *Engineering News Record*, October 13, 1960, 59.

148. Komendant, “Precasting Makes New Strides,” 189.

exploit the structural capabilities of reinforced precast concrete.



Figure 14. The central, and largest, penthouse with the east penthouse in the background.

3.6. The Innovative Structural System of the Roundhouse

The structural system for the Roundhouse embodies distinguishing characteristics of both an architectural style and an engineering specimen. Several engineers were brought on for the construction of the Roundhouse. David Bloom was the principal engineer while August Komendant was responsible for the precast concrete panels. These panels create a fully integrated building system housing the structural, mechanical, and electrical systems. The process for manufacturing the panels utilized the process of Schokbeton. This allowed for the concave and convex forms that provide the Roundhouse its curvilinear character associated with the Expressionist style. Furthermore, these panels are a seminal example of Komendant's innovative structural engineering expertise.

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Ninety percent of the Roundhouse consists of concrete that is both cast-in-place and precast. Cast-in-place concrete is, again, limited to the footings, foundations, corridor floors, and the four elevator-stair cores. This creates the structural formwork and acts as an anchor for the precast concrete panels.¹⁴⁹ The cast-in-place concrete of the elevator-stair cores contain special bearing pockets to allow for the cast-in-place floor slabs and the precast panels to key into.¹⁵⁰

Overseeing the production and installation, Komendant post-tensioned the concrete so as to utilize the absolute potential of the concrete for the Roundhouse (fig. 15). As a material, concrete performs best in compression and has little tensile strength whereas steel performs best in tension. Both concrete and steel share similar coefficients of expansion (approximately 6.5×10^{-5}), allowing steel reinforcing to be used with concrete.

Pre-tensioning and post-tensioning are two techniques used to pre-stress concrete. This ensures that the structural concrete is in the necessary amount of compression so as to counteract any tensile strength imposed on the building during its service life. Post-tensioning concrete requires that hollow steel tubes be cast into the concrete panels that allow for wire tendons to be threaded through these openings. Once cured to the necessary strength, the panels are brought to the construction site where the wire tendons are then threaded through the steel tubes. These wire tendons are then connected to portable jacks on either end of the panel that administer more tensile strength than would typically be applied in the opposite direction. This technique requires permanent anchors to be embedded to either end of the concrete unit so as to transmit the necessary load. Once the post-tensioning process has been completed, the steel tubes are grouted to ensure that the wire tendons remain in place and are protected from corrosion.

149. Ibid., 189.

150. "Pioneering in Precast Concrete," 60.

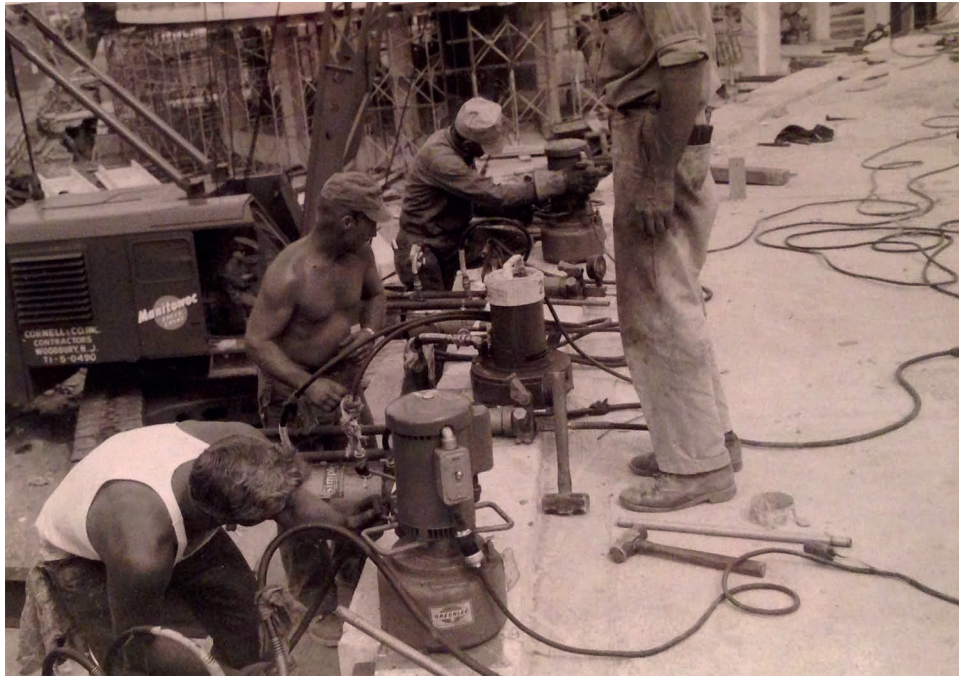


Figure 15. Construction workers pre-stressing the first floor concrete framing. Pictured in the photograph are the portable jacks that are connected to the wire tendons to apply more tensile strength.

For the Roundhouse, the first floor framing was subjected to this process with high-strength reinforcing bars that have an ultimate strength of 150,000 psi. In the top of the ribs, eight tendons were placed and carried through to the interior span of the floor panels. Threaded through the innermost third of the span are six tendons to resist the moment of the cantilever over the exterior columns. This form of pre-stressing, at the behest of Komendant, is responsible for the Roundhouse's excellent and continued structural performance. Similarly, GBQC's decision to use the Schokbeton process for precasting the building's panels illustrates the importance of technology's role throughout the design and construction processes. This method devoted considerable focus on the fundamental qualities of concrete in order to develop one of the most advanced technological methods for precasting.¹⁵¹ As a result, Schokbeton was a key

151. Pyburn, "The Role of Architectural Precast Concrete," 119. This article is cited extensively as Jack Pyburn is one of few scholars to research and write about Schokbeton.

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contributor to many buildings of the Modern Movement during the post-war years across the globe. This system was one of many agents for the internationalization of Modernism.¹⁵² The Roundhouse was one of the first buildings in the United States to use this system in all its significant manifestations.

3.7. Schokbeton: Its Origins and Application

The Schokbeton process was first created in Holland during the first quarter of the twentieth-century and subsequently patented by 1932. When translated from Dutch it means “shocked concrete.” The idea for this particular process was triggered by observations of a worker moving a wheelbarrow of concrete across uneven wooden scaffolding. The worker took notice of the effects this had on the uncured concrete sparking the idea to develop a new method for precasting.¹⁵³ After years of research and testing, the Schokbeton process resulted in the optimal water-to-cement ratios, the creative construction of molds, and calibrated shocking (vibration) of the cement during placement.¹⁵⁴ Additionally important to note is the use of glass-making equipment in place of typical equipment for manufacturing concrete to afford a more precise and higher quality product.

The development and use of reinforced concrete proliferated during the mid-nineteenth-century. However, preceding this advanced mode of manufacturing, concrete construction was first pioneered by the Romans and then rediscovered later by medieval builders who used it for the footings of foundation walls in large churches.¹⁵⁵ As the nineteenth-century progressed, new construction in England utilized concrete giving way to the hydraulic cement known as Portland cement.¹⁵⁶ Architects took to concrete

152. Ibid.

153. Ibid., 115

154. Ibid.

155. Carl Condit, *American Building Art: The Nineteenth Century* (New York: Oxford University Press, 1960), 223.

156. Ibid., Portland cement was invented by Joseph Aspdin during the 1820s in England.

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for its readily accessible materials, and for its ability to be cast into any continuous form without joints or connections.¹⁵⁷ These large forms, however, imparted the need to solve difficulties of reinforcing and stress to ensure structural stability.

Resolutions for these structural issues emerged during the 1860s in both France and England. Ernest Ransome, born in England, devised the now-universally used method of reinforced concrete when he patented ferro-concrete in 1884. He brought this widely criticized method to San Francisco and provided convincing evidence for reinforced concrete through his construction of bridges. Ransome's inventive imagination and skills acted as a stimulus for the widespread use of concrete that emerged at the end of the nineteenth-century.¹⁵⁸ With reinforcing technology soundly established, precasting concrete pervaded the building industry. Thus, the material became widely used as an acceptable exterior building finish by the mid-1950s.

Exploration of precasting concrete in the United States flourished after World War II. Shortly before the war, John Earley and his father, James, explored the aesthetic potential of precast concrete by producing exposed aggregate ornamental elements in Rosslyn, Virginia. This came to be known as the Earley Process and was employed for Louis Bourgeois's Baha'i Temple in Wilmette, Illinois (1920-1953); the panels of this building are white concrete with exposed quartz aggregate.¹⁵⁹ During the construction of this delicately detailed building, the Earley Studio collaborated with the Dextone Company of New Haven, Connecticut to form Mo-Sai Associates in 1940.¹⁶⁰ By 1959, Mo-Sai issued 14 licenses for its mosaic casting method.¹⁶¹ Furthermore, I.M. Pei's design for the Denver Hilton (1959-1960) was the first high-rise building to use architectural precast panels as the dominant exterior finish.¹⁶² Pei employed Mo-Sai Associates to produce

157. Ibid., 225.

158. Ibid., 240.

159. Sidney Freedman, "Architectural Precast Concrete," in *Twentieth-Century Building Materials: History and Conservation*, ed. Thomas C. Jester et. al. (New York: McGraw-Hill, 1995), 108.

160. Ibid., 110.

161. Pyburn, "The Role of Architectural Precast Concrete," 114.

162. Ibid., 117.

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the panels for this 22-story, 882-room luxury hotel that featured exposed aggregate excavated from the building's site. As this precasting company expanded during the post-war years, the Schokbeton process was introduced to the United States by 1958.

During the second quarter of the twentieth-century, the Schokbeton process was rapidly developed in the Netherlands. With growing building demands in a region depleted of wood, builders took advantage of the abundance of river rock and access to lime and pursued concrete construction.¹⁶³ The first product to be made using this process was for the windows of a barn constructed in the Netherlands during the 1930s. This segued into constructing barns entirely of precast concrete. These structures employed a honeycomb form allowing for the precast units to be easily inserted. Building in this manner led the Dutch to experiment with housing as assembly proved to be an efficient process. After honing this precasting process, the Dutch company N.V. Schokbeton exported the knowledge and technology internationally. This links the story of Schokbeton to post-World War II reconstruction in Europe, Cold War defense construction in Greenland, the end of colonialism in Africa, and the American building boom of the 1960s.¹⁶⁴

The introduction of Schokbeton to the United States is attributed to three men who acknowledged the potential of this precasting process and sought to profit from it. As an entrepreneurial American economist working with the U.S. State Department, George Santry encouraged the U.S. Army Corps of Engineers to use Schokbeton for the construction of air bases and communication outposts in Thule, Greenland.¹⁶⁵ Subcontracted for this job was N.V. Schokbeton in conjunction with North Atlantic Contractors, a construction consortium led by Kewit Construction Company. Donald Rothenhaus, a young American civil engineer, was responsible for managing this construction project. Rothenhaus later took over management of Precast Building

163. Ibid.

164. Ibid.

165. Ibid., 115.

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Section, Inc. (PBSI) in the states upon his return in 1952.¹⁶⁶ After having worked with the Schokbeton process, he modified PBSI's precasting methods. As a result of Rothenhaus's efforts, PBSI went on to precast the only piece of architectural precast concrete on the exterior of Frank Lloyd Wright's Guggenheim Museum.¹⁶⁷

After Santry completed his assignment with the U.S. State Department, he acquired exclusive rights to license Schokbeton in America in the mid-1950s. Upon learning about the opportunity to purchase a license, Rothenhaus tried to convince his employer at PBSI to do so, but was rejected twice.¹⁶⁸ This refusal led Rothenhaus and three other colleagues to purchase a license and establish Eastern Schokbeton in 1960, which went on to produce work for Marcel Breuer, Philip Johnson, Minoru Yamasaki, Edward Durrell Stone, and GBQC. This same year, the company received its first commission from Philip Johnson to fabricate a 3/4-sized study model in the form of a folly sited in the pond below the Glass House in New Canaan, Connecticut.¹⁶⁹ The commission for the Roundhouse followed shortly after and was the company's first large project. When GBQC decided they were to use precast concrete panels, they hired August Komendant to help design the panels and their necessary molds.¹⁷⁰ Moreover, Eastern Schokbeton called on the help of N.V. Schokbeton to execute the mold design and construction; a precast project of this complexity and scope had not yet been undertaken in the states.

Unique to this precasting method that differentiates it from others is the use of zero-slump concrete. The concrete mixture uses only enough water to activate the

166. Ibid., Precast Building Section, Inc. was established by Grosvenor Atterbury, a New York housing activist and architect. Atterbury worked with Frederick Law Olmstead to develop and apply concepts of precasting for housing in the midst of early suburban planned development; particularly for Forest Hills Gardens in the Borough of Queens in New York City. By 1950, the Atterbury process was engineered to cast large, lightweight concrete panels for affordable housing.

167. Ibid., 116. This piece is a circular copper coated band located at the round clearstory on the north corner of the building.

168. Ibid.

169. Ibid., 117.

170. Ibid.,

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chemical process of the cement.¹⁷¹ Using such a small amount of water allows for the concrete to dry quickly, develop its strength early, and be removed from the mold so other panels can be made.¹⁷² Additionally, the Schokbeton process creates a high-strength concrete with a uniform finish due to the mix and use of vibration. Using the maximum amount of stone in combination with zero-slump concrete resulted in a desirable optimum finish and strength. Other advantages of Schokbeton include the resulting water-resistant surface due to the required aggregate, sand, and cement ratio in conjunction with the compacting process.¹⁷³

In order to properly consolidate the concrete and avoid the inclusion of voids when using the Schokbeton process, a force other than gravity is required. This is due to the low workability that zero-slump concrete creates. To achieve this, a precisely calibrated shocking table was invented. Following the mixing inside upright drums with counter-rotating paddles, the concrete is poured into custom-designed molds that rest on the steel-framed shocking table—these upright drums are an example of some of the equipment used in making glass. For the Roundhouse, the molds for the panels measured 32.8 feet by 8.2 feet. Once the concrete has been poured into the apparatus, the table raises and lowers the mold about a quarter of an inch in the air about 250 times per minute.¹⁷⁴ Using the Schokbeton process, panels can be cast as large as 12 feet by 40 feet and have the ability to retain its strength. Inversely, panels could be cast as thin as two inches and still perform just as well as its larger counterparts. Compared to other precasting techniques available during the mid-twentieth-century, Schokbeton was considered to be one of the more expensive and laborious processes. This was largely attributed to the cost of the necessary equipment, such as the shocking table. However,

171. Komendant, "Precasting Makes New Strides," 189.

172. G. Husken, H. J. H. Brouwers, "On the early-age behavior of zero-slump concrete," *Cement and Concrete Research* 42 (2012): 501, accessed November 12, 2012, <http://josbrouwers.bwk.tue.nl/publications/Journal80.pdf>.

173. Bernard P. Spring and Donald Canty, "Concrete: The material that can do almost anything," *Architectural Forum* (1962): 92.

174. Pyburn, "The Role of Architectural Precast Concrete," 115.

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this process affords both great flexibility in design and the customization of color.

The use of Schokbeton for the Roundhouse's concrete panels is exemplary of the marriage between craft and technology. GBQC wanted a white exterior for the building that required the use of white cement, white sand from Maryland, and white quartz from Georgia. The coffered floor slabs were also manufactured using the Schokbeton process, but are gray in color to differentiate from the structure's exterior design and appearance. Only two variations of a precast concrete panel were used to construct this building further underlining the innovative design commanded by GBQC. There are a total of 144 exterior precast concrete wall panels that measure 5 feet by 35 feet in height, and contain web flanges that are 2-¼ inches thick and 21 inches in depth. Again, these panels serve as the structural system for the Roundhouse and house the mechanical and electrical equipment eliminating the need for a suspended ceiling.¹⁷⁵

Creating the space for the piping, heating units, air conditioning ducts, diffusers, and lighting fixtures required the design of several different joint details. For instance, "ears" were molded into the panels; these extend from the plane of the windows and act as points of connection. There are narrow "ears" that house the heating pipes and wider "ears" that house high-velocity air risers.¹⁷⁶ Komendant and GBQC gave deep consideration to the ways light would hit the panels and how these would control both water runoff and the collection of dirt.¹⁷⁷

Today, the Schokbeton process for precasting concrete is no longer used. As companies became increasingly driven by the bottom line, cheaper alternatives were sought. The labor-intensive process was soon determined inefficient in the face of rising demands for quicker construction. As a result, precast concrete suffered a loss of quality in craftsmanship. Architects and engineers were pressured by clients to avoid risky ventures. Continuously faced with how to deal architecturally with steel and concrete,

175. "Pioneering in Precast Concrete," 50.

