Radical Preservation: The Transformation of a Vacant Philadelphia School to Address Contextual Urban Opportunities

Nathaniel Hammitt
University of Pennsylvania

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Radical Preservation: The Transformation of a Vacant Philadelphia School to Address Contextual Urban Opportunities

Abstract
History and structure are traditionally seen as barriers: blockades between zones of occupation. But in fact both melt and dissolve even as they are formed. Structure and history are not blockades, rather thresholds--themselves fully occupiable.

This thesis is the transformation of a Philadelphia district school--but it is also a subversion of traditional adaptation. Investigating beyond existing means of preservation, the upgrade and recasting of Edward Bok AVTS projects a catalytic process and product: the synthesis of volumetric, organizational, and material recursions toward an architecture that challenges modes of design and community psychology within a historic framework.

Urban schools throughout the United States are experiencing unprecedented fluctuations in district enrollment: therefore this thesis addresses a matter of regional and national urgency. One in every three Philadelphia residents live within half a mile of a closed school: therefore this is a crisis affecting a large proportion of the city.

A vacant building negatively impacts one block, but a vacant school negatively impacts an entire community: therefore the effect of a single large abandoned building on its neighborhood is substantial—a building’s reuse can have a redeeming impact on local perceptions of wellness and justice. Across the top twelve US cities the most common adaptation for a vacant school is to become a charter school. When this process of adaptive reuse is more closely analyzed new opportunities begin to emerge (other than creating more charter schools) -- this helps us understand and activate civic heritage assets in new transformative ways.

Keywords
transformation, upgrade, schools, adaptive reuse, psychopolitics

Disciplines
Education Policy | Historic Preservation and Conservation | Politics and Social Change | Urban, Community and Regional Planning

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RADICAL PRESERVATION
THE TRANSFORMATION OF A VACANT PHILADELPHIA SCHOOL
TO ADDRESS CONTEXTUAL URBAN OPPORTUNITIES

Nathaniel Aaron Hammitt

A THESIS

in

Historic Preservation and Architecture

Presented to the Faculties of the University of Pennsylvania in
Partial Fulfillment of the Requirements of the Degree of

MASTER OF SCIENCE IN HISTORIC PRESERVATION
MASTER OF ARCHITECTURE

2015

_____________________________________________
Advisor
Randall F. Mason
Program Chair and Associate Professor
DEDICATION

“Throughout the world sounds one long cry from the heart of the artist: 
Give me the chance to do my very best.”

Seven years ago my architectural education began with this quote. This thesis is 
dedicated to the following individuals for helping me realize the cry that Babette 
knew so well. Thank you for giving me the chance to do my very best.

To Sarah, David, Susie, and Mark.

To great-grandpa and great-grandma Scott whose gifts allowed me to attend Penn.

To Avi, Vishal, Chas, Tamuka, Stephan, David, Cass, Nic, K, Jenny Renn, Sonny, Julia, 
Chuck and Diana, Ryan, John Blatchford, and Tommy the Mayor of Washington Park.

To Neil, Becca, Oli, Nathan Jones, Nate, Mary, Andrew, Hadi, and Kevin Gannon.

To Vincent, Edson, Melanie, Karl, James, Jerry, Jeff, Jim, Rich, Ming, Michael, Nnamdi, 
OJP, and David Lee Smith.

To Simon, Josh, Scott, Ben, Laura, and Hilary.

To Rich, Annie, Pat, Carson, Guy, Juan, Lindsey, and Ryan Keytack.
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Lastly, a huge thanks to my web of Philadelphia ‘gurus’ for much needed guidance in understanding the School District of Philadelphia, the Philadelphia School Reform Commission, and the process by which school properties are assessed, sold, and transformed.
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1. Introduction

1.1 Setting the Stage:

Urban schools throughout the United States are experiencing unprecedented fluctuations in district enrollment: this thesis addresses a matter of regional and national urgency.

Thirty-three percent of Philadelphia residents live within half a mile of a closed school: this is a crisis affecting a large proportion of the city.

While a vacant building negatively impacts one block, a vacant school negatively impacts an entire community: the effect of a single large abandoned building on its neighborhood is substantial-- the building’s reuse can have a redeeming impact on local perceptions.

Across the top twelve US cities, the most common adaptation for a vacant school is to become a charter school (forty-two percent): if vacant school adaptation is more closely analyzed, new opportunities begin to emerge (other than creating more charter schools) -- this helps us understand and activate civic heritage assets in new transformative ways.
1.2 Thesis Questions

● How can the upgrade of an abandoned Philadelphia district school address contextual and political fluctuations in a challenged urban core?

● How can the architectural transformation of a vacant school catalyze social and cultural vibrancy?
1.3 Conceptual Groundwork

From the outset this thesis has considered its questions as a system: grasping the crisis of school vacancy necessitates an understanding for contextual conditions at the city and state levels (Chapter 2: The Philadelphia School and Chapter 3: Psychology and Place). With an understanding of the larger picture this thesis proceeds to investigated site-specific structural and material conditions. Narrowing in on a single school—Edward Bok Technical High School (abbreviated AVTS)—to understand it as a unique manifestation within the larger social and architectural milieu (Chapter 4: Finding a Site). This understanding allows for a deeper exploration of processes at the micro-level, which recursively informs strategies for architectural transformation along the full range of prior investigation.

While the concluding steps of this thesis present an architectural design proposal (Chapter 7: Design Proposal), the essential goal of the investigation is to explore abandonment and solutions of radical preservation that address social and political fluctuations vis-a-vis upgrade and architectural transformation (Chapter 5: Reconciling Conservation and Transformation). This goal centers at the intersection of heritage and design. In order to better understand peer projects that have also centered at this same intersection, this thesis presents additional research of adaptation strategies with foundations in typological and systemic research; probing preservation and architectural design solutions with a precedent-driven awareness for extant work and a process-driven awareness for contemporary
thought places the design transformation of Edward Bok AVTS within the field of contemporary architectural and preservation theory (Chapter 6: Case Studies).

This thesis reflects on points of study from Autumn 2014 (A1-A4) and Spring 2015 (S1-S3) as indicated in illustration 1, while leaving open to interpretation research and exploration beyond the scale and scope of Radical Preservation. This simple matrix, with an X axis ranging from Regional (macro) to Material (micro) and a Y axis ranging from Heritage (reflective) to Design (projective), allows for a range of open research while also maintaining a focused thrust toward the challenge and questions at hand.
Figure 1: Narrowing Diagram
2. THE PHILADELPHIA SCHOOL

2.1 The Context

In addition to a process of honing research (centering on along Illustration 1’s axial spectrum) this thesis takes the opportunity to present research gathered from a range of Philadelphia experts knowledgeable about Philadelphia’s school system. These experts, ranging from city government employees to local business owners are listed in Appendix 1. Their knowledge of the Philadelphia context—specifically the School District of Philadelphia (SDP) and its management in a state-city partnership with the School Reform Commission (SRC) is bolstered by research into Philadelphia school district organization\(^1\) and property management\(^2\). Critical to our understanding of why Philadelphia district schools have closed en masse is the two-fold involvement of the SRC over the past three years (Figure 2, on next page “The Crisis of Closure”)\(^3\).
Figure 2: The Crisis of Closure

Illustration adapted from PennPraxis' "New Life for Old Schools," 2015.
2.2 The Crisis of Closure

First, under Superintendent and educational reformer David Hornbeck from 1994-2000 city politicians and the SDP argued for state-level funding in order to properly educate the city’s school-age population. Hornbeck and his team of reformers conducted a series of studies in the 1990’s that indicated Philadelphia public schools were under-funded, over-spending SDP funds in the process to meet what they perceived to be base needs of teachers and students. As SDP debts accumulated, the Commonwealth of Pennsylvania refused to pay its share of expenses deemed ‘necessary’ by SDP reformers, and after a prolonged 1997 legal battle in which the City and SDP co-sued Pennsylvania for improper funding, the Commonwealth finally agreed to fund the SDP under ACT 46. There were many caveats to this deal; under then-Governor Schweiker, Pennsylvania established a School Reform Commission (SRC) to manage the School District of Philadelphia, which would be headed by a SRC-appointed CEO. Under a state-sponsored reform plan the SRC would have the power to reconstitute troubled schools by reassigning or firing staff, hiring for-profit education management firms to run some schools, converting other schools to charter schools, all while hiring non-certified staff and reallocating and redistributing school district resources as it saw fit. In addition to its state-appointed CEO, the SRC would be composed of three members named by the governor of Pennsylvania and two appointed by the mayor of Philadelphia.
This gave, in effect, the funding needed to provide education to Philadelphia students, but also essentially a state-level veto to all decisions impacting the SDP.

