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a thread of continuity

this thesis is submitted to the faculty of the college of architecture + urban studies at virginia polytechnic institute + state university  
in partial fulfillment of the requirements for the degree of master of architecture with a major in architecture

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a thread of continuity

submitted by alice toth

approved by hans c. rott, chair; william w. brown; michael j. o'brien

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blacksburg, virginia

august 5, 1999

this book is dedicated to those friends and family who  
took the time to push me beyond the initial impulse

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dedication

ciaocinque • ciao centro

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thanks

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Therefore, when you set about solving a task, always ask: how will it suit the contemporaries, the contract, the genius loci, the climate, the available materials, the pecuniary means?

- Otto Wagner



abstract



venice, italy



luxembourg, luxembourg

To place a building within an existing urban fabric without considering the components of that fabric is to deny the interactive nature of the built environment. Components such as scale, materials, regulating lines and geometric framework must be examined in order to decide what is to be transformed, what is to be translated, what is to be ignored. They are the means of creating the thread of continuity between what was, what is and what will be. This thread of continuity continues the harmony of the urban neighborhood by unifying the variety of the built environment. Any attempt to deny the interactivity of buildings runs the risk of creating not architecture but rather the cacophonous assemblage of materials.

This thesis looks at discovering the unifying elements of an existing neighborhood and using them to create a building that draws from the existing to reflect its own times, yet also continues the thread of the urban fabric.



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what is sprang...from what-is-not  
-Lao-Tzu

# ohio city

intro

Ohio City is a well-established neighborhood on the Near West Side of Cleveland, Ohio. Founded in 1818 as an independent city, the area first was home to canal builders and shipbuilders. As the Industrial Age expanded, so did demands for all levels of housing due to the nearby docks, mills, foundries, distilleries and bottling works.

The area was, and still is, a composite of varying economic levels, from poor to working class to wealthy. In addition to workers' housing, Ohio City proved attractive to a number of mid-19th Century industrialists and assorted robber barons, with the result that Franklin Boulevard became known as the Millionaires Row of the West Side.

While the majority of homes follow the light wood frame construction of the original workers' cottages, the grander homes used brick construction to declare their prominence and solidity in the neighborhood. Many of these large-scale homes are still standing, and a number of them have been restored and retrofitted for late 20th Century commercial use.



Ohio City neighborhood, Cleveland, Ohio

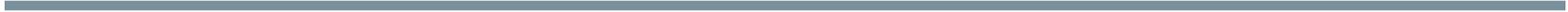


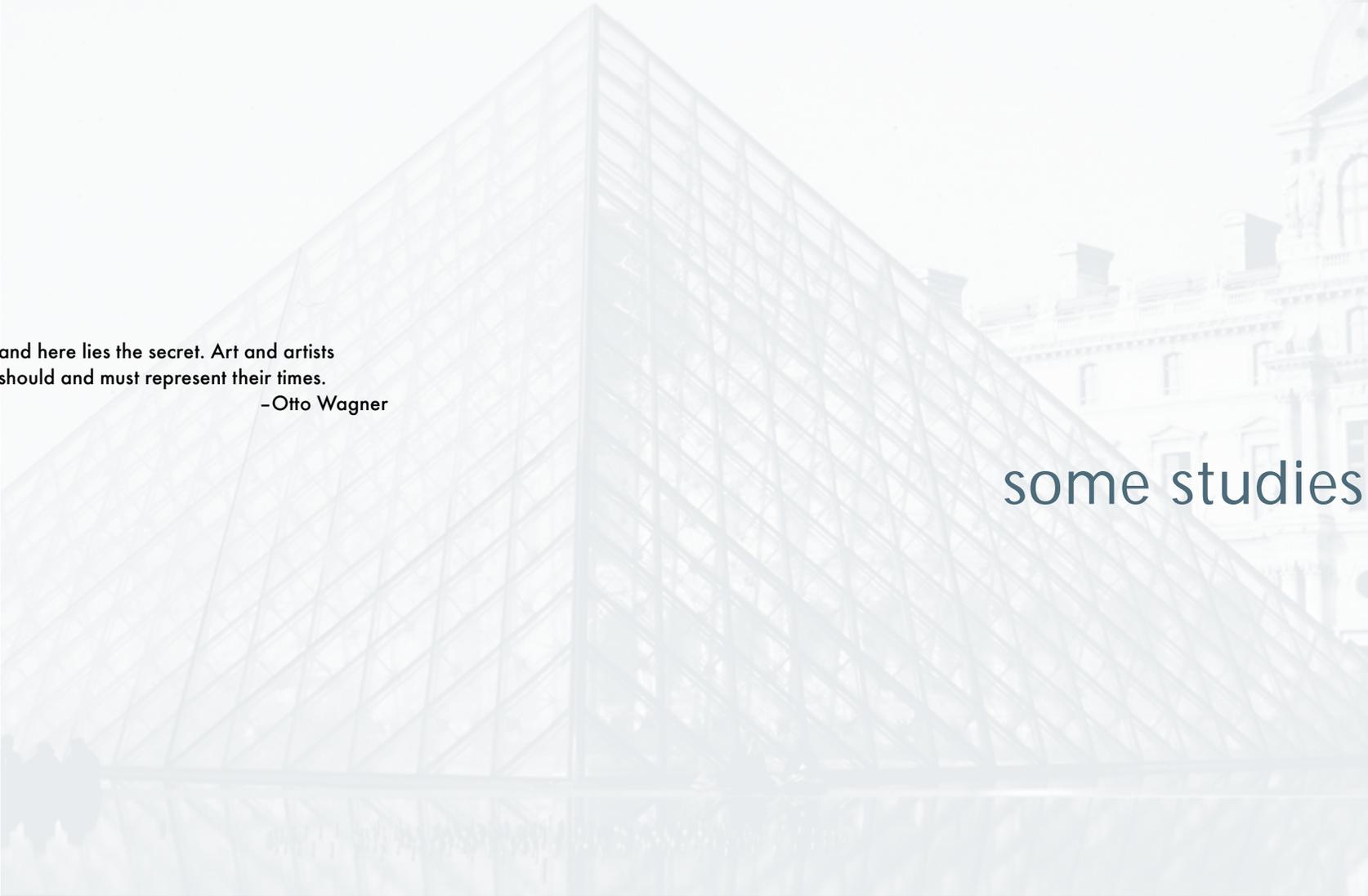
Nelson Sanford House (1862)