176. Ibid.

177. Komendant, "Precasting Makes New Strides," 189.

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designers embarked on a complex process in providing answers resulting in a diverse body of aesthetic theory. However, conscious of Schokbeton's structural potential, August Komendant worked to reinforce and further exploit this precasting technology as demonstrated in the Roundhouse's panels.

3.8. August Komendant, a Structural Engineering Cowboy

An expertise in structural engineering, August Komendant was highly influential in the emerging field of precast concrete engineering during the mid-twentieth-century. He was brazen in his efforts to make feasible designs set forth by architects he collaborated with. Komendant achieved this by innovatively using techniques and materials, which Jack Pyburn, the Harrison Associates Visiting Scholar in Historic Preservation at the Georgia Institute of Technology, calls him a "structural engineering cowboy" for doing so.¹⁷⁸ Komendant is integral in the discourse of the Philadelphia School, the Modern Movement, and Philadelphia's transformative post-war years.

Born in Estonia on October 2, 1906, Komendant later moved to Germany where he would earn a doctorate from the Technical University in Dresden.¹⁷⁹ Interned by the United States Army during World War II, Komendant's engineering expertise was uncovered by General George Patten who employed his skills in determining the stability of bridges prior to allowing troops to cross.¹⁸⁰ This led to Komendant's recruiting to assist the United States Army in rebuilding war-damaged bridges across Europe. By 1950, he immigrated to the United States where he would form a consulting practice in Montclair, New Jersey.¹⁸¹ Based on Komendant's experience with concrete material while rebuilding war-damaged bridges, he published *Prestressed Concrete*

178. August E. Komendant, *18 years with architect Louis I. Kahn*, (Englewood, NJ: Aloray, 1975), 1.

179. "A. E. Komendant, 85, A Structural Engineer," *New York Times*, September 18, 1992, accessed October 8, 2012, ProQuest Historical Newspapers.

180. Carter Wiseman, *Louis I. Kahn: Beyond Time and Style* (New York: Norton, 2007), 96.

181. "Komendant, 85."

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Structures in 1952.¹⁸² His other seminal work, *Contemporary Concrete Structures*, was published in 1972.

From 1959 to 1974, Komendant was a professor of architecture and taught courses in structural engineering at the University of Pennsylvania. During his time there, he established a relationship with Louis Kahn. The two men met in 1956 and reveled in the fact that they were both born in Estonia. Kahn admired Komendant for pursuing designs that other structural engineers were too cowardly to consider. Komendant was commissioned by Kahn for Richards Medical Laboratories where post-tensioning was used for the building's concrete beams. Although their friendship was tenuous at times, the two men remained friends until Kahn's death in 1974.¹⁸³

Komendant's participation in the design and construction of the Roundhouse is integral to GBQC's efforts to work intimately with the building's technology. The firm approaches projects by working "more closely with the manufacturers of building systems" to ensure greater quality control, which, as GBQC believed, consequently expanded "the architectural possibilities."¹⁸⁴ Supporting this notion, Komendant wrote about the advantages of using precast concrete in a 1960 issue of *Progressive Architecture* professing that "prefabrication and prestressing allow the economical use of complex structural shapes and systems, since each casting mold is used repeatedly."¹⁸⁵ Designing and constructing buildings that are wisely budgeted and scheduled is a responsibility assumed by both the Roundhouse's architects and Komendant.¹⁸⁶ Therefore, the decisions to employ Schokbeton for the precast concrete panels and to build a curvilinear building were not chosen solely for the sake of innovation.

182. August E. Komendant, *Prestressed Concrete Structures* (New York: McGraw-Hill, 1952).

183. Komendant, *18 years*, 1.

184. Geddes, "A Technical Odyssey," 131, 132.

185. August Komendant, "Possibilities," *Progressive Architecture* (October 1960): 181.

186. Geddes, "A Technical Odyssey," 131.

3.9. Conclusion

The design and construction of Philadelphia's police headquarters occurred at a crux of change during the mid-twentieth-century within both Philadelphia and the United States. This change pervaded national, state, and local government, as well as the field of architecture and society as a whole. As the years following the Second World War churned, a newly reinvigorated America was passing legislation to improve the appearance of its great cities. These actions created a domino effect with state and local governments exploring redevelopment initiatives, which resulted in numerous building campaigns. This increase in available work proved to be an opportune time for architects.

Philadelphia's government underwent substantial reform with the election of a Democratic mayor in the early 1950s. With Edmund Bacon steering the city's Planning Commission, Philadelphia rigorously reshaped some of its most prominent neighborhoods with the hopes of eradicating blight. The Roundhouse finds itself amid Washington Square East, Market East, and Independence National Historical Park—three neighborhoods that underwent substantial redevelopment and influenced the siting of the new police headquarters. Despite the complicated legacy of these efforts, the idea was to excite the public and promote the city as a powerful juggernaut of innovation. The iconic design of the Roundhouse is one of the many buildings constructed to convey this heralded influence of greatness.

Architectural design during the mid-twentieth-century was in the midst of evolving. With the influences of Mies van der Rohe and Le Corbusier, America was emulating the rigid glass box and elephantine expressions of style. During the Modern Movement's post-war years, architecture was driven by the desire to explore and exploit burgeoning technological innovation. With mass production fostering a consumer society, building materials pervaded the built landscape resulting in a

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substantial amount of new construction. During this time, Philadelphia was a hotbed for architectural innovation. The Philadelphia School harnessed this energy to transform the city and lead the nation in pioneering architectural design. Today, GBQC's Roundhouse has become a vessel for recalling these influential trends.

The Expressionist style that characterizes the Roundhouse was achieved by both GBQC's design and the engineering expertise of August Komendant. GBQC's use of the rounded forms cultivated the iconic sculptural form of the building, and was used to promote efficiency in the building's program. The 144 precast concrete panels serve as the building's structural system and integrate both the electrical and mechanical systems. At the behest of Komendant, the use of Schokbeton to manufacture these panels largely contributes to the building's continued excellent structural performance.

The strong visual associations and public perceptions attached to the Roundhouse create a persistent cultural significance. The building stands as a beacon of Philadelphia's urban renewal efforts that serve as a pivotal moment in the city's history. Not only does the Roundhouse represent an established and familiar visual feature for both its neighborhood and Philadelphia, it also represents an important architectural achievement through innovative design and technological exploitation. With an understanding of the Roundhouse's multi-layered history strongly established, evaluating this building against traditional preservation theories, charters, and guidelines is the next step in this scholarly argument.

CHAPTER 4:
AN EVALUATION OF THEORIES, CHARTERS,
AND GUIDELINES IN LIGHT OF THE
PHILADELPHIA POLICE HEADQUARTERS

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The idea that current preservation methods for mid-century buildings warrant reconsideration is becoming more pervasive among preservationists. If the notion proves indisputable, then an evaluation of the field's theories, charters, and guidelines is necessary. In what ways do these accepted doctrines succeed and fail to adequately address the preservation needs of this era of architecture? The wide array and variety of issues presented by the Roundhouse allow for a number of traditional principles to be applied to this building. The chosen theories for this evaluation include: "The Lamp of Memory" from John Ruskin's *The Seven Lamps of Architecture*, William Morris's manifesto, "The Principles of the Society For the Protection of Ancient Buildings," Eugène Viollet-le-Duc's "Restoration" from *Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle*, and Alois Riegl's "The Modern Cult of Monuments: Its Essence and Its Development." Many preservationists look to these theories to inform or justify their decisions for a project. These are classic texts in the field chosen in this instance precisely because their lessons have yet to penetrate most discussions in light of mid-century resources. Although these may serve as strong foundations from which to begin, these theories present scant relevance for the preservation of these young resources.

Charters, much like guidelines, share objectives of conducting thorough, investigative research as a means of creating a systematic, scientific approach towards a preservation process. For the Roundhouse, and other mid-century buildings, this vital step remains at the forefront of any preservation methodology. Following this beginning step is where the various charters begin to diverge and introduce contrasting ideas for preservation. There is much contention surrounding perspectives of significance, authenticity, cultural heritage, and tangible versus intangible values. In order to discern the shortcomings of traditional beliefs and practices, the Roundhouse is subjected to the following charters: the Venice Charter, the Burra Charter, and the Nara Document on Authenticity.

Finally, this assessment will end with the Secretary of the Interior's Standards

for the Treatment of Historic Properties. The four treatment options of these guidelines are applied to the Roundhouse to uncover the inherent constraints associated with preservation, rehabilitation, restoration, and reconstruction. The implications of these limitations from not only the Secretary of the Interior's Standards, but also from the theories and charters, will help to reveal the necessary obligations of reevaluating such items as a means to keep the field of preservation viable and relevant. For the Roundhouse and other mid-century buildings, the best methodology contains an inherent flexibility that allows for alternative approaches.¹⁸⁷ For example, preservation guidelines need to begin permitting replacement of materials with not only in-kind substitutes, but also with newer, better materials that convey a mid-century building's original design intent. Including this option for preserving mid-century buildings correlates to the emerging shifts in preservation theory regarding significance and authenticity.

4.1. Theories

4.1.1. John Ruskin & "The Lamp of Memory" from *The Seven Lamps of Architecture*

Two contradictions plaguing the preservation of mid-century architecture are "restoration is a lie" and "the glory of a building is in its age." These two beliefs form the basis for John Ruskin's sixth lamp, "The Lamp of Memory," found in *The Seven Lamps of Architecture*. With an emphasis on material authenticity and minimal intervention to historic fabric, Ruskin proclaims that restoration destroys a building's integrity. When subjecting the Roundhouse to Ruskin's scrutiny, the inappropriateness of his principles becomes evident. The proclamation that architecture serves as the cornerstone of history remains relevant for historic resources of the Modern Movement.

Ruskin's publication was unable to anticipate the changes that were to come

187. Prudon, *Preservation of Modern Architecture*, 74.

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to the building industry in the coming century. The post-war years saw a proliferation of materials that was propagated by standardization and mass-production. In turn, architecture underwent a series of transformations that resulted in quicker construction methods using impermanent materials. As manufacturing technology developed more efficient means for production, materials experienced an inverse effect and began to decrease in quality. The perpetual modification of materials since the mid-nineteenth-century has forced a change in understanding authenticity. In light of mid-century architecture, this changing of meaning behind authenticity has both paralleled and fostered the acceptance of intangible elements in preservation. Because of this, the materials found throughout the Roundhouse conflict with Ruskin's theory.

As contemporary debates emerge over preserving mid-century buildings, preservationists need to more widely tout that architecture is key to remembering the past. Ruskin abides this when he stresses that "when we build, let us think we build for ever" so that future generations can profit from the knowledge of the past.¹⁸⁸ The didactic potential of the Roundhouse for not only current prospects, but also future opportunities is substantial. The pedagogic capability inherent in this building is bolstered by the fully integrated system composed by the precast concrete panels, interior elements, and the historical context of the 1950s and 1960s surrounding the design and construction. The significance of the Roundhouse is too extensive and considerable to deprive future years of the benefits, which current preservationists are responsible to bequeath.¹⁸⁹ As noble of an endeavor as this is, there is still much to consider that is in direct opposition to Ruskin.

Romanticizing a building based on its age is a bias that must be shed if such a credence is preventing the rightful acknowledgement of a mid-century building's significance. According to Ruskin, however, a building does not reach its prime until

188. John Ruskin, "The Lamp of Memory," in *The Seven Lamps of Architecture* (New York: NY: John Wiley and Sons, 1891), 172, 165.

189. Ibid., 172.

four or five centuries have passed.¹⁹⁰ If that much time were allowed to transpire before considering the proper preservation of a mid-century resource, there would be few buildings left to tend—the Roundhouse having likely to be long-since demolished. Ruskin’s emphasis on age is augmented by the desired consequences—or inherent beauty—owing to the effects of time.¹⁹¹ Achieving this longevity requires building materials to be capable of long service lives. However, the evolution of materials during the first half of the twentieth-century arguably compromised a building’s longevity for the sake of efficiency, economics, and commercial imperatives.¹⁹² Standardization and quicker production times led to cheaper options and faster construction. The Roundhouse used such materials in its precast concrete panels and custom-designed interior features. The inability for much of the interior materials to age gracefully and stand the test of time makes them unsuited to meet Ruskin’s plea for materials to bear “lasting witness...through the lapse of season and times, and the decline and birth of dynasties, and the changing of the face of the earth,” so as to connect “forgotten and following ages with each other.”¹⁹³ Replacing or repairing these materials would further offend Ruskin’s beliefs, especially when discussing the idea of restoration.

Understanding the desired effects of time requires an understanding of Ruskin’s concept of picturesqueness. More importantly, this concept warrants recognition of changing perceptions over time as this directly affects mid-century buildings. The construction of the Roundhouse in the early 1960s was followed by reverence from critics as exemplified by the American Institute of Architects awarding GBQC the Gold Medal for best Philadelphia architecture in 1963. Since then, the perception of the Roundhouse has shifted to a more disdainful perspective clouding the building in negativity. Additionally, the bold, curvaceous form created by the concrete panels has

190. Ibid., 179.

191. Ibid., 174.

192. Michael A. Tomlan, *Twentieth-Century Building Materials: History and Conservation*, ed. Thomas C. Jester (New York, NY: McGraw-Hill, 1995), 37-39.

193. Ruskin, “The Lamp of Memory,” 173.

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incorrectly labeled the building under the stylistic category of Brutalism. As of late, this style has been entangled in debates concerning its importance. The Roundhouse has consequently become unfairly associated with Boston City Hall (Kallman, McKinnell, and Knowles, 1963-1968), the Art and Architecture Building at Yale University (Paul Rudolph, 1959-1963), and the United States Mint (Vincent Kling & Associates, 1965-1969) in Philadelphia. By most contemporary standards, these buildings, and the Roundhouse, fail to exude picturesqueness.

The symbolic importance of the appearance of ruin and decay for architecture is illustrated in Ruskin's discussion on Parasitical Sublimity. Under these criteria, the Roundhouse cannot seem worth preserving. As these concrete structures increasingly display signs of age, their appearance suggests material failure and consequently strengthens negative perceptions. By allowing such buildings to age and acquire patina—which conjures up notions of rustic beauty—the resulting image defies the etymological sense of sublimity and beauty.¹⁹⁴ Such aesthetic pleasures are products of the deterioration of traditional materials such as wood and stone. Architects practicing during the Modern Movement's post-war years found these traditional materials to be inadequate for modern needs; and in the face of experimentation and scientific advancement during these years, new materials promoted pristine appearances intended to combat notions of decay. Traditionally, as buildings age, historical significance accrues and is further signified by patina. Relying on this passage of time to present tangible evidence can no longer remain at the fore as preservationists work more frequently with mid-century resources.