Second, following David Hornbeck’s resignation and the appointment of financially-minded Paul Vallas as first SDP Superintendent under the SRC, the appearance and emerging dominance of privately-managed for-profit charter schools coupled with shifting demographics trends in Philadelphia’s school-aged population drove the SRC to re-envision SDP district non-charter schools. Arlene Ackerman’s tenure as SDP Superintendent from 2008-2012 witnessed the formation of Philadelphia Promise Academies in existing district schools, as well as a fresh spree of district spending on newly constructed charter schools. Despite these valiant reform efforts, debt accumulation and Ackerman’s resignation in early 2012 led to the closure of twenty-three district schools in 2013 under superintendent William Hite (2012 to present). These closures were taken as steps to reconcile SDP debt with projected expenditures, but the ensuing vacant schools present a current crisis to the city. Many of the buildings themselves are in fine physical condition, but SRC and SDP as educational entities were under-prepared to transfer the properties to private developers. Soliciting the support of the Philadelphia Industrial Development Corporation (PIDC) and the Mayor’s Office for Economic Development twenty schools deemed viable for sale were placed out to public solicitation. Over the past two years, studies by the Fels School of Government, PennPraxis, and the Philadelphia Community Design Center (to name just a few) have provided recommendations and policy suggestions for the sale and reuse of
these vacant schools. At the time of this writing one property has been sold, seven schools still await bids, and twelve other properties stand pending; envisioning new transformative uses for these buildings is incumbent to the urgency of this thesis.

While the above elaboration is a distilled account of political and economic processes over the past fifteen years, it helps place into perspective the immediacy of need that vacant schools be adapted to new uses that restore trust in political leadership (justice), confidence in the community (psychological wellness, discussed in Chapter 3), and stability (economic and otherwise) in neighborhoods recently left to the tides of social and political fluctuation. But an understanding of Pennsylvania school typology is also necessary to grasp the physical evolution of Philadelphia educational civic architecture.
2.3 School Typology

Philadelphia school typology begins with an understanding of early American education in the early 19th century\textsuperscript{14}. The social role of schools at this time was not to teach trade but rather basic skills in reading and mathematics, and Philadelphia had not yet developed a plan for managing its public schools. When the SDP was formally organized until 1818\textsuperscript{15}, timber-frame and early masonry-construction schools originally intended to originally only house handfuls of students were beginning to grapple with rapid urbanization and changing social patterns that would continue for the next two centuries. When the School District of Philadelphia created a School Board in 1850 it was originally managed by one ‘Controller of the Public Schools’ for each of the city’s forty-two wards as appointed by Court of Common Pleas judges\textsuperscript{16}. It was still a largely decentralized school system at this time, with the size and location of each school left to city ward representatives; Philadelphia had 540 such officials prior to the creation of the office of Superintendent of Buildings in 1867\textsuperscript{17}. The post-Civil War period following Philadelphia’s 1854 Act of Consolidation saw an upsurge of industry and population growth in the city with the School District expanding to serve a city population of 556,529 in 1860 up from 121,376 in 1850\textsuperscript{18,19}.

However, the repercussions of industrialization and standardization in building technology did not fully impact Philadelphia school architecture until the early 20th century during the tenure of Irwin T. Catharine. Catharine followed in a line of influential Philadelphia architects who advocated for specialized interior
spaces such as gymnasiums, auditoriums, and pools either as consultants (such as in the case of Samuel Sloan’s 1851 *Philadelphia Plan*) or Chief Architects (Joseph W. Anschutz, James Gaw, Andrew Sauer, and Lloyd Titus’s late 1800’s schools, as well as William Wirt’s *Gary Plan*)\(^{20}\). Wirt, Catharine’s successor, additionally contended that school hallways should “be lined with art work to serve as local museums, and that school libraries be each community’s local branch library”\(^{21}\). His notion that each “school should also serve as a community center not just a learning place for children” was a huge leap forward in the civic role of public schools, indicative of the changing trend in Northeast cities during the early 1900’s that schools should teach skills and trade in addition to reading, writing, history and mathematics. Wirt’s social ideas would not be standardized and reproduced en masse until the tenure of his successor, Chief Architect to the SDP Irwin T. Catharine, who brought about sweeping changes to the district’s architectural design and construction procedures. Catharine was influenced by previous Chief Architects of the SDP regarding the creation of large specialized spaces in public schools, but notably modernized structural and skin systems recognizing that the material and organizational design of public schools had to adapt to the inherent risks of 20th century urban life.

“*Catharine concluded that the inventory of school buildings he inherited was largely outmoded, posing impediments to teachers and students alike. Some he deemed fire hazards because of their timber-framed construction in an era of gas-light illumination. This claim was heeded only after a fire swept through the original Philadelphia High School for Girls building at 17th and Spring Garden streets in the early 1930s.*”\(^{22}\)

In addition to Catharine’s decision to forego timber-frame construction in favor of steel, concrete, and non-combustible terracotta/masonry finishes,
Catharine also standardized the floor plan of schools to fit any city lot. He standardized the location of schools within each lot to be away from alleys thereby allowing for improved ventilation and light. At the time his decision to integrate latrine toilets into buildings was still radical (as opposed to outdoor latrines which had been the norm) and making space inside every school for a cafeteria (instead of just recreation and performance spaces) ensured that students would not have to run home at lunch time for a midday meal but would rather stay within the campus confines in a protected academic environment.

While serving at the School District of Philadelphia from 1920-1937, Catharine is credited with the design of 104 public schools. He replaced thirty-seven existing buildings, added wings to twenty-six others, and upgraded no less than fifty already in existence. Each school was built with an underlying steel and concrete structural grid, but with unique ornamentation based on the neighborhood and architectural styles deemed appropriate for the time and place of implementation. Catharine’s modernization of Philadelphia public school design and construction is fortuitous in the case of this thesis: his foresighted choice to make buildings firm yet flexible is grounds for many several school reuse projects in the city. An interior steel and concrete structural grid is far easier to work with than reinforced or unreinforced masonry construction, and the concrete and masonry grid-form proves opportunistic in its ability to adapt to various interior configurations as well as accommodate stylistically diverse skins and exterior elevation ornamentation. One core challenge of this thesis is balancing the character defining features of Edward Bok AVTS with architectural adaptation strategies. Both topics will be addressed in upcoming chapters, and selected passages from the fifty-eight page NRHP thematic nomination of Philadelphia Schools are available in Appendix 1
detailing Edward Bok AVTS’s character defining features at the time of its nomination in 1986.
3. PSYCHOLOGY AND PLACE: A NEED FOR PARTNERSHIP

3.1 Meso-Sociological Psychopolitics and Crises of Leadership

With an introduction to the physical and political mechanisms of the Philadelphia school system it is next necessary to recognize the role that meso-psychology (the psychology of groups) plays in a community’s perception of abandonment and disinvestment.

In the case of urban Philadelphia schools, there is already a distrust of political parties deemed ‘other’ by personal or group standards. Whether by political party, neighborhood, or racial affiliation, meso-level psychology leads communities to perceive personal injustice when those in power make decisions negatively affecting their personal or group well-being. Robert Robbins puts it well:

“The fear of the stranger and projection of hatred upon the other are the psychological foundation of the concept of the enemy. The crystallization of the shared comfort of the familiar is the psychological foundation of nationalism. Significant others -- parents, teachers, peers -- sponsor ‘suitable targets of externalization’ for the developing child. They teach whom and what to fear.”

However, what is often overlooked is the stress of decision makers during times of crisis. To be clear, a crisis, as defined by Jerrold Post, “include[s] time urgency, ambiguity or uncertainty, and surprise or uniqueness.” The political scientist Ole R. Holsti, for example, finds two elements concerning which there is broad agreement-- a “severe threat to important values” and “finite time for coping with the threat”-- and adopts these as his influential working definition. He also mentions the elements of surprise and probability of armed conflict, while Paul T.
Hart identifies “threat, urgency, and uncertainty” as the three essential elements of crisis\textsuperscript{30}. In the case of the struggling SDP, policy-makers wrestled with the very real crisis of under-funded public education and had to make difficult decisions about which buildings to save and which to shutter\textsuperscript{31}. While these decisions are often made out of reaction to real-world crises (or even as a result of detailed reports such as that conducted by the Pew Charitable Trusts in 2011), decisions are often perceived as discriminatory or unjust to local communities and meso-sociological groups\textsuperscript{32}. In the case of the SRC’s choice to hire the Boston Consulting Group in its assessment of portfolio properties BCG and the SRC, under the perception of many Philadelphia communities and advocates, unfairly sought to close certain schools while choosing to leave others in operation\textsuperscript{33, 34}. This perception of injustice, especially when certain schools were still high-performing, necessitates an understanding of \textit{Psychopolitical Literacy}, defined by Isaac Prilleltensky as “people’s ability to understand the relationship between political and psychological factors that enhance or diminish wellness and justice”\textsuperscript{35}. Accuracy of psychopolitical literacy is defined by Prilleltensky as \textit{Psychopolitical Validity} or “whether research and action to improve the human condition takes political and psychological factors into account” (both terms defined in Appendix 1).

Certain meso- and micro-sociological distortions warp perceptions of wellness and justice, namely the five listed below\textsuperscript{36}. These distortions are
particularly affective when any defining factor of crisis (such as time, uncertainty, or physical threat) is particularly accentuated.

- Affective (primarily emotional sources of distorted psychopolitical validity):
  
  Limited emotional energy prevents person preoccupied with own issues from seeing other aspects of wellness or justice.

- Acquired (primarily educational source):
  
  Socialization and disciplinary boundaries prevent consideration of other types of wellness or justice; individualistic assumptions bias socialization.

- Situated (primarily historical source):
  
  Contextual horizons prevent consideration of other types of wellness or justice because people can’t imagine them.

- Invested (primarily political source):
  
  To maintain privilege and prevent dissonance, power and self-interest distort nature of wellness and justice and dismiss alternatives not to elite’s advantage.

- Polarized (primarily cognitive source):
  
  Limited attention distorts nature of wellness and justice into dogmatic either/or positions.
In the case of school closure, *time and uncertainty* were the greatest defining factors of crisis, and rightfully so. Many parents and children were unsure of their school’s fate, but the sense of crisis was exacerbated by all five psychopolitical distortions:

- The *affective* emotional weight ascribed to a school causes greater than average personal and collective attachment to a building;

- The *acquired* socialization differences of two groups of people biases each against the other as a result of segregated or otherwise xenophobic social customs;

- The *situated* bias of historical ways of urban life prevent meso-sociological conceptualization of alternative ways of life-- leaders and communities often simply cannot picture any way of living than that which they have always known;

- *Invested* distortions (primarily on the account of those in power) biases those in positions of political power from giving up or relegating their office’s prerogatives at the perceived risk that doing so would be tantamount to losing all that they had worked so hard to achieve;

- And finally *polarized* distortions of wellness cause both leaders and communities to drift toward extreme ends when conflict arises (‘either the school will remain open, or close forever’ for instance) instead of agreeing or working toward some middle ground.
3.2 Oppression and Wellness

As an outside analysis looking in on the crisis of school vacancy there is no easy way to discuss meso-sociological conflict between a community and perceived threats from outsiders. This thesis is not seeking to pick sides. But first-hand evidence does paint a compelling picture for the validity of communities experiencing hardship and oppression; when SDP Superintendent William Hite announced on June 1, 2013 that thirty-one schools would be closing later that month absolute panic ensued. Perhaps no other group so accurately captured the last moments of closing Philadelphia schools as the Philadelphia School Closings Photo Collective (PSCPC)\(^{37}\). Their grassroots effort to document Philadelphia school closure during the last weeks of the 2013 SDP academic school year visually reflects the tragedy and meso-psychological oppression of school closings, and is best viewed in tandem with the poetry of Apiary Magazine's Documentation of School Closings issue (see especially the “Shadow of Bok” poem available in Appendix 1)\(^{38}\).

These resources are psychopolitically literate, if significantly distorted in their psychopolitical validity by the eye and biases of an outside viewer.

In the case of the PSCPC and other first-hand accounts of school closure, distortions of psychopolitical validity fall along Prilleltensky's gradient (Figure 3) which provides a contextual and community-centric barometer for perceived and actual well-being.
3.3 Perspectives on Partnership

Although psychology tends to occur at the micro-sociological level and politics at the macro-sociological level, psychopolitics finds its foundation in the psychology of groups or ‘meso-sociological’ level. There is a need for adaptive architectural to take into consideration this ‘meso-sociological’ demographic, and
this thesis seeks to encourage and inspire proposals for building adaptation beyond the typical macro- and micro-considerations of developer-based project. Considerations for the reuse and transformation of an existing building must take into account local-level challenges and individual community's needs. However, considerations for reuse and transformation must also challenge long-standing needs and perceptions in order to cast a new vision for wellness at the meso-sociological level-- this challenge should seek to heal previous experiences of oppression (both actual and perceived).

In any design project there is always close partnership between architects, mechanical, structural, and electrical engineers, interior designers, trade and construction managers, city officials, owners’ representatives, developers and the like. But in an adaptive reuse project there also needs to be close partnership between professionals aware of historic context and fabric (See next chapter). Additionally, since adaptive reuse projects are often occupied, phased, and configured in order to tailor space for specific clients, business-persons and property managers may also be important partners in this process.

Partnership is integral to establish at the beginning of the design process. And since each partner in a project enters the process with their own set of values it is important to establish where a project falls within two sets of values: use/non-use heritage values and public interest values.

Use and non-use values are distinguished by whether they are derived from the actual use of a building or merely from the building’s existence. It is important
to preference *use values* when possible to prevent a building from being merely embalmed in amber. Utility derived from *use values* must to be reconciled with material preservation (also discussed in the next chapter). And while public interest values are not discussed at length in this thesis research, partners in an architectural design process must identify the difference between these two value sets (use- and non-use values) and how each set should be emphasized in discourse and design. Those interested in exploring this concept at greater depth should check out Barry Bozeman's book *Public Values and Public Interest: Counterbalancing Economic Individualism* in which the author provides comparative methods of assessing the needs and values systems of a group of people/community as well as Jan Campbell's *Psycho-Politics and Cultural Desires*\textsuperscript{39, 40}. 
4. FINDING A SITE: EDWARD BOK AVTS

At the outset of this thesis, choosing a school to study was a matter of contention. Should this project center on a vacant school that was located in a thriving neighborhood or a challenged one? Near the city center or closer to the suburbs? Should the school be listed on the National Register or not? Should the building be in a state of decay or in a plausible state of reuse?