Defying this reliance on the evidence of age means subjecting a mid-century building to restoration. Acts of maintenance, as promoted by Ruskin, ward off this tangible evidence so as to avoid restoration campaigns. This presents the first contradiction in the latter half of "The Lamp of Memory." If maintaining the

194. Ibid., 175.

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Roundhouse means either cleaning the concrete to remove soiling or by infilling voids due to spalling, Ruskin would argue these actions both remove the desired effects provided by nature through time, and create deceit by conjecturing what once existed in the spalled area. Furthermore, the aging and/or failing of materials manufactured during the mid-twentieth-century invoke reactions to replace either in kind or with a newer material. Ruskin would undoubtedly declare restoration of the Roundhouse a debauchery because such an act would offend his philosophies. This is evidenced by Ruskin's belief that restoring a building is "as impossible as to raise the dead."¹⁹⁵

A second contradiction lies, again, in Ruskin's opinion on maintenance versus preservation of a building. Comparing these two notions requires recognition of how each is defined by Ruskin and then compared to today's definitions. Today, our understanding of maintenance parallels Ruskin's; meaning, maintenance is performed as a means to avoid dilapidation, and any possibility of restoration. However, notions of preservation have evolved due to similarly evolving discourses. Ruskin disapproved of tampering with a building. He asserted that buildings do not belong to the present; rather, buildings belong to those of the past and future generations. Today, preservation has grown to become a professional practice conferring responsibility on individuals to ensure a building's longevity in respect to past and future generations. Moreover, mid-century buildings have the added task of rallying support and persuading the adversaries to acknowledge significance from a different perspective. Preventative maintenance has become integral to preservation activities paying homage to Ruskin's philosophy. Such activities in the Roundhouse challenge many of Ruskin's notions considering the temporal nature of the building's materials.

A distressing threat to mid-century architecture emerges as Ruskin concludes his sixth lamp of architecture. His declaration that reads, "What we have ourselves built, we are liberty to throw down," places architecture of this era at risk of senseless

195. Ibid., 180.

demolition.¹⁹⁶ If adhering to Ruskin's school of thought, it is this specific strain, in addition to age-related biases, that preservationists need to avoid. Greater cognizance of the idea that a building erected during one's lifetime does not discredit its significance is an imperative. This then segues into Ruskin's remarks regarding violent mobs that he claims causelessly destroy architecture.¹⁹⁷ In the case of the Roundhouse, the careless mob threatening the building consists of Philadelphia's government and those who cannot shed biases that inhibit their ability to understand its significance. Allowing this mob to act carelessly would result in the loss of an important historic resource that would consequently deprive future generations.

As popular tastes and notions of significance succumb to the juggernaut of change, Ruskin's "The Lamp of Memory" is inappropriate for the preservation of mid-century buildings. Architecture will continue to serve as the cornerstone of memory, but with the acceptance that restoration can be additive as opposed to destructive.¹⁹⁸ Preserving artistic integrity requires broader thinking and retaining the architect's intent in lieu of fragments of materials. If the field of preservation fails to evolve as new types of resources present unprecedented preservation opportunities, then the field will be rendered obsolete. The Roundhouse is one of many mid-century buildings to lay the foundations for a modified preservation approach that learns from the likes of Ruskin.

4.1.2. William Morris & "The Principles of the Society For the Protection of Ancient Buildings"

The founding principles put forth by William Morris for the Society for the Protection of Ancient Buildings (SPAB) began as a reactionary organization that has since transformed into a primarily educational effort. Considering the group's objective

196. Ibid., 182.

197. Ibid., 181.

198. Janet A. Null, "Restorers, Villains, and Vandals," *Bulletin of the Association for Preservation Technology; Principles in Practice* 17, no. 3/4 (1985): 32.

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to fight the excesses of the Gothic Revival during the nineteenth-century, any relevance of this manifesto to the Roundhouse quickly appears negligible. Morris's emphasis on preservation serving future generations, however, serves as the first concept to transcend this premature judgment. The general impetus for preservation is to provide future generations didactic reminders and resources of society's rich history—including the era of mid-century architecture. Furthermore, this emphasis parlays into contemporary preservation practices for mid-century buildings, as Morris envisioned variations of efforts that would allow for the integrity of the past to merge with both present and future architecture.¹⁹⁹ Today, there are countless examples of projects incorporating this merging of the past with the present as a means to emphasize a building's integrity.

The historical conditions that sparked Morris's manifesto have modern-day counterparts of these now animating the discussions of mid-century architectural resources. The burgeoning technologies and materials that emerged during Morris's lifetime were found to affect the treatments of historic buildings; the same can be said for the needs of mid-twentieth-century resources. The innovative construction of the Roundhouse exemplifies how highly mechanized technology is challenging traditional preservation methodologies. Within the Roundhouse's precast concrete panels are the mechanical and electrical systems which complicate maintenance and minimally invasive adaptive reuse options. Physically tampering with these panels would compromise the building's structural integrity.

Given the two different contexts for Morris's manifesto and the Roundhouse, being aware of the historical specificity of Morris's key words is important. Morris's declaration celebrates the craftsman and discourages mimicry for the sake of restoration—as this is an act of forgery in his view. Such falsehood deprives future generations of authenticity. To properly celebrate the craftsmen of the Roundhouse,

199. Andrea Elizabeth Donovan, *William Morris and the Society for the Protection of Ancient Buildings* (New York, NY: Routledge, 2008): 7.

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a philosophical shift is required to redefine what constitutes craft under today's standards.²⁰⁰ Buildings from the Modern Movement ruptured the traditional sense of craft with an increased reliance on machine-made materials. The technology available to August Komendant and GBQC was unprecedented. The inherent art in the work of a craftsman has shifted into a different kind of pluralistic effort. This effort of the "craftsmen" now includes the company producing the product, the product designer, the men operating the factory where the product was made, and the machines used for assembly. The vital difference in this contemporary understanding is the inclusion of the machine. The use of Schokbeton to precast the concrete panels exemplifies this new understanding of pluralistic effort. Designing and manufacturing these panels required sophisticated machinery taking much of the physical labor off of the hands of the craftsmen.

The rapid losses of mid-century resources add urgency to the ongoing debate of whether or not these buildings are too young to be considered historically significant. The forces in opposition to the preservation of the Roundhouse are advocating its demolition, as they are unable to shed their subjective perspectives. The building's use as a police headquarters and the association with the former commissioner and mayor, Frank Rizzo, hinders necessary preservation efforts. Morris responds to these kinds of skepticisms in his manifesto when he writes, "if the present treatment of them be continued, our descendants will find them useless for study and chilling to enthusiasm."²⁰¹ Meaning, the current treatment of mid-century resources involves either demolition or insensitive alterations that falsify and destroy their integrity. Avoiding preemptive preservation is irresponsible. Therefore, allowing stigmas and biases to inform decisions—such as demolition—consequently results in a senseless gap in both societal and architectural history.

200. Prudon, *Preservation of Modern Architecture*, 55.

201. William Morris, "The Manifesto," The Society for the Protection of Ancient Buildings, accessed March 7, 2013, <http://www.spab.org.uk/what-is-spab-/the-manifesto/>.

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Thus far, Morris's manifesto appears to be partially applicable for preservation notions of the Roundhouse and other mid-century buildings. This limited use begins and ends with Morris's beliefs regarding proper treatment of historic resources so as to retain them for future generations. The beliefs of SPAB that begin to fall short for adequately addressing the Roundhouse's preservation are viewpoints regarding restoration and retention of original materials. As many in the field are finding today, traditional preservation methodologies resting on the theories of Morris, Ruskin, and Alois Riegl conflict with ideas of authenticity, significance, and integrity for mid-century architecture.

Aforementioned in this evaluation was the idea of restoration. Morris defines restoration as a "strange and most fatal idea" that strips a building of its history.²⁰² Restoration has become commonplace in preservation practice and has led to the successful longevity of myriad historic resources. Moreover, restoration is arguably more suited to a building made of industrial materials not meant to show age. Restoration of the Roundhouse must take into account the totality of design that encompasses the customized interior features. However, like many other mid-century buildings, these customized features were designed with materials that fail to age gracefully and beckon for replacement. Replacing these types of materials would be considered ignoble actions under the SPAB manifesto.

An appropriate treatment of the Roundhouse's custom-designed features would begin to blur the lines between Morris's discussions of restoration versus repair. As mid-century materials begin to visibly age, the overwhelming assumption driving their removal or replacement by preservationists is that they must be failing. Tampering with the building and eliminating any evidence of antiquity also interrupts history. Needed repairs, as Morris debates, are inevitably cloaked in the "unmistakable fashion of the

202. Ibid.

time” creating a gap in the historical lineage established by the building.²⁰³ Mid-century buildings were, and still are, highly susceptible to small alterations and repairs over the years. The Roundhouse is no exception. The custom-made round elevator doors were replaced in the 1970s due to constant malfunctions. Interior spaces have been repainted, rearranged, and adjusted for environmental comfort. Exterior changes have been minimal and include replacement of window types and the addition of mechanical equipment, both due to concerns of energy efficiency. Since 1962, the builder’s users have made necessary adjustments to meet the demands of a functioning police headquarters. If the Roundhouse were to undergo substantial restoration, much of the materials and fixtures found in the interior spaces would require replacement with in-kind materials.

The SPAB’s manifesto advocates saving anything “which can be looked on as artistic, picturesque, historical, antique, or substantial,” necessitates another philosophical shift for the preservation of mid-century buildings.²⁰⁴ When Morris wrote these words in 1877, he was referring to tangible elements of a building. As mid-century buildings are proving, the elements worth saving are transitioning from tangible evidence to intangible aspects. If preservation of the Roundhouse aims to retain the spirit and ingenuity inherent in the design, then a number of tangible components will have to be removed, replaced, or reinterpreted. Both the nineteenth-century perspective and the twentieth-century perspective rely on sound judgments from professionals. These judgments are influenced and informed by exhaustive research and expert knowledge of appropriate treatments. The appropriate treatments, however, are where the line is drawn between the two centuries of thought.

Morris’s acknowledgement of architecture as a dynamic entity needing to adapt to changing influences runs counter to the preservation of mid-century architecture.²⁰⁵

203. Ibid.

204. Ibid.

205. Ibid.

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Largely practiced today is preservation through the means of alterations or additions using contemporary means in a contemporary style, done in such a manner as to avoid overpowering the historic resource.²⁰⁶ A further interpretation of this is seen through the many “glass box” additions made to historic buildings (fig. 16). The transparent property of glass fostered by the thin supporting structural members makes these new structures visually subservient to the adjacent historic building. This now-generic approach inhibits the possibility of innovative solutions by architects by impeding on emerging interdisciplinary participation. Adapting the Roundhouse in light of increased demands for both energy performance and accommodating technology requires new ways of thinking that contrast the traditional methodologies influenced by Morris.

This conflicting ideology reveals the shortcomings of Morris’s manifesto when applied to mid-century architecture. As preservation for the Roundhouse moves forward, practitioners need to pay greater homage to the building’s intangible qualities so as to reflect the progressive spirit in which it was built. This approach stands in direct opposition to Morris’s creed that “modern art cannot meddle with without destroying.”²⁰⁷ His manifesto is too fixated on protecting particular materials and aesthetic qualities to serve the Roundhouse’s needs. Instead, adding to the historical narrative of the Roundhouse by embracing novel modifications and additions would augment Morris’s encouragement that such instructive and venerable qualities are to be handed down to future generations.

206. Donovan, *William Morris*, 8.

207. Morris, “The Manifesto.”



Figure 16. On the left is the Cambridge Public Library (Henry Van Brunt, 1888) and on the right is the addition designed by William Rawn Associates in 2009. Note how the scale of the visually-subservient-glass box addition respects the original library.

4.1.3. Eugène Viollet-le-Duc & “Restoration” from *Dictionnaire raisonné de l’architecture française du XI^e au XVI^e siècle* (Analytical Dictionary of French Architecture from the XIth to the XVIth Century)

At first glance, Viollet-le-Duc’s theories on restoration appear to be the most suitable for providing a base from which to develop a preservation methodology for the Roundhouse. As an architect, Viollet-le-Duc brazenly explored new forms, structural technologies, and materials.²⁰⁸ In the opening lines of his classic essay, his famous proposition that restoration should reinstate a building “in a condition of completeness that could have never existed at any given time” is often disputed by preservationists contesting this action falsifies a historic resource.²⁰⁹ For Viollet-le-Duc, this approach was a means to perpetuate the glory of a building.

208. Prudon, *Preservation of Modern Architecture*, 55.

209. M. F. Hearn, *The Architectural Theory of Viollet-le-Duc: Readings and Commentary* (Cambridge, MA: MIT Press, 1990), 269.

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Pursuing this lofty ambition demands a comprehensive understanding of the building through exhaustive research. Viollet-le-Duc described this as uncovering the temperament of a building—fully absorbing the structure, style, construction, and technology. The restorer is asked to emulate the building’s architect(s) and conduct the work in the same manner that the architect would if given the same tools and technology available at the time of the project. In the case of the Roundhouse, this affords an opportunity for bold, creative thinking.

In Viollet-le-Duc’s view, restoration work should be informed by the understanding of all modifications that have occurred over the years. Such alterations were often necessitated due to some degree of failure or inadequacy in materials and, therefore, were replaced with substitute materials in a more perfect way.²¹⁰ The outcome affords the building a new ease of existence and, ideally, prevents recurrences of situations that initially required intervention.²¹¹ Unanticipated by Viollet-le-Duc was the increasing rate of change of technology over the years that renders much restoration work obsolete as newer, better materials emerge. Continuously upgrading a historic resource based on these ideals dangerously diminishes the integrity by eventually cloaking a building with an entirely new design and appearance. If a new preservation methodology allows for the replacement of materials with newer, better materials, then there needs to be a limit to the frequency with which this occurs.

Subjecting the Roundhouse to Viollet-le-Duc’s restoration philosophy would be ruinous to the building’s integrity. Much of the interior, according to Viollet-le-Duc’s standards, would be deemed inferior in quality, necessitating the removal of such custom-designed features as the exit signs, wood paneling, and light fixtures. Under the purview of current preservation principles, replacing these elements with newer ones disrupts the balance between tangible and intangible components, and potentially

210. Hearn, *The Architectural Theory of Viollet-le-Duc*, 275.

211. *Ibid.*, 269.

compromises authenticity in the overall design intent. There would be an overwhelming reliance on immaterial cultural perspectives that would consequently set a dangerous precedent for future similar preservation projects.

In light of this evaluation, numerous preservation-related shortcomings reveal themselves throughout Viollet-le-Duc's writing. His insistence that a building, in this case the Roundhouse, "ought not be less convenient when it leaves the architect's hands than it was before restoration" stems, perhaps, from good intentions, but does not take into account future situations, planned or otherwise.²¹² Following restoration, if the Roundhouse was deemed inconvenient and required a second restoration campaign, historical significance and integrity risks becoming too far removed from GBQC's original intended design. This depends on the number of years this newfound inconvenience occurs and whether or not the initial restoration becomes significant in itself—which is currently the case with Viollet-le-Duc's restoration of Notre-Dame de Paris (1845-1864). A central goal in the Roundhouse's restoration would presumably be to properly preserve and celebrate the ingenuities designed by GBQC that provided the building with its significance inherent in the materials.

Many of the ideas put forth by Viollet-le-Duc seem well suited for the preservation of the Roundhouse. His creed on restoration, however, needs to serve solely as the foundation on which to build a successful plan of action. As advocated by Viollet-le-Duc, restoration solutions should emulate the spirit in which the building was built. Consider the context of the Roundhouse's construction during the mid-twentieth-century: Philadelphia was reinventing itself and undergoing an unprecedented shift. As denoted by Viollet-le-Duc, modifications should not be limited to paying regard to vestiges indicating an architectural arrangement; rather, they need to also pay regard to vestiges of Philadelphia during the early 1960s. Taking into account notions transcending the physical materiality of the Roundhouse forces the restorer "to expand

212. Ibid., 276.

their knowledge and develop exciting new methods.”²¹³ As opposed to offering polemics centered on the impossibilities for the restoration and reuse of mid-century architecture, preservationists need to use this as an opportunity to pioneer an expanding field. The Roundhouse’s preservation, as informed by Viollet-le-Duc, would be instructive to future generations.

4.1.4. Alois Riegl & “The Modern Cult of Monuments: Its Essences and Its Development” (1903)

In contemporary practice, the significance of a historic resource is inevitably defined by the values ascribed to it by society. Alois Riegl’s “The Modern Cult of Monuments: Its Essence and Its Development” provides an understanding of pertinent values found to be paired with, what he refers to as, unintentional monuments. Today, mid-century buildings are being glorified as monuments even though these were not intended to serve as deliberate monuments.²¹⁴ This era of architecture is contradictory to many of Riegl’s described values that are widely used in practice today—age value being the biggest contender. Other values discussed by Riegl include historical value, artistic value, commemorative value, use value, and newness value. In discussing these values in relation to the Roundhouse, both Riegl’s definitions and the understanding of the building’s significance pose challenges.