For the purposes of generating a design proposal that could feasibility be considered by professionals and critics in preservation and design profession I chose to focus my efforts on finding a school that was located near the center of the city but not too near. One that was nominated to the NRHP for purposes of exploring the Secretary of the Interior’s Standards of Rehabilitation, but not so old that it could not be adapted. The school should be in a relatively stable neighborhood-- one in which an architectural proposal could make a difference and not require grand policy and governance reforms to come to fruition. And also the building must be in a state of semi-decay to accelerate the urgency of investigation. A building in immaculate condition or in a state of extreme disrepair would prompt tangential research astray from the central thrusts of questions. To that end, this thesis selected Edward Bok Technical High School (AVTS), a public high school completed by the Public Works Administration in 1938 and added to the National Register of Historic Places in 1986 (Figure 4 and 5).
Figure 4: Context Image, 8th and Mifflin Streets looking Southwest
Studying other schools proved to be a useful exercise however (Figure 6). Seeing many of Irwin Catharine’s legacies in a state of disrepair throughout the city catalyzed a critical need to investigate how and why these schools were left to the wayside (Figure 7). And also how the buildings were valued in light of resale and reuse potential by the PIDC, SDP, SRC, and developers (Figure 8)\textsuperscript{41}.
Figure 6: Site visits catalog

- Need for short-term approach
- Need for long-term approach
- Possible thesis sites (see next page)

GEOGRAPHIC POSITIONING
Schools clustered in North/Central and South Philadelphia

Figure 7: Site visits key
Figure 8: Panoramic conditions assessment 1
Figure 9: Panoramic conditions assessment 2
Figure 10: School site analysis

Selecting Bok from the list of top site candidates, this thesis next considered the evolution of the East Passyunk Crossing neighborhood, considering especially the cartographic information found on Philadelphia GeoHistory map documenting the changing patterns of land use in South Philadelphia from 1843 to present (Figures 3-11).
Figure 11: 1843 Philadelphia County (PhilaGeoHistory: Charles Ellet, Jr)
Figure 12: 1855 Philadelphia City (PhilaGeoHistory: R. L. Barnes)
Figure 13: 1862 Philadelphia Atlas (PhilaGeoHistory: Samuel Smedley)
Figure 14: 1895 Philadelphia Atlas (PhilaGeoHistory: G. W. Bromley)
Figure 15: 1910 Philadelphia Atlas (PhilaGeoHistory: G. W. Bromley)
Figure 16: 1934 Appraisal Map (PhilaGeoHistory: J. M. Brewer)

Key: Green: Jewish, Blue: Italian, Red: Black/African American
Figure 17: 1942 Land Use Maps (PhilaGeoHistory: Works Progress Administration)
Figure 18: 1962 Land Use Maps (PhilaGeoHistory: Works Progress Administration)
Assessing the morphological changes in the urban fabric, further investigations included a close reading of the building’s original blueprints (printed on original vellum). Understanding the structural integrity and corresponding carrying capacity of Bok AVTS in light of the building’s NRHP nomination led to a point of clarity that the historic building fabric could not be modified too greatly without compromising its original character. So rather than deconstructing the building, the design proposal (Chapter 7) takes cues from the building’s original
considerations (volumetric arrangement, organizational patterns, and envelope system) to transform the historic building vis-a-vis upgrade and integration with a new truss-suspended open-plan working-learning community. The historic building is thereby preserved and protected by a new layer of panelized metallic skin and can host ground-floor storefronts and upper-floor commercial and light-industry space, while an additional series of (up to eight) floors host the utilities and organizational infrastructure for a mix of higher education and office/studio space. Drawings and diagrams for this proposal can be found in figures 21-33.

5. RECONCILING CONSERVATION AND TRANSFORMATION

5.1 Change Over Time

As mentioned previously in this thesis, the earliest phases of research identified a ‘sweet spot’ at the crux of two investigative axes: on one axis heritage conservation (reflection) new design (projection) and on the other axis regional analysis (macro-level investigations) and material study (micro-level investigation). This sweet spot at the cross of both axes takes into accordance both the macro and the micro, both the material and the social, is the location for this thesis design intervention, but it is not uncharted territory.
Figure 20: Shearing Rates of Change
In a single building the physical components of architecture move (or ‘change’) at different rates: the ‘stuff’ and ‘skin’ of a building change much faster than the same building’s ‘structure’ and ‘services’ for instance, often due to their embeddedness within the site, their accessibility (or lack thereof) and their nestedness with other building systems (Illustration 7)\textsuperscript{43}. In historic buildings successive layers of change over time significantly alter the character and integrity of a building’s original design. Edward Bok AVTS has been minimally altered from its original state and its ‘layers’ are connected in such a way that the building’s stuff and space plan are flexible to accommodate a wide variety of uses within the building’s structure and service systems. Even more so, Bok’s structure is robust enough to allow for punctures and insertions without compromising the building’s overall integrity.
However, it is not enough to discuss the physical rates of change within a building. There is also a cultural dimension to shearing rates of change which takes into account perception and acceptance of change. Stewart Brand illustrates this concept with his diagram on ‘Pace Layering’ (adapted in Illustration 8). Fashion and commerce move with the greatest speed and fluctuate the most rapidly in society, while infrastructure (architecture and the built environment) lags commerce and is guided by governance and culture. In this view of change over time, infrastructure is the built representation of cultural and governance models and in turn infrastructure shapes commerce, fashion, and technological systems. But if a building outlasts certain forms of governance or lives through myriad commercial cycles, the building will become a time capsule. Its mere existence bearing through
generations a series of ideas and beliefs that are vestigial remnants of previous social customs, norms, and representational methods. This vestigiality is both hindrance and opportunity in the process of architectural adaptation. While certain elements of the built environment (such as trash incineration rooms or rooftop playgrounds) may be genuinely outdated, they serve as reminders of the models of culture and governance that they outlasted. These infrastructures are fossilized remnants of how a building was once used, and their juxtaposition against contemporary uses reminds us of the changing nature of architecture, as well as the value of heritage conservation in conveying these customs and traditions.

For a building like Bok, its use as a school has been overtaken by shifting forms of governance (as discussed in Chapter 2, charter schools replaced technical schools, Pennsylvania SRC governance, replaced Philadelphia SDP governance). But Bok’s use as a structure has endured; economic models that once precluded mixed use buildings have yielded to liberal strategies of integrating community centers, industry, and education as part of a single campus.

5.2 Conservation in Context

In the United States the Secretary of the Interior’s Standards for Rehabilitation guide adaptive reuse projects within the professional field of Historic Preservation. Excerpted below are the guidelines that rehabilitation efforts must adhere to in order to maintain a property’s NRHP status and eligibility for Federal
Historic Tax Credit standing (full list of standards available for reference in Appendix 1):

**Secretary of the Interior’s Standards for Rehabilitation**

1. Purpose “requires minimal change to defining characteristics.”
2. “Character of a property shall be retained and preserved”
3. “Changes that create a false sense of historical development...shall not be undertaken”
4. “Changes that have acquired historic significance in their own right shall be retained and preserved”
5. “Distinctive features, finishes, and construction techniques”
6. When possible, “repair rather than replace” historic features
7. “Chemical or physical treatments... shall not be used”
8. “Archeological resources... shall be protected”
9. “New work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features”
10. “New additions... shall be undertaken in such a manner that if removed... the essential form and integrity of the historic property and its environment would be unimpaired”

For the design proposal in Chapter 7, the best and fullest use for the Bok AVTS building is the addition of an additional structure, stacked vertically above the existing school. This calls for a challenge to the Secretary of the Interior’s Standards for Rehabilitation, namely substantial additions that selectively reveal character defining characteristics while treading lightly around others.

The National Parks Service department of Technical Preservation Services has a nuanced description of how architectural adaptation and modification must relate with the Standards. The overall effect of all work must be consistent with a property's historic character:

“The amount of change to features and spaces that can be accommodated within the Standards will vary according to the roles they play...
in establishing the character of the property. The Standards use language such as ‘distinctive feature’ and ‘spaces that characterize a property,’ suggesting that all features and spaces do not carry equal weight in determining the character of an historic property. This does not mean that features and spaces fit into absolute categories of either “character-defining” or not. Rather, the components of a property can be seen as falling into a continuum of importance...

...The more important a feature or space is to the historic character of a property, the less it can be changed without damaging the character as a whole. On the other hand, aspects less critical to the historic character may be altered more substantially with less effect on the character of the building as a whole. However, even when the features being changed are minor, changes that are too numerous or radical can in some instances alter the overall character of the building.”

Described as “cumulative effect” this consistency with a property's historic character is one of the largest single challenges that new additions face when interfacing with historic buildings. In the case of Bok AVTS, the most character defining features along the property’s ‘continuum of importance’ are its Art Deco detailing and vertical accentuation. Other notable features include the three-pronged floor plan allowing for light and air to all classrooms, as well as the protection of special interior spaces distinctive to William Wirt and Irwin Catharine’s school design guidelines from the early 20th century. If a building is to have future utility it must make certain concessions allowing it to continue providing utility to users and surrounding communities; in the case of Bok AVTS, a radical new addition provides enough utility to secure the historic building’s preservation.
5.3 Compatibility in Design

Conservation and architectural transformation are not as incompatible as they may seem: numerous authors have explored the intersection of heritage and architectural design, and this thesis springs in particular from the writings of Steven Semes, Francoise Bollack, Charles Bloszies, and Brent Brolin. Their writings on contextual awareness, adaptation typologies, degrees of intervention, contextual design in historic environments, and material histories respectively, pave a path for this thesis's research and design proposal.

- Steven Semes’ *The Future of the Past: A Conservation Ethic for Architecture, Urbanism and Historic Preservation* discusses the need for contextual awareness throughout the process of architectural design in historic environments\(^48\).

- Charles Bloszies’ *Old Buildings, New Designs: Architectural Transformations* features writings on adaptive reuse and contextual new design in historic environments flexes along three degrees of intervention: *Extreme, Restrained*, and *Referential*\(^49\). These three scales can be applied to almost any new building, and certainly to any adaptive use of an existing building. While Extreme and Restrained uses are perhaps the least agreeable to the passing observer, they are in fact the most true to the role that architecture plays in the role of creating identity and form within historic landscapes. Bloszies posits that while Referential design in historic environments is acceptable
and highly reasonable, buildings built to impersonate the past or call too
great a reference to historic styles actually lose their integrity via mimicry.
New design in historic environments can be provocative while also
respectful; compelling while also contextual.

Francoise Bollack’s *Old Buildings, New Forms* calls out five typologies for
adaptive design: *weaving, juxtaposition, wrap, parasite, and insertion* \(^{50}\).
Although parasite should be redefined as ‘symbiote’ these five typologies
refer back to the actual physical environment of building adaptation and also
provide typological references for my design proposal. These five types
resurface as case studies in Chapter 6.

Brent Brolin’s *Architecture in Context* applies contextual principles to new
design in historic environments through a discussion of place-making \(^ {51}\). In
this thesis, place-making is achieved by taking inherent opportunities of the
city street grid and wrapping these up and into Edward Bok AVTS,
connecting the urban fabric to an extension of the existing school suspended
above via a series of spanning trusses. When Edward Bok AVTS was
completed in 1936 it was an eight-story alien object in a sea of two-to-three
story (one would almost say docile) Philadelphia row-houses. This alien
nature of the vacant school should not be resolved through timid apology:
since South Philadelphia has very few buildings or works of architecture that
break its grid of small urban rowhouses, Edward Bok AVTS presents a
perfect opportunity for a single building to cast a new sense of place, almost
as an icon or destination of the neighborhood within which it site.
6. CASE STUDIES

6.1 Peer Cases

As this is a design thesis, it includes case studies that exhibit purposeful rigor akin to that pursued in Radical Preservation. To tackle an adaptive reuse project necessitates a successful repurposing of a project to meet the needs of the present, but more importantly an ability to propose designs that can adapt to potential future uses. These case studies serve as a jumping off point for successful adaptive reuse and new-construction strategies in the proposal for the reuse of Bok AVTS in South Philadelphia.

6.2 School Building Typologies

Arts and Culture
MoMA PS1
New York, NY

Institutional
MARY CHANNING WISTER SCHOOL
Philadelphia, PA

Commercial
DEWITT JUNIOR HIGH SCHOOL/DEWITT MALL
Ithaca, NY
MoMA PS1

Originally a Public School, MoMA PS1 (established in 1971 by Alanna Heiss as the Institute for Art and Urban Resources Inc. -- IAUR) occupies an old school at the intersection of 46th Avenue and Jackson Avenue in Long Island City, New York. The precinct school has a similar typology to many early Philadelphia district schools, although it is slightly older construction than Edward Bok AVTS.

At the time of its founding IAUR recognized that many younger or less established artists were being priced out of Manhattan studios, and that property owners (especially the City of New York) had an excess of abandoned buildings that were expensive to maintain and magnets for vandalism and urban blight.

Placing artists in these neglected buildings created a win-win situation for both parties: artists were provided with affordable space to create and exhibit their works, and the landlords were relieved of the burden of building upkeep and security by IAUR, which acted as a middleman in these arrangements. In the case of the 80th Precinct Building, in 1972 the 80th and 77th precincts were consolidated into a new headquarters on Utica Avenue, leaving the precinct building on Grand Avenue operating at less than half capacity.
By renting out the remainder of the station house to local artists in exchange for art instruction for neighborhood children, IAUR and the police department hoped to foster a creative spirit within the community and improve relations between local youth and the police force.

In 2000 the Institute formalized an agreement with the Museum of Modern Art (MoMA) and the City of New York (the precinct building’s owner) to update the facility into a dedicated contemporary art center.
Figure 22: Grand Avenue, Brooklyn, New York (December 1972)
Mary Channing Wister School

The Mary Channing Wister School is a historic building in Philadelphia’s Poplar neighborhood. Also designed by Irwin Catharine and built from 1925-1926 (only a decade before Bok AVTS), it is a three-story, three bay, brick building on a raised basement in the Art Deco-style. It is named for the civic leader Mary Channing Wister, wife of famous American fictionalist Owen Wister.

After closure and years of neglect the building reopened in 2003 as a state-of-the-art forensic science laboratory for the Philadelphia Police Department. While the facade remains true to the original design with little change, the inside of the building was completely renovated and designated as a LEED-certified building by the US Green Building Council. The new laboratory, called the Forensic Science Center, is operated by the Office of Forensic Science within the Philadelphia Police Department.

Compared to the cost of constructing an entirely new facility, rehabilitating the old Mary Channing Wister school cost twenty percent less. As a peer school with Edward Bok AVTS, the Mary Channing Wister School is an excellent example of interior reconfiguration. The building still appears as a school from the outside but its gut renovation has changed interior spaces from academic classrooms to crime labs.
Figure 23: Mary Channing Wister School
**DeWitt Junior High School/DeWitt Mall**

Built in 1914 in downtown Ithaca and originally designed to hold 1500 students, DeWitt Junior High School was used until shifting population trends forced its closure in the late 1960's. In 1970 local architect William Downing transformed the school into a multipurpose space. DeWitt Mall occupies the ground floors, while 47 apartments, 15 offices, and one penthouse fill the upper floors.