Most criticism surrounding the Roundhouse stems from two perspectives. The first emanates from those who were alive during the building’s construction in the early 1960s and are still alive today. The second comes from those who fail to see past the building’s use as Philadelphia’s police headquarters. The former arises from a

213. Eugène Viollet-le-Duc, “Restoration,” in *The Foundations of Architecture, selections from Dictionnaire raisonné l’architecture française du XIe au XVIe siècle*, trans. Kenneth Whitehead (New York, NY: G. Braziller, 1990), 217.

214. Granted, preservation has always had this effect on architecture, the sheer number of extant mid-century buildings contradicts the common understanding of a monument. Monuments are typically one of a kind making them rare in nature—a quality mid-century buildings lack.

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demographic that associates historical significance with buildings of a bygone era; this is often thought of as buildings designed and erected by individuals from a romanticized past. The latter being a group constrained by their associations with the city's police; namely, the era of late police commissioner and mayor, Frank Rizzo. The former stands in direct opposition to Riegl's concept of both age and historical value, and will be the subject of this discussion.

The Roundhouse aligns with both Riegl's age value and historical value. In the United States, a property is considered historic 50 years after construction. This belief is propagated by the specifications for the National Register of Historic Places asserting a property must be at least 50 years old to be considered for listing; the Roundhouse was completed by 1962 and recently satisfies this requirement. As for historical value, Riegl describes this as attaching to "all things that once were and are no longer," and, "form[ing] an irreplaceable and inextricable link in a chain of development."²¹⁵ With this definition, consider the role the Roundhouse played during Philadelphia's post-war years. The results of Edmund Bacon and Mayor Richardson Dilworth's substantial efforts during the late 1950s and early 1960s, and the tumultuous urban redevelopment campaigns, play an irreplaceable role in the city's history for which the Roundhouse stands as a beacon. Based on Riegl's definition of historical value, the Roundhouse and associated events are too young to represent something "that once was and is no longer" considering so many tangible vestiges of this narrative continue to define the physical context of the city. Disregarding this era of Philadelphia and its architecture due to age-related biases does not justify, nor allow for, the removal of these vestiges.

Here is where the lines between historical value and age value begin to blur, and more directly challenge the significance of the Roundhouse. The traditional understanding of historical value is that resources are relegated to the past. This belief conjures a sense of rarity that inevitably supports notions of importance. The number

215. Riegl, "The Modern Cult of Monuments," 70.

of extant mid-century buildings is substantial defying any notion of scarcity and thus appreciation for this era of architecture. Despite the Roundhouse's innovative design, the fact that it is one of many buildings constructed during the post-war years distorts its significance.

Riegl's creed that historical value can also be representative of a development of human creation in a particular field may serve as a basis for appreciating the work of August Komendant and the use of Schokbeton.²¹⁶ The Roundhouse was the first building in the United States to use this precasting method in all its manifestations and is an impressive engineering feat. Additionally, Riegl argues that historical value increases as the resource remains uncorrupted so as to reveal its original state of creation.²¹⁷ Due to the Roundhouse's young age, the exterior panels have been minimally altered. Therefore, with the majority of the building's exterior skin intact, preservationists can save this character-defining feature. Like the Roundhouse, preserving mid-century buildings that linger around the 50-year mark present an opportunity for professionals to "restrain the course of natural development and, to the extent that he is able, to bring the normal process of disintegration to a halt."²¹⁸ Following Riegl and counteracting the graceless aging of many mid-century materials would allow myriad historic resources from these years increased longevity and continued service lives.

Unfortunately, the means to prolong the service lives of many mid-century materials requires replacement in kind of newer, better materials. This counteracts the historical value's inextricable relationship with age value. Based on the physical signs of age and appearance, this value allows spectators to view a resource and understand its historical value. Riegl, therefore, advocates against the intervention from the hand of man that would compromise historic integrity. Without this physical evidence, individuals struggle to distinguish old from the new and are inhibited from assigning

216. Ibid., 75.

217. Ibid.

218. Ibid., 76.

significance to a historic resource based on appearance.

The psychological reaction of the viewer to the resource cultivates an understanding of historical value with an assumed existence of age value. Riegl's preference for a resource to stand as a beacon of a past time due to its romanticized, picturesque appearance cannot continue as mid-century buildings undergo preservation. When materials in a mid-century building begin to age and acquire those physical signs, they are assumed to be failing and necessitate repair or replacement. Doing so, however, removes what Riegl believes is a product of nature not to be tampered with.²¹⁹ Such accepted notions are subjective and inevitably change through the years. Robert Venturi put it best in an interview when he stated:

“...it's very hard to understand, and very hard to remember, the recent-past. It's much harder, maybe, than with the distant past. And in terms of taste, it's probably harder to *like* the recent-past. For example, you might look at the wedding photograph of your parents and say, 'Oh, what a funny dress my mother has on.' But if you looked at the wedding photograph of your grandparents, you'd probably say, 'That's a nice dress.' You can more easily like things from the distant past, because of the way cycles of taste work.”²²⁰

The Roundhouse is currently victim to this constantly changing cycle of taste affecting its perception as a significant historic resource. This idea of taste touches on Riegl's discussion of artistic value and whether or not this value is objectively or subjectively assigned. These changing perceptions affect preservation efforts, including the Roundhouse. Moreover, a commemorative value is introduced when choosing to preserve a historic resource. According to Riegl, the introduction of this value naturally carries with it both age and historical value. By commemorating the Roundhouse through preservation efforts, age value and historical value contradict one another, as the building will undergo a series of changes affording an eternal presence.²²¹

219. Ibid., 73.

220. S. Wrede, “Complexity and Contradiction Twenty-five Years Later: An Interview with Robert Venturi,” in *American Art of the 1960s*, edited by J. Leggio and S. Weiley (New York, NY: Museum of Modern Art, 1991), 143.

221. Riegl, “The Modern Cult of Monuments,” 78.

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Furthermore, conducting preventive maintenance for the Roundhouse, or any historic resource, introduces the possibility for perpetuating a state of newness value.²²² This, Riegl would argue, reinvents the Roundhouse as a deliberate monument along with a deliberate commemorative value, perpetually present in the consciousness of future generations.²²³

Perhaps this uninterrupted state of immortality is best suited for mid-century buildings, especially for both the Roundhouse's interior and exterior. This brings forth Riegl's analysis of use value and newness value. Both make no concessions to age value; newness value, in fact, is a formidable opponent to age value.²²⁴ The use value for the Roundhouse supports its maintained use for the accommodation of people and is indifferent to the kinds of treatments the building would receive as long as the building's existence remains unthreatened.²²⁵ Prolonging the Roundhouse's use—whether or not it is used as a police headquarters—introduces the possibility of alterations and other miscellaneous changes demanded by the building's users. Does this inhibit age value and historical value when defining the Roundhouse's significance? No. The Roundhouse, like many other mid-century buildings, requires alternative preservation that runs counter to traditional efforts.

The values presented in Riegl's discussion are constructs of a society that prized the aesthetics of older buildings. The Roundhouse begins to transcend these perspectives and demonstrates that Riegl's values must be reconsidered. Age value can no longer rely on signs of patina as this contradicts the inherent spirit of the Roundhouse—and many other mid-century buildings that were meant to always appear new. Preservation methodologies are obligated to respect this original design intent and maintain a mid-century building in a state resembling this unspoiled intention. Historical value has

222. Ibid.

223. Ibid., 77.

224. Ibid., 79, 80.

225. Ibid., 79.

to expand its horizons and accept elements still in existence. Rarity cannot be a chief determinant when defining significance for many buildings of the Modern Movement. Reliance on the authenticity in materials must shift to embrace the intangible cultural significance of a building's overall appearance. Preservation of the Roundhouse should commemorate the resource ensuring its existence for future generations while simultaneously celebrating the building's age value and historical value under the umbrella of use and newness value. Consequently, the cult of monuments is a fitting trend for great mid-century works so long as it ensures their preservation.

4.2. Charters

4.2.1. The Venice Charter

When adopted at the Second International Congress of Architects and Technicians of Historic Monuments in 1964, the Venice Charter marked a repositioning of an emphasis on high art and monuments, as established by the preceding Athens Charter. Incorporating more modest and vernacular work, the Venice Charter includes an acknowledgement of context of urban and rural landscapes and the growing multidisciplinary characteristics of the profession.²²⁶ These new ideas work in favor for the preservation of the Roundhouse and its contemporaries. Further advantageous for mid-century architecture is the Charter's increasing acceptance of functional changes for the sake of effective preservation. Without the option of adaptive reuse, numerous buildings from this era would either be demolished or exceedingly restrictive due to many being built for a specific function. As found in other guidelines and charters, the Venice Charter germinated the idea that additions or new work is to be identifiable as new, which was elaborated on further by other doctrines stipulating that this work is

226. Prudon, *Preservation of Modern Architecture*, 60.

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to be reversible.²²⁷ This tenet is potentially constrictive for the Roundhouse, but various elements of the Charter provide places for opportunity that work well for a building of this nature.

Throughout this evaluation, only the portions of the Venice Charter that appear to apply to the Roundhouse will be discussed. To begin, the opening lines of the Charter remark on the imbued messages from the past inherent in historic monuments that, today, remain as living witnesses of age-old traditions.²²⁸ There are two issues with this statement. The first is the Charter's presupposition that the building in question is a monument. Interpretation of what constitutes a monument reverts back to Riegl's analysis of intentional and unintentional monuments; preserving the Roundhouse generates an implication of monument status. The second, that the Roundhouse remains as a witness of age-old traditions presupposes that the building is much older than it actually is. "Age-old traditions" implies that such techniques or processes are outdated and no longer in use. The employment of Schokbeton may no longer be used today—as the process is laborious and expensive—but the basic technology for precasting concrete still occurs using similar methods. Additionally, the engineering and structural considerations used for the Roundhouse remain largely relevant in construction today.

Like "age-old traditions," the use of the word "ancient" in the introduction of the Venice Charter suggests that the resource belongs to the very distant past; the Roundhouse is a mere 50 years old, defying any notion of being "ancient." Following this unsuitable notion is the Charter's declaration that "it is our duty to hand them [monuments] on in the full richness of their authenticity."²²⁹ There is no definition offered for authenticity. This lack of clarity suggests that the Roundhouse can sustain

227. Ibid.

228. *International Charter for the Conservation and Restoration of Monuments and Sites (the Venice Charter)*, Adopted at the Second International Congress of Architects and Technicians of Historic Monuments, Venice (1964).

229. Ibid.

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unprecedented alterations and modifications not typically executed in traditional historic resources. Articles 6 and 13, to be addressed later in detail, suggest that this permissive approach should be avoided. As the introduction prepares to transition the reader to the 16 articles, there is an acknowledgement of the impetus for reexamining the Athens Charter in an effort to enlarge its scope in a new document (the Venice Charter) to ensure relevancy and appropriateness of the articles. Perhaps reexamination of the document is in order as mid-century architecture continuously gains traction and increasingly challenges accepted preservation methodologies.

Articles 4, 5, and 6 under the Conservation heading readily demonstrate how the Venice Charter is inapplicable to the Roundhouse. Beginning with Article 4, any economic considerations for permanently maintaining a building is absent. The costs associated with such a task are an indivisible factor when considering the feasibility of preservation. The Roundhouse contains materials from the mid-twentieth-century that are aging earlier than anticipated. Halting this problem requires replacement of these materials with ones that are either the same or of a better quality. The trouble with many mid-century materials is that the techniques used to produce them are no longer in use today. One could argue this supports the rarity value, but emphasis on piecemeal elements of a mid-century building contradicts the imperative of considering the building as a whole.

Many buildings from the mid-twentieth-century were built to accommodate specific functions imparting greater challenges for adaptive reuse. The use of the Roundhouse as a police headquarters is less restrictive than many argue, given its design to serve its primary function as office space. Attention to the idea of use is devoted to Article 5 where conservation is facilitated by making use of the building for some socially useful purpose.²³⁰ In doing so, the layout or decoration of the building must not change, taking into account the building as a whole. The Roundhouse's form makes the

230. Ibid.

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interior layout conform to a curvilinear program. The circulation patterns are a product of this shape and are not susceptible to modification. On the other hand, the division of the various spaces is done through non-structural walls and partitions that are easily removed. Any change in use is likely to alter this division of space in order to fulfill the requirements of its new users.

Function-specific mid-century buildings are often inherently restrictive. Therefore, preservation of the Roundhouse cannot be limited by the Charter's disapproval of adapting it to contemporary needs amid a constantly evolving urban context. When built in 1962, the Roundhouse was meant to visually relate to Franklin Square with the primary entrance located on the north side of the building. Shortly after the building began operations, this entrance was abandoned as employees found the entrances on the south side more convenient with its location adjacent to the parking lot. Since then, the north side of the Roundhouse and the two perpendicular streets offer little comfort to pedestrians. Further hampering this discomfort are the rectilinear precast concrete walls that mark a stark delineation between the public and the building. Taking into consideration the setting of the Roundhouse, Article 6 of the Charter promotes preserving the traditional setting by disallowing new construction, demolition, or modification, which would alter the relations of the building.²³¹ Preservation of the Roundhouse would likely require the removal of the rectilinear concrete walls, the reopening of the entrances on the north side, and improvement of the connection with Franklin Square. As for the parking lot on the south side, new construction would add much-needed density to the area, and would contribute to Philadelphia's dynamic inventory of old and new buildings. This new construction could connect to the Roundhouse in a variety of ways, but Article 13 rejects additions would "detract from the interesting parts of the building, its traditional setting, the balance of its composition

231. Ibid.

and its relations with its surroundings.”²³²

As mentioned earlier, the debate of authenticity in regard to materials in the Roundhouse is a continued concern in the Charter’s overview of restoration. Beginning with Article 9, preserving and revealing the aesthetic and historic value of the Roundhouse based on respect for original material and authentic documents is certainly encouraged. However, ambiguity exists in the phrase “respect for original material” as this can allow for an interpretive approach through the use of new materials. The Charter echoes Ruskin when asserting that restoration “must stop at the point where conjecture begins” implying that what has been lost should not be replaced if the precise facts of the original are not guiding the work.²³³ If new work is to proceed, it should be of absolute necessity and distinct from original elements; this proclamation is further solidified in Article 12 with the addition that such work is to integrate harmoniously with the whole. As concluded earlier, Ruskin’s approach to preservation is inapplicable to the Roundhouse; for similar reasons, so is the Venice Charter. Mid-century buildings challenge settled notions of authenticity and restoration to evolve as the Venice Charter proves to be uncompromising in this respect despite its practicality.²³⁴

Considering the Roundhouse is 50 years old, judgments regarding the removal of fabric that was later added are more difficult to make. Article 11 supports retaining contributions of all periods to a building, as unity of style is not the aim of a restoration project.²³⁵ The modifications found throughout the Roundhouse were largely in response to the inadequacy of the building’s environmental controls as more people occupied the building over the years. Industrial tubing and other temperature-control apparatuses dispersed throughout the building’s interior create unsightly conditions (fig. 17). Combating these “contributions” simply requires the replacement of the air-

232. Ibid.

233. Ibid.

234. Caroline R. Alderson, “Responding to Context: Changing Perspectives on Appropriate Change in Historic Settings,” *APT Bulletin* 37, no. 4 (2006): 23.

235. *The Venice Charter*.

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handling unit with a newer, more powerful unit to accommodate the building's current load.²³⁶ The argument could be made that various modifications for the sake of comfort should be retained as they contribute to the building's historical narrative. However, the Roundhouse is unlikely to undergo a large-scale restoration, which would warrant the removal of these user-initiated modifications.²³⁷ Moreover, making the right decision that serves the best interest of the Roundhouse—and other mid-century buildings—is difficult to contend with given its young age.



Figure 17. The black tube suspended from the ceiling is an attempt to improve the distribution of air from the building's HVAC system.