While DeWitt Junior High School was among the largest in the state when it was completed, the city has suffered similar problems to Philadelphia (suburban migration, disinvestment in city core, changing requirements for rapidly-outdated educational facilities) and its current use as a mall and apartment complex does not compete with the original building form. The history of the building provides a ‘voice from the past’ that a contemporary mall or apartment complex could not duplicate. Like Bok AVTS, the large Dewitt Junior High School left a scar on the Ithaca community when it was vacated in the late 60's. The multi-purpose adaptation of the historic school opened up new functions that complement the existing building while deriving utility from the building’s heritage characteristics.
Figure 24: DeWitt High School/DeWitt Mall, 2014 and 2009
6.3 Adaptive Typologies

“Insertions”
NEW YORK UNIVERSITY PHILOSOPHY DPT.
New York, NY

“Parasite” (“Symbiosis”)
Caixa Forum
Madrid Spain

“Wrap”
Wolfahrt-Laymann House
Frankfurt, Germany

“Juxtaposition”
TATE MODERN
London, United Kingdom

“Weaving”
MILL CITY MUSEUM
Minneapolis, MN
Figure 25: Degrees of Intervention, credit Charles Bloszies
The Dean of the Faculty of Arts & Sciences and a committee of Philosophy Professors collaborated in the selection of Steven Holl Architects to design the complete interior renovation of an 1890 corner building at 5 Washington Place for the consolidation of the New York University Department of Philosophy within a concept which organizes the new spaces around light and phenomenal properties of materials.

A new stair shaft below a new skylight joins the 6-level building vertically with a shifting porosity of light and shadow that change seasonally. Prismatic film was installed on the south-facing stairwell windows which occasionally break the sunlight into a prismatic rainbow. The Ground level, accessible to anyone in the NYU student body, contains a curvilinear wooden auditorium on a cork floor in sharp contrast with the surrounding Greenwich industrial aesthetic. The upper level floors contain Faculty Offices and seminar rooms.

The building exists within the NoHo Historic District, which itself is within the jurisdiction of the New York City Landmarks Preservation Commission. Given these layers of jurisdiction it is worth noting that similarly to Bok AVTS, the NYU Philosophy Department’s exterior was one of its most character-defining features and remains essentially unchanged. Unlike Bok however the Philosophy building is part of the main NYU campus.
within New York City’s Greenwich Village and is sited on access to Washington Square Park, a much denser context than Bok’s East Passyunk Crossing in South Philadelphia. Bok has the opportunity to expand upwards and outwards to the limits of its site, while the NYU building does not.

Figure 27: New York University Department of Philosophy Building 60
“Parasite” ("Symbiosis")
Caixa Forum
Madrid Spain

Caixa Forum Madrid is a museum and cultural center in Paseo del Prado, Madrid. It is sponsored by La Caixa, a Spanish savings bank company.

The museum and cultural center was constructed by Swiss architects Herzog & de Meuron from 2001 to 2007, whose vision of symbiosis combined an abandoned electrical station with new construction of floors inside the station’s original shell. This *symbiotic insertion* is encased within oxidized cast-iron (designed to be a similar color and weight as the brick below)\(^6\). Similar to Bok, the rough shells of the new design’s slip sleeve reference the building’s original masonry construction without being overly invasive. The soft and hard panelized screens mediating between truss and interior circulation reference the verticality of the original art deco detailing without directly copying Catharine’s original style.
Figure 28: Caixa Forum, with concept diagram
“Wrap”
Wolfahrt-Laymann House
Frankfurt, Germany

The Wohlfahrt-Laymann dwelling is a combination of a historic home and a contemporary shell ‘wrap’ situated in a residential area in the Taunus hills area outside Frankfurt-am-Main. The existing house was built in the 1930s and initially MSW Architekten considered replacing the old building with a larger, newer one. However, after a detailed inspection of the site and the quality of the traditional “simple country cottage”, the team decided that this existing building should serve as a frame for expansion of the total house structure.

The concept of a complex transformation of this archetypical house is developed out of the necessity for both extensions and the optimization of the building physics. A new shell was built around the original house, in the process creating a new interior space (which can be used as an interior/exterior room). The position of the shell and its individual distance at different points from the “inner” house is dictated by the functional requirements of the ground plan structure. The inner house is opened or rather broken open where light or space are required for its interior--- *light or room extensions are projected onto the outer shell in the form of “light connections” or “space connections” and transferred to inner shell as perforations.*
The roof of the inner house is opened and the rooms in the roof are extended upward with vertical connections. In this boolean process, in-between rooms “inner/outer/intermediate/and un-rooms of manifold and sometimes curious kinds” are generated. Complex and seemingly simple rooms alternate with each other. Paradoxes occur and a seemingly normal reality becomes distorted.

The inner house becomes an insertion as much as the shell becomes a volumetric furnishing. The form of the light and space connections and their perforated outlines on the facade are derived from the existing openings of the inner house, as are new apertures necessary to the contemporary addition, or to the superimposition of both old and new organizational systems.
Figure 29: Wolfhart Laymann House and Diagram
Completed in 1952 on the site of a historic coal power plant, the Bankside Power Station had an uncertain future following its closure in 1981. Bankside was too new for official listing as a building of architectural or historical importance by the British government (despite the precedent set in 1980 when Battersea power station—designed by the same architect Gilbert Scott—was listed). In 1988 the Department of the Environment adopted a 30-year rule allowing for the historical listing of more recently constructed buildings, but Bankside was not included because the site ‘had been given to Nuclear Electric as an asset to exploit’ following the privatization of the electricity industry. Nuclear Electric declined to list the building since listing would have constrained its future uses. The campaigns to have the building protected exemplify the change in attitude to industrial architecture that had occurred since the 1940s, at which time Scott’s ‘cathedrals of power’ were now seen as points of major architectural importance. What was once fought against so strongly for its negative visual impacts was now regarded as something to be preserved. The debate in the 1980’s and 90’s was about how the building could be saved and reused.

After a decade of uncertainty the Tate Gallery acquired Bankside power station in 1994 to house a collection of modern art. The development
of Tate Modern keeps with UK policy on regeneration; the reuse of old buildings is important for the revitalization of urban areas. Tate Modern opened in May 2000 and has been estimated to have brought an economic benefit of £100 million and about 3,000 new jobs to a relatively poor London borough.

In 2009 it attracted 4.74 million visitors (tourists are also drawn to the area by the neighboring Shakespeare’s Globe and the Millennium Bridge; although these projects are independent of the development of Tate Modern it is also true that ‘much of what has been possible has been a by-product of the Tate’s decision to locate in the former power station’)68. The Millennium Bridge now physically links the old power station to the southern grounds of St Paul’s cathedral-- a point of contention by critics in the 1940s who had wished to separate the two buildings as far as possible-- this linking of the city and renewed identity of a London civic monument is an excellent comparison with Edward Bok AVTS. While the historic power station is not divided by passageways and classrooms as Bok is, both buildings by their sheer enormity and cultural presence have an inherent opportunity to reconceptualize the futures of their respective contexts.

In the case of the Tate Modern, old and new are juxtaposed by Herzog & de Meuron’s addition of stark modern floors, screens, and circulation within, above, and around the old power plant. At Bok, this juxtaposition will be similarly jarring with the expected hope that by localizing contrasting
historic and contemporary elements, new forms of social and cultural vibrancy will emerge.

Figure 30: Tate Modern Museum, Context and Interior
Mill City Museum is built into the ruins of the Washburn A Mill, along the Mississippi River in Minneapolis, Minnesota. The original A Mill, built in 1874, was leveled by a flour dust explosion that claimed 18 lives. That explosion and the resulting fire destroyed much of the riverfront business area, cutting Minneapolis’ milling capacity in half.

The A Mill was rebuilt by 1880, with state-of-the-art machinery that permitted safer operations while producing higher quality flour. At the time it was the largest and most technologically advanced mill in the world, featuring new automatic steel rollers instead of traditional millstones. During its heyday, it was said that the mill ground enough flour to make 12 million loaves of bread a day.

As technology and consumer preferences evolved, the A Mill became obsolete, and was shut down in 1965. In 1991, it was nearly destroyed by fire. During the late 1990s, the Minneapolis Community Development Agency cleaned up the rubble and fortified the walls. Shortly thereafter, the Minnesota Historical Society announced its plan to develop a museum on the site.
The present building, designed by Tom Meyer of Meyer, Scherer & Rockcastle, is a new building built with the ruin walls of the 1880 Washburn A Mill. Efforts were made to retain as much of the historic fabric of the building as possible, and having visited the building several years ago the experience is striking. Many features of the Washburn A Mill were left intact, including turbine pits, railroad tracks, a train shed and two engine houses.