236. The Roundhouse's original capacity was approximately 250 people. Today, there are nearly double the number of employees in addition to computers and the necessary data-handling machinery that place a serious strain on the original air-handling unit.

237. Restoring the Roundhouse would require retaining the original air-handling unit and maintaining the building's 1962 environmental controls. For practical reasons and concerns for energy efficiency, this would be inappropriate.

The Venice Charter is too constricting for the effective preservation of the Roundhouse in numerous ways. First, there is the language on age. With wording such as “age-old traditions” and “ancient,” mid-century buildings are found to fall outside of this Charter’s purview. Second, retaining original fabric to convey authenticity has serious economic implications for post-war architecture. Conserving and maintaining materials that are inherently flawed with short service lives is proving to be too expensive and impractical. Third, the Charter’s articles concerning use and inhibiting certain changes is further problematic for the Roundhouse. Any new use to be introduced in the building will likely have to modify the interior layout and disrupt the original program specific to police operations. Disallowing such modifications would be impossible for the Roundhouse. Furthermore, the new use is liable to modify the building’s exterior site and setting to allow for better integration into the city’s urban fabric. This charter is ill-suited to solving the preservation problems of the Roundhouse and many other mid-century buildings.

4.2.2. The Burra Charter

The flexible and general conceptual character of the Australia ICOMOS Burra Charter acknowledges the continuation of history present for many resources. Understanding of a resource’s significance is subject to change as history marches forward and continually adds to the narrative. This evolving element is used to formulate what the Burra Charter terms as “cultural significance.” As the chart for the Burra Charter process illustrates, establishing the statement of cultural significance lays the foundations for developing a conservation policy to ensure the resource is equipped with a customized plan (fig. 18). The conservation policy is informed by the values assigned to the resource during the investigative research phase. The Burra Charter allows for resources to be assessed on a case-by-case basis stressing the relative and

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ever-changing significance as opposed to being subjected to a rigid set of standards.²³⁸

Advantageous to the Roundhouse is the inherent universality established by this Charter that includes broader criteria for evaluation.

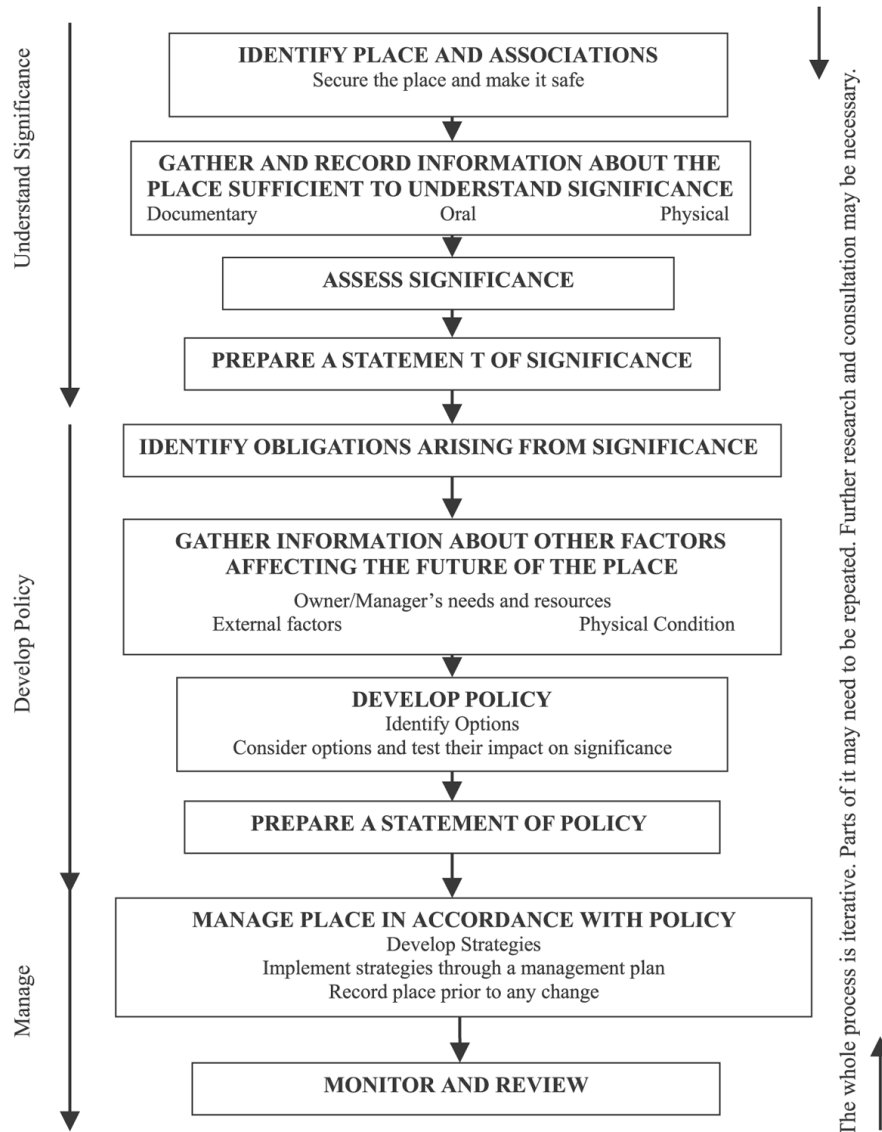


Figure 18. This chart illustrates the Burra Charter Process listing a sequence of investigations, decisions, and actions.

238. Prudon, *Preservation of Modern Architecture*, 64.

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Three of the four values of the Burra Charter—esthetic, historic, and social—contribute to the cultural significance of the Roundhouse. However, the significance of the Roundhouse is not limited to these values as the Charter encourages additional values if and when applicable. Under each of the four values are additional values that branch out, overlap, and connect creating a dynamic statement of cultural significance (fig. 19). In the previous chapter, the Roundhouse’s statement of significance preceded the discussion of the building’s history and emphasized the importance of its role in the Modern Movement, its architects and their design, the structural engineer, the use of Schokbeton, and the cultural and social significance as they relate to both Philadelphia and the United States. As the Charter addresses conservation principles and practice, a number of the articles are of questionable relevance to the preservation of the Roundhouse.

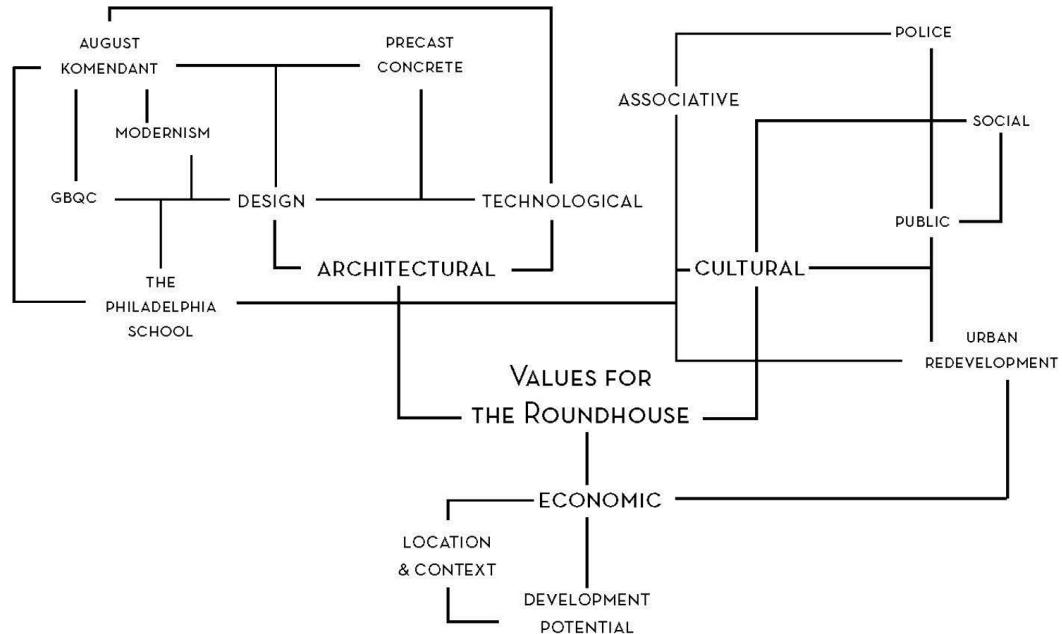


Figure 19. This illustration is meant to demonstrate the complexities of the Roundhouse’s values, and the various ways in which they interconnect and overlap.

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Under the heading of Conservation Principles are 12 articles outlining the importance of a resource's information, its values, and how this relates to managing the resource. Beginning with Article 2, conservation and management stress the imperative to safeguard a resource by not putting it at risk or allowing it to be left in a vulnerable state. Current municipal attitudes toward the Roundhouse disregard this article; being the owner of the property, the city has plans to market and sell the parcel for redevelopment, placing the Roundhouse in a vulnerable state. Additionally, the lack of maintenance the building receives due to scant funding further exacerbates the problem. Article 3, entitled "Cautious approach," is limiting in that conservation is to be based on a respect for existing fabric, use, associations, and meanings.²³⁹ These limitations rest on the ideas of fabric and use, and that traces of additions, alterations, and earlier treatments are considered evidence of the Roundhouse's history, which contribute to its significance.²⁴⁰ As discussed in the previous evaluation of the Venice Charter, such additions or alterations were in response to the strain placed on the environmental controls due to overcrowding the building. Any action to preserve such modifications would be impractical to the Roundhouse's future users.

Celebration of all values embodied by a resource is strongly encouraged in Articles 5 and 13, even if the values conflict and contradict. The valuable aspects of the Roundhouse create complicated relationships that consequently force them to be placed in a hierarchy as opposed to being treated equally. Under historic value, architectural value takes precedent over cultural value under the umbrella of social value. Incorporated with architectural value are design and technological value—this creates an overlap with aesthetic value. Of course, under social value are considerations of the impetus behind the Roundhouse's design and construction—association value—which involves the importance of Edmund Bacon and the city's contentious urban

239. Australia ICOMOS, *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999, with associated Guidelines and Code on the Ethics of Co-existence* (Victoria, AU: Australia ICOMOS, 2000), 3.

240. Ibid.

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renewal projects. This is not to say that one value is more important than another, but giving each value equal say in the Roundhouse's conservation policy inevitably confuses interpretation and how best to preserve original fabric. Preservation of this era of architecture requires greater flexibility and even broader criteria for evaluation.

Similar to a challenge identified in the evaluation of the Venice Charter, Article 7 asserts that the resources should utilize either the original or a compatible use. Retaining the Roundhouse's original use as the police headquarters is unlikely considering the city plans to relocate the department to a new location in the coming years. A compatible use would require that the new occupants need ample office space; each floor of the Roundhouse offers 24,000 square feet. Restricting reuse to an office-like function is, again, limiting in options and impedes on the successful preservation of the Roundhouse. As is the case for many mid-century buildings, ensuring their longevity requires exploring non-traditional options that will lead to new, creative solutions fostering stronger cross-discipline collaborations. Incorporating unconventional solutions readily becomes a hindrance with Article 8. This tenet advises against the inappropriateness of any new construction, demolition, intrusions or other changes that would adversely affect the setting or relationship of the Roundhouse.²⁴¹ To avoid demolition, changes are imperative to demonstrate that mid-century buildings can be modified. The south parking lot of the Roundhouse is an eyesore amid the urban density. The design of new infill construction that takes cues from the Roundhouse would be invigorating for this area of the city.

Most of the Roundhouse's custom-designed interior fixtures are in good condition, but their removal may be necessary to ensure successful adaptive reuse and preservation of the structure as a whole. Ideally, rehabilitation of the Roundhouse for a new user would be sensitive to these elements, as they add great character and enhance the understanding of the architectural value. Articles 10 and 33 of the Burra Charter

241. Ibid., 4.

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address how to best handle items of this nature upholding that the best solution would be to retain them in their original place. However, if their removal safeguards their proper preservation, then each item should be cataloged and documented. In addition to any alterations subjected to interior (or exterior) fabric, the Burra Charter carries forth the Venice Charter's creed that any changes potentially reducing cultural significance should be easily reversible. Attention is again given to the need for mid-century buildings to take a contrasting approach to traditional preservation methods.

If the Roundhouse manages to accommodate a new use in the coming years, Article 24 of the Burra Charter stresses the importance of retaining relevant associations and meanings. Such associations and meanings of the Roundhouse span a wide range of subjects and include: the Modern Movement, its architects, its association with innovative experimentation in both design and materials, and the state of Philadelphia during its construction. The Charter explains, "For many places associations will be linked to use."²⁴² Maintaining these connections depends on who the new user is and what changes will be required to meet their needs, but paying homage to the era of Edmund Bacon, Frank Rizzo, and the tumultuous years of urban renewal may be outside the scope of proposed work. Preservation of the Roundhouse may not be the appropriate setting for paying homage to these important aforementioned social values; plaques or interpretive imagery are helpful, but passive.²⁴³

The cultural pluralism advocated by the principles of the Burra Charter holds the potential for successful and flexible management of the Roundhouse. Understanding that a resource's cultural significance is relative and ever-changing, as history is a continuous force, is accommodating for mid-century architecture, but portions of

242. Ibid., 8.

243. While having a plaque or interpretive imagery possibly located in the Roundhouse's lobby would be informative to visitors, this solution for acknowledging the building's social values dilutes their importance. However, there are instances where this is the most viable method within a preservation project. A more active approach would involve a museum exhibit dedicated to the Roundhouse that pays equal attention to all of the building's values. An additional option would be to convert the entire Roundhouse into a museum. However, as the field of historic site management has proven, museums are plagued by scant funding, which leads to bigger problems of maintenance and protection.

the Charter persistently conflict with successful solutions. The Charter is a strong foundation for providing guidance in the formulation of similar guidelines for mid-century architecture outside the realm of aesthetics and personal application.²⁴⁴ Taking a values-based approach is a strong start for understanding the intricacies that craft a mid-century building's cultural significance. Inherent associative values of a building relate to the intangible aspect of understanding the resource as a whole as opposed to focusing on small pieces of fabric that negate the larger meaning. As the Roundhouse demonstrates, greater cross-disciplinary collaborations of professionals will afford this era of architecture greater solutions contributing to the evolution of the preservation field.

4.2.3. The Nara Document on Authenticity

The Nara Document on Authenticity is a series of resolutions and declarations responding to the increasing concerns of cultural heritage in the contemporary world. There is considerable emphasis on the concept of authenticity that places the term in a broader context of cultural relativism.²⁴⁵ Similarly to the Burra Charter's idea of cultural significance, the Nara Document acknowledges that authenticity is mutable and never fixed. The essence of this document stresses preservation of the integrity of a process, as well as the overall design intent and visual coherence. The integrity of the process that provided a building its form and substance holds great meaning in defining authenticity for mid-century architecture.²⁴⁶ Although not a technical guide, the Nara Document can help inform Roundhouse-related decisions regarding authenticity, as well as to help further develop understanding of the concept with mid-century buildings as a vehicle to do so.

Defining the appropriate scope of authenticity for mid-century architecture

244. Prudon, *Preservation of Modern Architecture*, 64.

245. Prudon, *Preservation of Modern Architecture*, 64.

246. Ibid., 65.

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has been a debated topic since preservationists began to address this subject. The Nara Document supports the balance of a culture's requirements with those of other cultural communities provided achieving this balance does not undermine their fundamental values.²⁴⁷ Using the Roundhouse to interpret this, these groups may include the City of Philadelphia, the preservation community, and both local and national citizens and organizations. The balance of these groups' requirements necessitates a balance of the Roundhouse's values. This touches on ideas found in the Burra Charter, but, in the case of the Nara Document, suggests that a balance requires a hierarchy. Determining this hierarchy indicates that sound judgment be used to order the values. This can be dangerous and allow for arbitrary or ad hoc decisions under the "all-forgiving mantel of cultural context."²⁴⁸ As mid-century resources emerge in greater numbers, the question of how to monitor measures and indicators of authenticity becomes imperative.²⁴⁹ Do the appropriate indicators include tangible or intangible elements?

One of the long-standing delusions put to rest by the Nara Document was that authenticity had to be present in all attribute areas.²⁵⁰ The concept is to be applied to a site as a whole, abandoning reliance on fragments.²⁵¹ If substantial changes were to occur to the Roundhouse, authenticity would not be sought for in original fabric, rather, it would be apparent in the thoughtful rehabilitation that affords the building a prolonged service life. Such judgments under the Nara Document are not based on a fixed criteria, as such decisions vary from group to group in their given context. The variations of authenticity can be linked to an assortment of sources in the Roundhouse as suggested by the document; these include: the building's bold form and design, the high quality of concrete created by the use of Schokbeton, its use and function, the techniques utilized for achieving a fully-integrated building system, its location and setting in Philadelphia,

247. Raymond Lemaire and Herb Stovel, eds., *The Nara Document on Authenticity* (Nara, Japan, 1994).

248. Herb Stovel, "Origins and Influence of the Nara Document on Authenticity," *APT Bulletin* 39, no. 2/3 (2008): 11.

249. *Ibid.*, 15.

250. *Ibid.*, 11.

251. *Ibid.*, 16.

and, ultimately, its spirit and feeling established by these preceding sources.

The Nara Document works well to assess the authenticity of the Roundhouse, and may also aid in developing a guide for the preservation of mid-century resources. The five principles under the document's heading Values and Authenticity help develop a broader understanding of how the Roundhouse's significance is linked to a variety of sources of information. As aforementioned, the design, technological innovation, and participation in the Modern Movement are peculiar to the Nara Document's suggested method for interpreting authenticity.

In the document's first appendix, Herb Stovel provides suggestions for follow-up. Under his second point, Stovel encourages groups to develop analytical processes and tools specific to their nature and needs.²⁵² This can easily be interpreted and applied to the era of mid-century architecture. Further, Stovel recommends "efforts to update authenticity assessments in light of changing values and circumstances" to be implemented as the concept is never absolute.²⁵³ The preservation of the Roundhouse, and other mid-century resources, are influencing this need to reevaluate notions of authenticity. Many argue these resources are too constricting to effectively preserve and be reused based on traditional methodologies. A new approach guided by a new methodology will have to strike a balance between greater flexibility and authenticity. The formulation of this new methodology should therefore be partly conceived in the spirit of the Nara Document.

252. Lemaire and Stovel, *The Nara Document*.

253. Ibid.

4.3. Guidelines

4.3.1. The Secretary of the Interior's Standards for the Treatment of Historic Properties

The four options for treatment of a historic property as provided by the Secretary of the Interior's Standards for the Treatment of Historic Properties suggest there is a best fit for the resource at hand.²⁵⁴ Choosing an option depends on the intent of the project, but for the sake of this evaluation, the Roundhouse is considered under each treatment. In some cases, certain treatments prove largely inappropriate whereas others appear more promising for addressing the needs of a mid-century resource of this scale. For post-war architecture, the biggest challenges stem from the proposed use and physical condition. This evaluation proves that these standards need to be reassessed for mid-century buildings. Otherwise, preservation projects may miss the underlying significance of this architecture.²⁵⁵

4.3.1.1. Preservation

On the exterior and interior of the Roundhouse are a number of distinctive materials, features, and spaces found to be intact. On the interior, features consist of materials manufactured during the mid-twentieth-century, as well as custom-designed fixtures. Choosing preservation as a treatment for this building requires these existing elements be sustained so as to arrest decay and manage future deterioration—to preserve as is. Retaining the Roundhouse's use as a police headquarters and constricting

254. The Secretary of the Interior's Standards for the Treatment of Historic Properties throughout this evaluation will be cited through the use of the websites the National Park Service has made available to the public. Choosing to cite this document this way is deliberate and demonstrates this thesis's encouragement to take advantage of the technological resources available today for both preservationists and the general public. A printed source is available: United States Department of the Interior, *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, eds. Charles A. Birnbaum and Christine Capella Peters (Washington, D.C.: U.S. Department of the Interior, National Park Service, et. al., 1996).

255. Prudon, *Preservation of Modern Architecture*, 70.

future changes due to the implications of this treatment is inappropriate. This unsuitable option is due to the changing nature of a growing police administration, the current inefficiencies of the building's heating and air systems, and the growing demand for better integration of technology—i.e. computers and wiring. If a new use is to be introduced, the standards for preservation state that this new use maximizes retention of distinctive materials, features, spaces, and spatial relationships.²⁵⁶ Again, this is also too constricting. A distinctive feature of the Roundhouse that largely contributes to the space and spatial relationships for the interior is the curvilinear exterior walls that define and organize the building's program.

Allowing for minimal interventions to a property, the preservation treatment seeks to freeze time and prevent future changes. Consolidation and conservation of original material where appropriate preserves signs of age that has the ability to obscure the Roundhouse's original design intent. Like many other mid-century buildings, the Roundhouse employed materials meant to promote cleanliness, a streamlined appearance, and innovation. As these materials age and acquire patina, their appearance connotes failure, which quickly influences the need to replace. Substitute materials are not appropriate under this treatment, and replacement in-kind should be limited; any new work should be visually and physically compatible and identifiable. Considering the Roundhouse is a function-specific building, preservation of its police-related elements—signage, prisoner processing facilities, metal detectors, and the entirety of the homicide unit, the 911 Call Center, and Real Time Crime Center—would retain its appearance as a police headquarters, which would prove problematic for a new use.

Subjecting the Roundhouse to the preservation treatment of the Secretary of the Interior's Standards would be inappropriate. Whether the building remains as a police headquarters or is given a new use, a number of changes would be required for

256. "Standards for Preservation," The National Park Service, accessed March 7, 2013, http://www.nps.gov/hps/tps/standguide/preserve/preserve_standards.htm.

the building to function efficiently. Replacement of materials and a series of common alterations to the Roundhouse challenge this treatment when the intentions of these actions are to promote the value of the idea and process inherent in mid-century architecture.²⁵⁷ The characterization of the Roundhouse, or other mid-century buildings, informs the decisions under each respective treatment. Under the guidelines for preservation, the characterization of the Roundhouse contradicts much of what these standards call for. Assessment of the Roundhouse's integrity should consider the site as a whole. In this evaluation, the subsequent treatment that follows preservation is more accommodating of the challenges imposed by the Roundhouse.

4.3.1.2. Rehabilitation

As the Roundhouse continues to be used as either a police headquarters or something new, the option to allow for new construction to take place in the south side parking lot has to be an available option. The standards for rehabilitation address new additions, exterior alterations, or related new construction and how to best accommodate such work. Furthermore, this treatment emphasizes the process that led to a building's creation as opposed to individual, tangible elements.²⁵⁸ In the case of the Roundhouse, the process that led to its creation is layered with narratives relating to its design and materials, the context of the Modern Movement during these years, and the context of Philadelphia at the behest of Edmund Bacon and Mayor Richardson Dilworth. With great emphasis resting on intangible notions for the Roundhouse's significance, the Secretary of the Interior's Standards falls short in addressing the importance of this kind of cultural significance.

Rehabilitation embraces the option of adaptive reuse, which affords many great historic resources longer lives with the ability to accrue additional historical significance.

257. Prudon, *Preservation of Modern Architecture*, 70.

258. Ibid., 71.

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Adaptive reuse of the Roundhouse under this treatment places considerable stress on the reliance of tangible aspects, and their authenticity, to link the building to its history.²⁵⁹ As discussed extensively in the literature review and preceding sections in this chapter, the debates surrounding authenticity with mid-century resources are coercing a shift away from reliance on tangible factors towards a reliance on intangible factors. This particular treatment allows for substitute materials so long as their form and design convey the appearance of remaining parts.²⁶⁰ An interesting situation presented by the Roundhouse and other mid-century architecture is that, due to their young age, major alterations are minimal, leaving much of the original design intact. Usually, mechanical and electrical systems are subjected to the greatest number of upgrades.

Of the four treatments, rehabilitation affords an opportunity to welcome an efficient contemporary use through alterations and additions.²⁶¹ The nature of this use weighs heavily on whether or not the preservation of the Roundhouse would be considered authentic under the Secretary of the Interior's Standards. Finding a functionally compatible use, such as offices or a school, could be a fundamental act of preservation found to be in the spirit of the original structure.²⁶² Preserving the Roundhouse's intent and functionality as a character-defining feature while accommodating an addition will foster the building's overall significance. Furthermore, rehabilitating the Roundhouse can address considerations of accessibility requirements along with safety and code requirements. Reopening the original entrances on the north side of the building and giving new life to the plaza would celebrate the overall design intent while cultivating better pedestrian relations in this part of the city.

259. Sharon C. Park, "Respecting Significance and Keeping Integrity: Approaches to Rehabilitation," *APT Bulletin* 37, no. 4 (2006): 20.

260. "Standards for Rehabilitation," The National Park Service, accessed March 7, 2013, http://www.nps.gov/hps/tps/standguide/rehab/rehab_standards.htm.

261. Ibid.

262. Prudon, *Preservation of Modern Architecture*, 71.

4.3.1.3. Restoration

Restoration, the third option for treatment, requires that a period of significance be identified prior to undertaking any work. For the sake of this argument, the period of significance for the Roundhouse is considered to be its construction date, 1962. Cautioned by the National Park Service in this treatment is any work requiring reconstruction. Such work is not encouraged unless there is sufficient documentation to proceed. Additionally, “designs that were never executed historically will not be constructed.”²⁶³ For most mid-century buildings, given their young age, their period of significance is often their original construction date. This era of architecture is celebrated for its innovative design pioneered by architects in addition to the experimental use of new materials, standardization, and production methods. For many reasons already addressed, restoration to these mid-twentieth-century construction dates poses a series of challenges.

Restoration of the Roundhouse to its 1962 appearance would be impractical for both its current use and any future use. Despite the substantial degree of integrity and remaining original fabric, a number of alterations to various interior spaces were required for the Philadelphia police to perform their job efficiently and effectively. Reversing these changes has obvious insensible implications. Employing restoration as a treatment suggests that the property is to be used in a museum-like setting. This type of use requires turning back time and preserving a fixed setting for the coming years.

Recreation of missing features that existed during the period of significance would add greatly to the significance of the Roundhouse’s original design. Restoring the cafeteria space located on the first floor of the west wing would provide employees a better setting for breaks. Reinstating this space to its original configuration would further celebrate the organizational design implemented by GBQC to foster this

263. “Standards for Restoration,” The National Park Service, accessed March 7, 2013, http://www.nps.gov/hps/tps/standguide/restore/restore_standards.htm.

space's function. Originally, employees had access to a series of vending machines and ample storage cabinets. Today, this space has been reduced in size with the inclusion of partitions to create additional rooms. The storage cabinets have been removed and the present vending machines are fewer in number. The various laboratories originally located on the third floor have been removed to accommodate the growing number of employees with additional office space. Other spaces have been modified to create the Real Time Crime center on the first floor and the 911 Call Center on the second.

The current use of the Roundhouse as a police headquarters makes restoration unrealistic as an option for treatment; the same can be said for other function-specific buildings from this era. Unless the property is to be used in a museum-like manner, this treatment should be avoided. Many of these buildings are 50 to 60 years old and should continue to be actively used, but doing so requires modifications to accommodate contemporary demands. The following and final treatment is found to be the most problematic and unlikely any more suitable for the Roundhouse than restoration.

4.3.1.4. Reconstruction

The dismantling and rebuilding, or total recreation, of the Roundhouse is highly improbable. Yet, knowing the fourth option of treatment is available is reassuring in the event the building needs to be reconstructed—whether in full or partially—for any given reason. The controversies surrounding this treatment bring into question whether this option is even appropriate. Assessing the appropriateness of reconstruction of mid-century buildings should be based on the following: the use and amount of original documentation available, the interpretation of the original design intent, the continuity of the link to the original location, the basis for the materials employed in the rebuilding, and the degree of reconstruction being carried through.²⁶⁴ Reconstruction can be highly

264. Prudon, *Preservation of Modern Architecture*, 49.

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didactic and hold great artistic, cultural, or commercial values, but the purposes for undertaking this action should be clearly demonstrated. These reasons, however, are not typically related to preservation purposes; these purposes often entail interpretations based on small portions of reconstruction of a property.²⁶⁵

If the Roundhouse was fully or partially reconstructed, issues regarding the use of original materials would quickly come to the fore. The standards for reconstruction do allow for substitute materials as long as they convey the same visual appearance as the original.²⁶⁶ This can set a dangerous precedent where future reconstruction projects use only substitute materials that potentially falsify the historic resource. Furthermore, non-visible features of the building, such as interior structural or mechanical systems, can use contemporary materials and technology in their place.²⁶⁷ Even for mid-century buildings, this façade-only approach is deceptive and controversial. As the guidelines for this treatment note, reconstruction is to be clearly identified as such to avoid unneeded debate.

Preceding any of the four treatment options should be thorough and meticulous research to ensure that decisions regarding original intent, design, and construction are well informed. Reconstruction cannot proceed without sufficient documentation to guide the work. The debate over what the appropriate extent of reconstruction is for mid-century resources remains ongoing.²⁶⁸ Recreating the precast concrete panels for the Roundhouse without the use of Schokbeton immediately proves to be inauthentic. Some would argue an approach in the vein of Viollet-le-Duc would be within keeping of the spirit of the Roundhouse, but reconstruction disallows substantial modification to the original design. Mid-century architecture poses innovative construction unlike traditional buildings questioning the practicality of reconstruction at all. However, as

265. Ibid., 51.

266. "Standards for Reconstruction," The National Park Service, accessed March 7, 2013, http://www.nps.gov/hps/tps/standguide/reconstruct/reconstruct_standards.htm.

267. Ibid.

268. Prudon, *Preservation of Modern Architecture*, 51.

suggested earlier, pursuing reconstruction as a treatment contains great educational value; this would allow for a complex design to be fully studied assuming the project follows the original construction documents.

4.4. Conclusion

In thinking about the substantial number of extant mid-century buildings, there is a greater imperative to explore preservation options for many before more are senselessly demolished. With such a large inventory with which to work, traditional preservation methodologies prove ineffective. Without abandoning the fundamentals of preservation, a new methodology or set of guidelines needs to be developed. The evaluated theories, charters, and guidelines all provide strong foundations on which these endeavors might build. Terminology concerning the issues of adapting new, or foreign, conservation technologies, qualifications of related personnel, and testing standards for materials and equipment remains lacking and vague.²⁶⁹ Mid-century buildings employed novel construction technologies in concert with mass-produced, standardized materials manufactured for a brief amount of time. Changes in use and code-related mandates influence changes beyond what is customary in traditional preservation practices.²⁷⁰ Post-war architecture is rife with opportunity for preservationists to break new ground and stay on the pulse of trends.

Organizations have begun to form with a common mission to address the array of issues introduced by mid-century architecture. DOCOMOMO's Eindhoven Statement was the first international statement to specifically address the preservation of modern architecture with the goal of educating audiences about the importance of preserving this era of buildings.²⁷¹ Similarly, the Los Angeles Conservancy Modern

269. Prudon, *Preservation of Modern Architecture*, 74.

270. Ibid., 73.

271. Ibid., 65.

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Committee (ModCom) works diligently to identify and protect significant resources in both the Los Angeles area and the nation. Formed more recently, the Recent Past Preservation Network is a grassroots effort dedicated to raising awareness for mid-century architecture, especially with the help of the younger generation of emerging preservationists. The number of organizations devoted to mid-century architecture is scant compared to the myriad organizations for older architecture. Momentum is certainly underway, but as the Roundhouse demonstrates, there is much to be reconsidered and reevaluated for effective preservation.

CHAPTER 5:
A NEW METHODOLOGY FOR THE
PRESERVATION OF MID-CENTURY
ARCHITECTURE

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5.1. Preamble to an Academic Exercise

As a culmination of the ideas and research found throughout this thesis, the author has drafted a set of eight preservation principles designed to address the obstacles created by mid-century architecture. The format and language of this doctrine draws from the Burra Charter, the Nara Document on Authenticity, and the Secretary of the Interior's Standards for the Treatment of Historic Properties, and the theories of both Alois Riegl and Eugène Viollet-le-Duc. These principles are intended to respond to the five challenges discussed in length in the preceding chapters. In keeping with the spirit of what a thesis is, these proposed guidelines are meant to serve solely as an academic exercise and provide a workable base for a real-world preservation project. However, let it be known that the author embraced bold, creative thinking, as mid-century architecture is unapologetic to preservationists.