Although Bok AVTS is not a ruin, it has experienced material decay. Rather than trying to mask this decay, cuts and abrasions in the building’s exterior are magnified and reproduced at the scale of the entire facade in the building’s proposed design.
Figure 31: Mill City Museum, Lithograph and Contemporary Photo
6.4 Temporal Typologies

While this chapter section focuses on physical transformations and adaptations it is important to remember the opportunities of *temporal transformations* as well (Illustration 10).

Temporal transformations range from the Temporary (limited activation of a building) to the Transitional (sustained activation of an existing building to the ‘Permanent’ (invested activation of a historic building). ‘Permanent’ in quotes, since even the most far-sighted proposals for design or reuse must face the inevitable shearing of time -- the application of those forces illustrated earlier in Stewart Brand’s diagram.

With this research in mind, now experience the design process and product: an extension of an academic institution (a local university or college) into the transformed Edward Bok AVTS building (and addition). The exact programmatic transformation of Bok AVTS is less important than its understanding as a manifestation of a ‘Permanent’ activation of a historic building. Structural circulation systems are in place that will allow the addition to be used now as well as throughout a myriad of potential future uses. Any proposal generated now must leave options open for the certain (perhaps adaptive) reuse of the building in generations to come.
Figure 32: Temporal Typologies

- **TEMPORARY**
  - **PROGRAM**
    - Minimal alteration. Simple addition of program/activation
  - **MODIFICATION**
    - Structure adapted/modified to enhance existing spaces
  - **AMALGAMATE**
    - Significant structural/material addition and adjustment

- **TRANSITIONAL**
  - **temporal**
    - Limited activation of a historic building
  - **interior re-programming**
  - **sculptural/installation**

- **'PERMANENT'**
  - Sustained activation of a historic building
  - Invested activation of a historic building
  - Change in use
7. DESIGN PROPOSAL

7.1 Enclosure of the Commons

Private and public spheres have vied for primacy since time immemorial. One of the earliest marks differentiating between public and private 'commons' (or publicly-accessible resources) was Roman Law, notably the Code of Justinian which in 533 differentiated between private (*res privatae*), public (*res publicae*), and common interests (*res communes*)\textsuperscript{73}. His Code expanded upon prior Roman customs and was used in matters of legal disputes into the early modern era; it was not until the Parliamentary Acts of Inclosure (over 5,200 individual acts between 1604-1914) that concerted processes of privatization began to impact western society and industry in earnest\textsuperscript{74}. These acts between 1750-1850 led to what we call today the *Enclosure of the Commons*, a process of privatizing previously publicly accessible land, which eventually ushered in the Industrial Revolution. However, it has not been until recently that public-private partnership has allowed for private management of public space and the opportunities of re-appropriating previously private land for public good (or, similarly, extending the utility of public good vis-à-vis private management of the commons).

This process of enclosing and then re-opening the commons serves as a useful corollary to the design process advocated in this thesis (see Illustration 11). In the previous chapter's study of adaptation case studies and typologies, the most successful strategies were ones that opened up buildings to public access and
capitalized on recursive blending of volume, organization, and skin systems to generate successful transformations. Figure 21 shows a series of study models developed to explore the successes of these case studies, while figures 22 and 23 show the integration of these models with the existing framework of the city. By identifying points of pressure and points of opportunity at the urban scale, design guides emerge self-evident: a bus stop at a busy street corner is a natural point of gathering and serves as a logical main entry to the building; light entering the building from the southwest should fall through the same light wells around which the original building was designed; a dense mesh of mixed use sets up a receptive context for a ground-floor retail and upper story private use; the absence of open recreation areas begs that the building design proposal set aside a portion of available roof space for play and leisure.

This breaking down of a previously inaccessible academic sphere is a manifestation of micro-deterritorialization, or the ‘loosening’ of the ‘bonds that tied economics, politics, and culture to fixed spatial configurations’—in this case, the physical limits of a Technical High School75. Deterritorialization as a concept was first developed by French theorists Gilles Deleuze and Felix Guattari in the 1970’s to apply to forces of capitalism, power, and identity, and these themes play out in microcosm at the scale of a single building in the case of Edward Bok AVTS76.
Figure 3.3: Enclosure of the Commons

Enclosure of the commons | Traditional envelope | Contemporary deterritorialization

School typology (section diagram) | Limited connections | Organizational territorialization

Current status: removal of inhibitors | Breaking the envelope | Upgrade and transformation
Figure 34: Study Models
Figure 35: Context Diagram
7.2 Volume

Recursive system 1 in the design process is volume: access to light and extensions of the urban fabric create planes of definition linking urban pressures with interior organizational aims (illustration 12). The final volume is best represented in Figures 24 and 25, as well as through transverse section Figure 26.
Figure 36: Volume Refinement
Figure 38: South Elevation
7.3 Organization

Organizationally, the three existing flanges or ‘fingers’ of Edward Bok AVTS create a natural flow from point-to-point within the 320,000 square foot school. Seeing these flanges as channels for movement, as well as anchoring organizational elements, creates a recursive refinement of volumetric planes to match interior programmatic points of ingress and egress. This recursion is evident in section (Figure 26 and 27) as well as plan (Illustration 13, Figure 28 and 29). Continuing the process of design refinement, building organizational systems also create a network of hot spots across the building’s elevations that inform points of pressure and release within the building’s panelized skin (see 7.4).
Figure 39: Transverse Section
Figure 40: Organizational Development
Figure 42: Exploded Section Perspective (South)
7.4 Skin

While the best experience of the proposed design skin is in a rendered architectural view (Figures 30-34), the best understanding of its recursive development comes through a series of illustrations. Interfacing with new exterior spaces in the historic Bok AVTS building and the new proposed truss architectural structure, panelized skin surfaces create an interstitial, habitable zone along most of the north elevation (Illustration 14). An outer ‘soft’ skin derived from building surface rubbings allows environmental factors such as light, air, and rain to be selectively screened (Illustration 15). An inner ‘hard’ skin filters points of ingress and egress to create new inhabitable envelope volumes each defined by its unique blend of ‘hard’ and ‘soft’ skins (Illustration 16). Lastly, these systems of volume, organization, and skin are refined and interlocked to generate an overall design (Illustration 17). This overall strategy is vertical (matching the Art Deco detailing of historic Bok AVTS), useful (with a utility that generates sufficient income to protect the historic school from demolition) and honest (material history is magnified rather than buried).
Figure 43: Render 1, Top of Bok building, looking northwest
Figure 44: Render 2, top of Bok building, looking southwest
Figure 45: Render 3, east sleeve, looking southeast
Figure 46: Render 4, top of Bok building, looking northwest
Panelized skin wraps both new and old buildings in a protective additive and subtractive membrane.

Inclusion of new organizational program within the structural grid allows for a spatial functioning that can be re-programmed for future use.

Wrapping sleeves act as a continuant of underlying urban fabric, stitching the surrounding web of streets and sidewalks up and into the historic and contemporary buildings above.

The historic building is perfectly preserved, except for interior reconfigurations and puncturing of skin where sleeves meet facade.
Figure 49: First Floor Plan (north face on right side of page)
Figure 50: Fifth Floor Plan (north face on right side of page)
8. REFLECTION/PROJECTION

Even with a site, context expands infinitely. Even with thesis questions research expands indefinitely. The biggest challenge developing this thesis project was capping the ends to context and the limits of research-- in a perfect world this project would have included a section detailing instructions for how relevant concepts can be applied to other vacant schools in Philadelphia, in the United States, and (perhaps) around the world. Equally, given time it would have been perhaps useful to speak with more local ‘gurus’ about the procedure of building closure, sale, and reuse and to explore Prillentensky’s concepts of Community Psychology at a greater depth.