The ultimate goal of these preservation principles is to afford flexibility in formulating a new methodology. As scholarship on the subject has shown, this era of architecture demands a shift from a reliance on tangible elements to an increased acceptance of a more intangible, conceptual approach. In doing so, mid-century buildings are contradicting longstanding preservation practices that cause many practitioners to dismiss these resources as impractical and infeasible. Mitigating preservation anxieties is bolstered by Paul Philippot when he wrote:

"A concern for the conservation of the particular values of a historically transmitted and still living milieu, considered as a problem regarding the whole community, indeed requires a new definition of the object to be restored; this definition will have to be broader and more comprehensive than the traditional one."²⁷²

In this case, the object to be restored is collectively mid-century architecture. Identifying which buildings merit preservation requires scholarly investigation and formulation

272. Paul Philippot, "Restoration from the Perspective of the Humanities," in *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed. Nicholas Stanley Price et. al. (Los Angeles: Getty Conservation Institute, 1996), 218.

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of significance. These principles may be of use in broadening the understanding of these resources. Furthermore, this era of architecture can no longer be confined to age and rarity. Myriad values speak to Philippot's "still living milieu" challenging both practitioners and the public in recognizing the importance laden in these resources.

By redefining aspects of preservation practice for mid-century architecture, these principles seek to promote the significance of a resource that would otherwise go unnoticed due to the inadequacy of traditional methodologies. In order for these guidelines to be truly effectual, they must be employed in tandem and in their entirety. The aim of preservation practice is to ensure a resource's safety and make it available for future generations. Therefore, long-term goals supporting permanency should augment the use of these principles. As stewards of mid-century architecture, practitioners are responsible for exercising sound judgment and ultimately determining a resource's appearance; suggesting a certain reading of the site to the viewer will involve celebrating the overall design intent through both tangible and intangible values.²⁷³ Further branching off from traditional approaches, the preservation of mid-century architecture should avoid museumification, as this sector of the field is both economically impractical and draining; these structures should be afforded an income-producing use.

Lastly, although these new preservation principles contrast against long-standing charters and guidelines, there is one element that persists to remain the same. Preceding any and all work should be thorough investigation, research, and documentation of the resource at hand. Every preservation project must include a comprehensive understanding to ensure decisions are augmented by expert judgment.

273. Ibid., 227.

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5.2. Preservation Principles for Mid-Century Architecture

5.2.1. Definitions

For the purposes of these preservation principles for mid-century architecture:

Authenticity means the incorporation of intangible elements in addition to original fabric to convey a resource's significance.

Dynamic environment and site refers to the current context in which a building is located in respect to the needs and demands expressed by the municipality.

Intangible means elements that are more conceptual in nature and not represented by a physical object(s).

Mid-century architecture means buildings constructed between the years of 1950 and 1970.

Original design intent means the ideas of an architect or group of architects that guided the appearance of a building both prior to and during construction. Architects had specific visions for their buildings that often diminish over time due to the gradual degradation of materials and myriad modifications.

Preservation means either the rehabilitation or restoration of a building as guided by the set of principles. Reconstruction should only be pursued for educational purposes. Additionally, *preservation* means the field as a whole.

Preservation campaign means the project in its entirety for a given building.

Resource refers to the building, group of buildings, or site and may include ancillary components, contents, and space.

Significance means architectural design, symbolic, functionalism, technological, social, cultural, or other intangible or tangible values for past, present, or future generations.

Signs of age means that a material has acquired a considerable degree of patina that substantially diminishes a resource's original design intent.

Spirit means the prevailing qualities, intentions, energy, and/or determination with which a building was undertaken during its design and construction.

Tangible means actual physical objects or fabric.

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5.2.2. Preservation Principles

- *Significance should not rely on the age and rarity of a resource; instead, it will take into greater consideration architectural design, symbolism, functionalism, technology, and social and cultural ideas.*

For the sake of emphasis and elaboration on this principle, assessing the significance for a mid-century resource must transcend preconceived notions of age and rarity. Whether defined by identifying values or utilizing a particular set of criteria, the importance of a resource needs to take into greater consideration intangible aspects such as the original design intent, symbolism, and social and cultural ideas. Preservationists will soon encounter a crossroads and subsequently be forced to either embrace or disregard this more conceptual approach. Accepting the former fosters the inherent responsibility in managing historic resources, whereas resisting this inevitable change will consequently render practitioners irrelevant. Moreover, neglecting mid-century architecture results in ill-informed and shortsighted decisions. Allowing for a number of these resources to be mistreated—demolished or insensitively altered or modified—will starve society of an entire era of architectural history.

- *Authenticity should be maintained by celebrating the original design intent.*

A number of mid-century buildings were designed to accommodate a specific function and, in doing so, were given a particular architectural aesthetic. Architects were quick to incorporate burgeoning technology and innovative materials that were both driven by mass production and standardization. The zeitgeist of the post-war years largely contributes to the significance of many of these resources, which is substantiated by authenticity. Furthermore, the integrity of a historic resource is expressed through the resource's ability to convey its significance. Achieving this traditionally relies on tangible evidence to express a resource's historicity. As this thesis has done well to illustrate, reliance on this physical evidence is no longer applicable to the effective preservation of

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mid-century architecture. Preservationists can no longer be constricted to the tangible. Authenticity should aim to convey the original design intent and other intangible elements that augment significance.

- *If a material, that was a product of the mid-twentieth-century, shows signs of age, it may be replaced with a newer, better material that has a similar visual aesthetic as the original.*

Encouraging the replacement of materials as opposed to emphasizing retaining original fabric directly contradicts a majority of traditional preservation philosophies. However, for a material to undergo removal and replacement, the degree of visible age needs to be substantial. The overarching goal within these principles is to retain significant features, finishes, and construction techniques—as similarly advised in the Secretary of the Interior’s Standards—but doing so in a way that celebrates the original design intent. Practitioners are finding that the effective conservation of these post-war materials is impractical and impossible due to a number of limitations. As called for in other charters and guidelines, removed materials should be documented and catalogued if possible. Furthermore, newer, better materials do not have to be reversible and should help to secure a prolonged service life for the resource as a whole.

- *Additions and new construction are encouraged so long as they emulate the spirit in which the resource was designed, and should promote a dynamic environment and site.*

Considering the limitations imposed by certain function-specific buildings, additions and new construction may be the most effective solution to ensuring the successful preservation of a mid-century resource. Encouraging this principle parallels notions that the built environment is constantly changing. Accepting this reality as opposed to staving off any detrimental transformations will impose greater difficulties for ensuring these buildings remain extant for future generations. Many mid-century buildings made poor use of their sites by more actively incorporating parking lots

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and spreading horizontally as opposed to vertically along the parcel. Allowing for either additions or new construction to rectify this shortcoming makes for a dynamic environment from which the public will benefit.

- *If either mechanical, electrical, or environmental systems or other ancillary technological elements require updates to meet building and health and safety codes, change in the form of modifications and alterations are encouraged as long as such changes emulate the spirit in which the building was designed and built.*

Many mid-century buildings blatantly offend society's imperative to be environmentally responsible. Built before the advent of energy-efficient systems and materials, this era of architecture is often plagued by inefficient systems causing great discomfort to users. Mechanical, electrical, and environmental systems inevitably require updating so as to conform to current building and health and safety codes. Similar to the previous preservation principle, change is welcomed so long as it emulates the spirit in which the building was both designed and built. In many cases, updating these features requires limited alteration to original configurations. Other ancillary technological elements have often been replaced or removed considering this burgeoning industry advances at such a rapid pace. Televisions, early computers, and telephones, for example, are transitory features susceptible to a high rate of change.

- *If the original use is no longer feasible, the new use should allow for frequent occupancy for the building or site.*

The field of historic preservation often struggles with securing adequate financing. This lack of funding consequently places a strain on needed conservation and maintenance. Under the umbrella of historic site management, this financial constraint is most evident, particularly with historic house museums. Mid-century architecture would suffer if subjected to "museumification" as this would place an even greater strain on maintenance in light of the challenges imposed by post-war architecture. If the

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original use is no longer needed, then the new use should take advantage of a function that affords the building frequent or every day use. New users should be equipped with a long-term plan that includes necessary funds to perform proper maintenance and avoid episodic repairs. The ultimate goal of this principle is to transcend the stigma of functional obsolescence. By incorporating the other principles, a mid-century building can be both functional and preserved.

- *Interdisciplinary collaborations should be integral to every preservation campaign as a means to foster innovative solutions for mid-century architecture.*

The successful preservation of a mid-century building is obligated to draw extensively from the project's collaboration between other disciplines. The problems created by these resources complicate myriad traditional preservation methodologies and necessitate innovative solutions. Preservation practitioners are drawn from the sciences, the arts, social sciences, humanities, and other areas reflecting the fact that preservation is naturally a multidisciplinary endeavor.²⁷⁴ On paper, mapping a preservation project would illustrate a linear path with different groups of professionals engaged in distinct steps along the way.²⁷⁵ However, each step often occurs in separate spheres with little interaction among the others. This cannot continue as the field of preservation moves forward. Encouraging this type of participation cultivates pioneering projects that will set the precedent for future preservation projects, as well as lay the foundations for further developed methodologies.

274. Erica Avrami, Randall F. Mason and Marta de la Torre, *Values and Heritage Conservation* (Los Angeles: Getty Conservation Institute, 2000), 3.

275. Ibid.

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- *Formulating a preservation campaign based on these principles should incorporate long-term goals and be a one-time event.*

Incorporating these preservation principles should be employed in tandem and include long-term goals. Ideally, this avoids having to repeat a substantial preservation project and helps to ensure a prolonged service life for a mid-century building. Moreover, if these principles were allowed to be conducted as needed, then the authenticity—as defined for these principles—would be diminished and ultimately lost, and significance would have little to rely on. The continued emphasis on both celebrating the overall design intent of a building and the spirit in which it was designed and built translates well for embracing a more conceptual approach. As cautioned earlier, this shift can set a dangerous precedent and places considerable responsibility on the practitioner to fully understand the design intent; as well as places greater accountability in interpreting a resource’s significance. Promoting the intangible does not give license to remove all original material.

5.3. A Framework From Which to Build

The eight preservation principles introduced in this chapter are meant to serve as a beginning framework from which to continue to develop further for real world application. Practitioners are encouraged to use this as a guideline to inform their methodology for a mid-century building. The overarching aim of proposing a novel approach is to encourage preservationists to reassess traditional methodologies in light of unprecedented obstacles. This era of architecture undoubtedly holds both artistic and historic significance and warrants preservation so as to serve as a legacy of the past to

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the present and the future.²⁷⁶ As the field of preservation continues to grow, recognition of significance should not depend upon the fulfillment of pre-established criteria, instead, it should depend “upon the progress of the development of the historical consciousness and the culture of the people involved.”²⁷⁷ Values are not fixed, rather, they are subjected to variation between individuals, and to change through time as theories evolve. These principles are illustrative of the transformations transpiring in the field of preservation.

More specifically, the ideas regarding significance and authenticity presented in these preservation principles pose serious implications. Traditional preservation guidelines typically prohibit the removal and replacement of original fabric. Preservationists worldwide continue to pioneer in conserving materials with the intentions of slowing decay and managing further degradation. However, mid-century buildings are rife with fugitive architecture—impermanent materials. The technology and materials utilized in these structures have been quickly superseded by newer, better materials causing a rapid turnover and resulting in myriad modifications. The spirit behind these elements is more significant than the original, tangible object itself. It is this vigor and innovation that should be conveyed in a mid-century building. How practitioners decide to execute this conceptual idea is still to be fully developed.

Augmenting these unconventional ideas that run counter to traditional notions are the principles encouraging additions, new construction, and alterations to existing systems. Many mid-century buildings were hermetically sealed and defied all notions of energy efficiency. The amount of power and energy required to meet a comfort level for a mid-century building’s users is absurd when compared to today’s standards. The inefficiency of these buildings substantiates the arguments asserted by adversaries

276. Paul Philippot, “Historic Preservation: Philosophy, Criteria, Guidelines, I,” in *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed. Nicholas Stanley Price et. al. (Los Angeles: Getty Conservation Institute, 1996), 270.

277. Ibid.

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opposed to their preservation. Allowing for creative solutions in the form of additions, new construction, or alterations will help ensure many mid-century buildings remain extant. The principles addressing this issue are still rather crass and should be further refined to mitigate ad hoc preservation efforts, which would misconstrue the limitations and obliterate a historic resource.

In addition to fine-tuning these principles, greater stress should be placed on implementing long-term goals and supporting interdisciplinary collaborations. Undertaking a preservation project on a mid-century building must promote longevity and permanence. Emphasizing these notions parallels the basic foundations of the preservation field. However, many materials and systems used in these buildings were inherently flawed with short service lives and contradict concepts of permanence. Preservationists have to consider the consequences of devoting limited resources to conserving inadequate materials versus embracing the spirit in which the building was built and replacing failing or aging materials with newer, better ones. Embracing the latter would celebrate the original design intent—as is emphasized by the author’s guidelines. In doing so, this presents a vital opportunity for preservationists to take advantage of interdisciplinary collaborations. Professionals from other fields should be more actively brought into the conversation as a means to uncover innovative solutions to these unprecedented barriers. The last two principles presented should be further honed so as to cultivate this importance. Ultimately, successfully interpreting the quality and execution of a design in addition to the overall intent rests on judgment best executed by a dynamic group of experts.

CHAPTER 6: CONCLUSION

CHAPTER 6: CONCLUSION

Failing to actively address the challenges post-war architecture imposes upon the field of historic preservation consequently provides a disservice to society as a whole. Ill-informed and shortsighted decisions are rendering practitioners as irresponsible stewards of these historic resources. A majority of preservationists are hesitant to acknowledge that a new methodology for working with mid-century architecture is needed. As the Roundhouse has demonstrated, the traditional theories, charters, and guidelines used to guide and inform decisions are inadequate for effectively preserving mid-century buildings. This inefficiency is also the result of the field's fixation on both the regulatory process and material conservation as evidenced by strong adherence to government-written guidelines. Professionals will quickly render themselves irrelevant by refusing to be flexible and open to change in light of these evolving theories.

In an effort to illustrate the theoretical insufficiencies plaguing the preservation of mid-century architecture, this thesis identified the five most prevalent obstacles. To substantiate this claim of inadequacy, these obstacles were supported by recent scholarship discussing the trials and tribulations professionals are facing as a result. Augmenting this discourse was the intertwining of these challenges throughout the comprehensive evaluation in the fourth chapter. The contentions of significance and authenticity are laden with ambiguities. This argument will continue to challenge the field until a sound methodology proves to appease the resilient foundations upon which practice has developed. However, biases surrounding age and rarity must be severed for resources of the recent past. Moreover, both the scholarship supporting this thesis and the evaluation of traditional doctrines affords empirical evidence demonstrating a shift from a reliance on original fabric (tangible) to a greater welcoming of a conceptual approach stressing the overall design intent of a resource (intangible). Consequently, technical questions regarding authenticity should be reassessed further.

These challenges do not serve as deterrents to pursuing a preservation project; rather, they serve as ample opportunities to retool elements of the preservation field and

CHAPTER 6: CONCLUSION

to set the precedent for similar future scenarios. There is no doubting that many post-war buildings are significant and worthy of preservation. As a field, we cannot postpone knowing what we have as the luxury of time is absent. The field, as a whole, needs to become more aggressive with researching and developing an understanding of the types of mid-century resources littering the built environment. Accomplishing this goal involves taking advantage of the burgeoning technology that has become ubiquitous and readily accessible. Too many important buildings continue to slip through the fingers of preservationists due to lack of action. Of course, there is the chronic issue of available funds and resources plaguing the field, but social media has proven to be an effective means for garnering support through grassroots efforts. From there, the necessary resources often find a means to materialize. Power in numbers is only one key element in an overall preservation campaign, but is becoming increasingly more important for the fate of many mid-century buildings.

Although this thesis attempts to guide the impending evolution of the preservation field, there persist additional challenges that soon need to be addressed. For instance, a prevailing issue involves the increasing inverse relationship between buildings and people; people are living longer whereas, conversely, buildings are becoming gradually more impermanent. This further raises the imperative to shed biases fixated on age and scarcity. As fugitive architecture becomes more pervasive, preservationists will be continuously tested and forced to question their traditional methodologies. In closing, it should be recognized that mid-century architecture teeters on the edge of still being considered resources of the recent past. This academic discussion addresses the challenges currently impeding preservationists. In 50, 75, or 100 years from now, this discourse will no longer remain relevant, but hopes to set a useful precedent.

BIBLIOGRAPHY

BIBLIOGRAPHY

"A. E. Komendant, 85, A Structural Engineer." *New York Times*, September 18, 1992.
Accessed October 8, 2012. ProQuest Historical Newspapers.

Alderson, Caroline R. "Responding to Context: Changing Perspectives on Appropriate Change in Historic Settings." *APT Bulletin* 37, no. 4 (2006): 22-33.

Architectural Archives of the University of Pennsylvania. "Geddes Brecher Qualls Cunningham." Accessed October 21, 2012. <http://www.design.upenn.edu/archives/majorcollections/gbqc.html>.

Araoz, Gustavo F. "World-Heritage Historic Urban Landscapes: Defining and Protecting Authenticity." *APT Bulletin* 39, no. 2/3 (2008): 33-37.

The Athens Charter for the Restoration of Historic Monuments (the Athens Charter),
Adopted at the First International Congress of Architects and Technicians of
Historic Monuments, Athens (1931).

Australia ICOMOS. *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999, with associated Guidelines and Code on the Ethics of Co-existence*.
Victoria, AU: Australia ICOMOS, 2000.

Avrami, Erica, Randall F. Mason and Marta de la Torre, eds. *Values and Heritage Conservation*. Los Angeles: Getty Conservation Institute, 2000.

Baljon, Cornelis J. "Interpreting Ruskin: The Argument of the Seven Lamps of Architecture and the Stones of Venice." *The Journal of Aesthetics and Art Criticism* 55, no. 4 (Autumn 1997): 401-414.

Banham, Reyner. *A Critic Writes: Essays by Reyner Banham*. Berkeley: University of California Press, 1996.

-----, *Theory and Design in the First Machine Age*. London: The Architectural Press, 1960.

BIBLIOGRAPHY

- Barr, Alfred H., Henry-Russell Hitchcock, Walter Gropius, George Nelson, Ralph T. Walker, Christopher Tunnard, Frederick Gutheim, Marcel Breuer, Peter Blake, Gerhard Kallmann, Talbot Hamlin, Lewis Mumford and Carl Koch. "What is Happening to Modern Architecture?" *The Bulletin of the Museum of Modern Art* 15, no. 3 (Spring 1948): 4-20.
- Bronson, Susan D. and Thomas C. Jester. "Conserving the Built Heritage of the Modern Era: Recent Developments and Ongoing Challenges." *APT Bulletin*, 28, 4 (1997): 4-12.
- "The Changing City." *The Evening Bulletin*, February 27, 1958. Newspaper clippings, Urban Archives, Temple University. Philadelphia, Pennsylvania.
- "Circling in the Square." *Architectural Forum* 118 (1963): 120-125.
- City of Philadelphia. "Dedication of Police Headquarters." Monday, April 1, 1963. Pamphlet. Urban Archives, Temple University. Philadelphia, Pennsylvania.
- Clendenin, Malcolm with Introduction by Emily T. Cooperman. "Thematic Context Statement: Modernism: 1945-1980." (2009). Available: Preserve Philadelphia, www.preservephiladelphia.org/wp-content/uploads/HCSModernism.pdf.
- Cohen, Madeline. "Postwar City Planning in Philadelphia: Edmund Bacon and the Design of Washington Square East. PhD diss., University of Pennsylvania, 1991.
- Colquhoun, Alan. *Modern Architecture*. New York: Oxford University Press, 2002.
- Condit, Carl. *American Building Art: The Nineteenth Century*. New York: Oxford University Press, 1960.
- Coombs, Robert. "Philadelphia's Phantom School." *Progressive Architecture* 42 (April 1976): 58-71.

BIBLIOGRAPHY

Curtis, William J. R. *Modern Architecture Since 1900*. Upper Saddle River, NJ: Prentice Hall, 1996.

De Long, David G. "To Save History by Design." *Journal of the Society of Architectural Historians*, 58, 1 (March 1999): 4-5.

Donovan, Andrea Elizabeth. *William Morris and the Society for the Protection of Ancient Buildings*. New York: Routledge, 2008.

Fine, Scott Adrian. "Top 13 Challenges for Saving Modernism and the Recent Past." *Forum News* 16, no. 11 (July 2010).

Fixler, David. "Appropriate Means to an Appropriate End: Industry, Modernism, and Preservation." *APT Bulletin* 39, no. 4 (2008): 31-36.

-----, "Is It Real and Does It Matter? Rethinking Authenticity and Preservation." *Journal of the Society of Architectural Historians* 67, no. 1 (March 2008): 11-13.

Frampton, Kenneth. *Modern Architecture: A Critical History*. London: Thames and Hudson, 1985.

Geddes, Robert. "Possibilities in Architecture." *Architectural Record* 108 (November 1977): 103-108.

-----, "Principles and Precedents: Geddes Brecher Qualls Cunningham." *Process Architecture* 62 (October 1985).

Geddes, Brecher, Qualls and Cunningham. Police Administration Building File: 027.III.28. Architectural Archives, University of Pennsylvania, Philadelphia, Pennsylvania.

-----, Clips – GBQC – Police: 027.II E.1. Architectural Archives, University of Pennsylvania, Philadelphia, Pennsylvania.

BIBLIOGRAPHY

----- . GBQC – Police Administration – Correspondences: 027.II C.6. Architectural Archives, University of Pennsylvania, Philadelphia, Pennsylvania

Gelernter, Mark. *A History of American Architecture: Buildings in their Cultural and Technological Context*. Hanover, NH: University of New England Press, 1999.

Gregotti, Vittorio. "On Modification." In *Inside Architecture*. Translated by Peter Wong and Francesca Zaccheo, 67-73. Chicago: MIT Press, 1996.

Hassebroek, Doug. "Philadelphia's Postwar Moment." *Perspecta*, 30 (1999): 84-91.

Hart, Jason. "Rethinking Preservation – Part I." *UrbDeZine*. September 13, 2011. Accessed November 10, 2012.
<http://urbdezine.com/rethinking-preservation-part-i/>.

Hearn, M. F., ed. *The Architectural Theory of Viollet-Le-Duc: Readings and Commentary*. Cambridge, MA: MIT Press, 1990.

International Charter for the Conservation and Restoration of Monuments and Sites (the Venice Charter). Adopted at the Second International Congress of Architects and Technicians of Historic Monuments. Venice, 1964.

Jackson, Mike. "Preserving What's New." *APT Bulletin*, 23, 2 (1991): 7-11.

Jacobs, Jane. *The Death and Life of Great American Cities*. New York: Vintage Books, 1992.

Jerome, Pamela. "An Introduction to Authenticity in Preservation." *APT Bulletin* 39, no. 2/3 (2008): 3-7.

Jester, Thomas C., ed. *Twentieth-Century Building Materials: History and Conservation*. New York, NY: McGraw-Hill, 1995.

BIBLIOGRAPHY

- Jokilehto, Jukka. "Preservation Theory Unfolding." *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* 3, no. 1 (Summer 2006): xii, 1-9.
- Komendant, August. *18 years with architect Louis I. Kahn*. Englewood, NJ: Aloray, 1975.
- ". "Precasting Makes New Strides." *Progressive Architecture* (October 1960): 176-191.
- ". *Prestressed Concrete Structures*. New York: McGraw-Hill, 1952.
- Lemaire, Raymond and Herb Stovel, eds. *The Nara Document on Authenticity*. Nara, Japan, 1994.
- Lewis, Maurice M. "Klein Views New Police Building: 'Ugly, Cost too High, Overcrowded.'" *The Evening Bulletin*, March 31, 1963. Newspaper clippings, Urban Archives, Temple University. Philadelphia, Pennsylvania.
- Longstreth, Richard. "I Can't See It; I Don't Understand It; And It Doesn't Look Old to Me." *Forum Journal* 10, no. 1 (Fall 1995).
- ". "The Significance of the Recent Past." *APT Bulletin* 23, no. 2 (1991): 12-24.
- Macdonald, Susan. "Reconciling Authenticity and Repair in the Conservation of Modern Architecture." In *Modern Matters: Principles and Practice Conserving Recent Architecture*, edited by Susan Macdonald, 87-100. Shaftesbury: Donhead Publishing, 1996.
- Morris, William. "The Manifesto." The Society for the Protection of Ancient Buildings. Accessed March 7, 2013.
<http://www.spab.org.uk/what-is-spab-/the-manifesto/>.
- Null, Janet A. "Restorers, Villains, and Vandals." *APT Bulletin; Principles in Practice*, 17, no. 3/4 (1985): 26-41.

BIBLIOGRAPHY

- Ockman, Joan, comp. and Edward Eigen. *Architecture Culture 1943-1968: A Documentary Anthology*. New York: Columbia University School of Architecture, Planning, and Preservation: Rizzoli, 1993.
- Osborn, Michelle. "A Building That Invites Inspection." *The Evening Bulletin*, December 10, 1965. Newspaper clippings, Urban Archives, Temple University. Philadelphia, Pennsylvania.
- Pace, Valeria Sue Halverson. "Society Hill, Philadelphia: Historic Preservation and Urban Renewal in Washington Square East." Master's Thesis, University of Minnesota, 1976.
- Park, Sharon C. "Respecting Significance and Keeping Integrity: Approaches to Rehabilitation." *APT Bulletin* 37, no. 4 (2006): 13-21.
- Perkins, G. Holmes. "Part Four: Philadelphia Phoenix: Postwar Civic Renaissance and the Philadelphia School." In *Drawing Toward Building: Philadelphia Architectural Graphics 1732-1986*, edited by James F. O'Gorman, Jeffrey A. Cohen, George E. Thomas and G. Holmes Perkins. Philadelphia, PA: Pennsylvania Academy of the Fine Arts, University of Pennsylvania, 1986.
- Philadelphia Architects and Buildings. "Geddes, Robert Louis (b. 1923)." Accessed October 4, 2012. http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/23846.
- Philadelphia Architects and Buildings. "Qualls, Wyckoff (1923-2001)." Accessed October 4, 2012. http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/23412.
- Philadelphia City Planning Commission. "Amendment Unit Four." *Independence Mall: Center City Redevelopment Area*. Philadelphia: City Planning Commission, 1966.
- Philippot, Paul. "Historic Preservation: Philosophy, Criteria, Guidelines, I." In *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, edited by Nicholas Stanley Price, M.K. Talley Jr., and A. M. Vaccaro, 268-274. Los Angeles, CA: The Getty Conservation Institute, 1996.

BIBLIOGRAPHY

- , "Restoration from the Perspective of the Humanities." In *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, edited by Nicholas Stanley Price, M.K. Talley Jr., and A. M. Vaccaro, 216-229. Los Angeles, CA: The Getty Conservation Institute, 1996.
- "Pioneering in Precast Concrete." *Engineering News Record*, October 13, 1960: 56-60.
- "Police Building Wins Award of Architects." *The Evening Bulletin*, April 1, 1963. Newspaper clippings, Urban Archives, Temple University. Philadelphia, Pennsylvania.
- Prudon, Theodore. *Preservation of Modern Architecture*. Hoboken, NJ: Wiley, 2008.
- , "The 'Modern' Challenge to Preservation." *Forum Journal* 24, no. 4 (Summer 2010).
- Pyburn, Jack. "The Role of Architectural Precast Concrete Technology in the Internationalization of Postwar Modernism." In *Eighth International DOCOMOMO Conference: Postwar Modernism in an Expanding World, 1945-1975*. New York, 2004.
- Redevelopment Authority of the City of Philadelphia. *Market Street East General Neighborhood Renewal Plan*. October, 1966.
- Riegl, Alois. "The Modern Cult of Monuments: Its Essence and Its Development." In *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, edited by Nicholas Stanley Price, M.K. Talley Jr., and A. M. Vaccaro, 69-83. Los Angeles, CA: The Getty Conservation Institute, 1996.
- Richards, J.M. *An Introduction to Modern Architecture*. Baltimore: Penguin Books, 1940.
- Robin, John. Interview by Walter Philips Sr. February 11, 1978. Transcript. Philips Oral History Project. Temple University, Urban Archives. Philadelphia, Pennsylvania.

BIBLIOGRAPHY

- Robinson & Associates, Inc., Judith H. Robinson and Stephanie S. Foell. United States General Services Administration. *Growth, Efficiency, and Modernism: GSA Buildings of the 1950s, 60s, and 70s*. Center for Historic Buildings, U.S. General Services Administration, March 2006. Available: <http://www.gsa.gov/graphics/pbs/GEMbook.pdf>.
- Rowan, Jan C. "Wanting to Be: The Philadelphia School." *Progressive Architecture* 42 (April 1961): 130-163.
- Ruskin, John. *The Seven Lamps of Architecture*. New York, NY: John Wiley and Sons, 1891.
- Rypkema, Donovan. "Saving the Recent Past: A Philosophical and Practical Dissent." *Forum Journal* 20, no. 1 (Fall 2005).
- Saint, Andrew. "Philosophical Principles of Modern Conservation." In *Modern Matters: Principles and Practice Conserving Recent Architecture*, edited by Susan Macdonald, 15-28. Shaftesbury: Donhead Publishing, 1996.
- Smart, James. "In Our Town." *The Evening Bulletin*, January 13, 1963. Newspaper clippings, Urban Archives, Temple University. Philadelphia, Pennsylvania.
- Spring, Bernard P. and Donald Canty. "Concrete: The material that can do almost anything." *Architectural Forum* (September 1962): 78-96.
- Stovel, Herb. "Origins and Influence of the Nara Document on Authenticity." *APT Bulletin* 39, no. 2/3 (2008): 9-17.
- Tainter, Joseph and John Lucas. "The Epistemology of the Significance Concept." *American Antiquity* 48, no. 4 (1983): 707-719.
- Taylor, Ken. "Reconciling Aesthetic Value and Social Value: Dilemmas of Interpretation and Application." *APT Bulletin* 30, no. 1 (1999): 51-55.

BIBLIOGRAPHY

- Tschudi-Madsen, Stephan. *Restoration and Anti-Restoration: A Study in English Restoration Philosophy*. Oslo: Universitetsforlaget, 1976.
- United States Department of the Interior. *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. Edited by Charles A. Birnbaum and Christine Capella Peters. Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Heritage Preservation Services, Historic Landscape Initiative, 1996.
- Upton, Dell. "The Tradition of Change." *Traditional Dwellings and Settlements Review* 5, no. 1 (1993): 9-15.
- Van Balen, Koenraad. "The Nara Grid: An Evaluation Scheme Based on the Nara Document on Authenticity." *APT Bulletin* 39, no. 2/3 (2008): 39-45.
- Viollet-le-Duc, Eugène. "Restoration." In *The Foundations of Architecture, selections from Dictionnaire raisonné l'architecture française du XIe au XVIe siècle, translated by Kenneth Whitehead, 195-227*. New York, NY: G. Braziller, 1990.
- Whiteley, Nigel. "Banham and 'Otherness': Reyner Banham (1922-1988) and His Quset for an Architecture Autre." *Architectural History* 33 (1990): 188-221.
- Wiseman, Carter. *Louis I. Kahn: Beyond Time and Style*. New York: Norton, 2007.
- Wrede, Stuart. "Complexity and Contradiction Twenty-five Years Later: An Interview with Robert Venturi." In *American Art of the 1960s*, edited by J. Leggio and S. Weiley. New York, NY: Museum of Modern Art, 1991.

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