As it stands, anyone interested in pursuing ‘next steps’ to pick up where this research leaves off should be mindful of local and (inter)national efforts in the private and public sectors to facilitate property transfer and architectural transformation.

I hope that this thesis does not just sit in a vacuum but that it might have an impact on other adaptive design projects throughout the country and even create an awareness for how new buildings can be built in such a way as to provide for a longer life cycle of use. Social and psychopolitical impact is something not often explored in architecture, but with a firm foundation of research this thesis strives to open new doors and carve out paths for future researchers to follow.
Radical Preservation centers on the contextual transformation and upgrade of Edward Bok AVTS as a mixed-use education community in South Philadelphia. Addressing crises of abandonment, education, psychology, and contextual design in historic environments, investigations explore three primary lines of research: political, psychological, and architectural.

First, political: before diving into any design or architectural proposals, this thesis researches and provides the reader with an awareness to the political, demographic, and social shifts in Philadelphia that have led the city and the state-led School District of Philadelphia to its current crisis. In addition to PennPraxis's 2013 report addressing the reuse of vacant schools, the School District of Philadelphia's 2013 master plan is taken into account in order to understand how the district allocated properties after closures took place. Referential readings on the city, cycles of poverty, crises, and political responses to crises all proved useful in bolstering an understanding of urban political processes. Barry Bozeman's research on Public Values and Public Interest gave a greater understanding to the variety or social and political pressures present in the public sphere, and two readings on ecology provided an understanding of how to create holistic and politically distinct environments within the urban sphere.

Second, psychological: these readings address the psychology of abandonment and appropriate responses to contextual reuse of vacant buildings.
Centered around Isaac Prilleltensky’s research on psychopolitical literacy\textsuperscript{86} and psychopolitical validity\textsuperscript{87}, this thesis’s readings on psychology make the case that all design projects \textit{must} be aware of relevant local social, political, and psychological conditions\textsuperscript{88} to ensure that the project is accepted, utilized, and continued by the community and not just by outside forces\textsuperscript{89}. This was the most challenging aspect of the thesis, and demands future study. With readings addressing the role that \textit{leaders play in community psychology}\textsuperscript{90}, the role that \textit{socially restorative urbanism} plays in \textit{bringing neighborhoods to a state of well-being}\textsuperscript{91}, and the role that \textit{designers play guiding the process of meso-sociological awareness} this chapter hopes to inspire a well-rounded approach to proposals counteracting urban abandonment. Since architectural design itself elicits a range of psychological and emotional responses Alain Botton’s writings on architectural pathos were also useful to explore the pathos of design\textsuperscript{92}.

Third, \textbf{architectural}: these readings position my design project along two of the architectural profession’s spectrums-- the \textit{physical} and the \textit{temporal}. Physically, readings by Bollack\textsuperscript{93}, Brolin\textsuperscript{94}, Bloszies\textsuperscript{95}, Semes\textsuperscript{96}, and Byard\textsuperscript{97} provide foundational terminologies and case studies within which this thesis relates back to contemporary challenges in contextual design (see notes on chapter 5 above for expanded detail on each author’s work). Temporally, research on \textit{temporary}, \textit{transitional}, and \textit{permanent} reuse projects provides a spectrum of understanding within which this thesis begins to expand beyond matters of heritage.
preservation/conservation into architecturally projective⁹⁸ and speculative design⁹⁹.

These three topic areas set the boundaries within which my research finds foundational acceptance and theoretical grounding, as well as a springboard from which my design proposal can grow beyond the limits of traditional adaptive reuse design.

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16 Edmunds, Franklin Davenport (1917). “The Public School Buildings of the City of Philadelphia from 1853 to 1867”


42 Maps courtesy of Scout Ltd.


54 Retrieved from http://www.aiatopten.org/node/150


59 New York University Philosophy Dpt. (Steven Holl Architects)

60 Retrieved from Obra Social “la Caixa” http://obrasocial.lacaixa.es/nuestroscentros/caixaforummadrid/caixaforummadrid_es.html


62 ibid
63 ibid
64 ibid
65 ibid
67 ibid
68 ibid
69 ibid
70 Retrieved from http://www.millcitymuseum.org/
71 Photos credit: Minneapolis Historical Society
72 ibid
76 ibid p 723


APPENDIX 1

Local Experts Consulted

S. Besnoff, University of Pennsylvania
N. Bronstein, University of Pennsylvania
A. Fierro, University of Pennsylvania
D. Floyd, School District of Philadelphia
G. Rockcastle, MS+R Architects
C. Landau, School Reform Commission
H. Levy, Philadelphia Community Design Center
D. Manekin, Seawall Development
L. Oxenhandler, KieranTimberlake Architects
L. Scannapieco, Scout Ltd.
G. Thigpen, Philadelphia Land Bank
D. Vitiello, University of Pennsylvania
D. Wolfe, University of Pennsylvania
L. Mallie, Scout Ltd.
Eight of Catherine's schools, John Bartram High School (1937), Edward Bok Vocational School (1935-1937), Central High School (1937), Robert Fulton School (1935-1937), Willis and Elizabeth Martin School (1936-1937), Delaplaine McDaniel School (1935-1937), George G. Meade School (1935-1937), and George Washington School (1935-1937), are slightly less than fifty years old. However, they are rated as "exceptionally significant" since they are premier examples of Catherine's public school designs, and culminate the educational and architectural evolution of public school design in Philadelphia up through the mid-1930s.

... Bok School is an example of specialized vocational schools designed by Catherine and highlights Catherine's use of verticality and detailed ornamentation in the Art Deco style... Thus Philadelphia's public schools are rich examples of prevailing architectural styles. They also express in their design and construction the educational philosophies of leading school reformers. In addition, they well represent the evolution of the Philadelphia public school system from the early, small schools created under decentralized administration to the more recent, large schools built by a centralized school system.
Definition of Prillentensky’s Terminology

*Psychopolitical literacy:* people’s ability to understand the relationship between political and psychological factors that enhance or diminish wellness and justice.

*Psychopolitical validity:* refers to whether research and action to improve the human condition takes political and psychological factors into account.
SHADOW OF BOK

students haunt hallways
and staircases
eyes searching beyond camera lenses
for faces
that’d seek their story
they said we couldn’t ask
though it’s already known
this used to be their playground
A League of Their Own
badges and lanyards
no one seemed to care
that next year
would’ve been senior year
they’d have carried this alma mater
the colors
proudly
pep rallies
chant loudly
in tune to an orchestra
resounding
vibrating the foundation
years from now
who will know what was created
or what was in the making?
blueprints toward college admission
Le Bok Fin’s newest chef master in the kitchen
$300 million toward a new prison?
searching for advocates
not the most powerful pacifists
in support of abandonment
who knew they’d really take our education
and start cashing in
on an auction block with an inmate
but in light of such mistake
any one of us could take his place
become another number
and let such be the case
all we needed was a fighting chance
not a fucking circumstance
they’ll have so many of us over there
we’ll start pouring out the door
in yet another school
decrepit and worn
until rain’s pouring through the roof
and we’re falling through the floor
and if performance was poor
let it show that attitude reflected leadership
that bright future
didn’t believe in it
pleaded it
but the village wasn’t seeing it
and the concerned became fewer
for every finger pointed at each other
there were three pointed back at each accuser
all of us
christian, muslim, and the not so spiritual
were waiting for miracles
made from the interior of collapsing stars
pushed toward the exterior
leave the door ajar
for one last look at the journey thus far
turn the page
and realize that this is not the end

— Sherone Inaru (Apiary Magazine)
The Secretary of the Interior's Standards for Rehabilitation

The Standards (Department of Interior regulations, 36 CFR 67) pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior, related landscape features and the building's site and environment as well as attached, adjacent, or related new construction. The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.
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