Robert Rhodes House (1874)

This project makes use of two such former residences, the Robert Rhodes House (on the right in the photo), built in 1874, and the Nelson Sanford House (on the left), built in 1862. These brick homes are situated side-by-side on Franklin Boulevard and reflect the original owner's social and economic standing, both in their size and in the materials used. Their solidity and prominence are only enhanced by the area's predominance of light wood frame workers' cottages.

The proposal for these two buildings is the creation of an addition. Addition can be defined as the act or process of adding to an existing entity. The existing in this instance can be both taken down to the minutia, e.g., the bricks, and also viewed on a grander scale, i.e., the neighborhood. The buildings will be added onto; this in turn will create an addition to the neighborhood thus adding an opportunity to support the urban fabric. The inquiry is to find a means of accomplishing this addition that will both enhance the existing yet not deny the existence of the new.





and here lies the secret. Art and artists  
should and must represent their times.  
-Otto Wagner

some studies



This thesis deals with two existing 19th Century structures and a proposed 20th Century addition to each, thereby connecting the buildings into a whole. Wanting to keep the individual identities of both the old and the new, plus be sympathetic to the surrounding neighborhood, I looked at how other architects dealt with the blending of centuries and styles, i.e., the evolution of the existing to the new. The three that captured my eye were the Louvre's pyramid, a Victorian house in Richmond, Virginia, and the village of Sonogno, Ticino, Switzerland. These projects are presented on the following pages.



# le grande louvre

I. M. Pei's addition to the former palace of the kings is said by some to be the inevitable result of his love for geometry combined with a certain intrigue for curtain wall construction. That cannot be entirely discounted. However, Pei himself insists that the origins for the pyramid came from his studies of classical French landscape design, particularly the works of Le Notre and his crisp, geometric arrangements.

The form, in and of itself, has been around for a few millenia. However, while the pyramids of 4,000 years ago were about mass and impenetrability, Pei's pyramid is about transparency and lightness which neither competes with nor overshadows the existing buildings. Its basic geometric shape both compliments the classical symmetry of the Louvre. On the surface level, this seemingly incongruous mix of glass and stone creates a powerful interplay of contrasts, allowing each part to support the whole. At the organizational level, Pei's pyramid continues the evolution of formal geometry in French design.



# visual arts center museum of fine arts richmond, va

Although currently owned by the Museum of Fine Arts, their ownership is but a recent acquisition in the history of these Queen Anne style houses. The houses, built sometime during the last century, sit next to each other on Grove Avenue in Richmond, Virginia. During this century, a doctors' practice bought the then abandoned buildings, looking to tear them down. The resulting furor from the neighborhood association caused them to rethink their strategy with the result that the buildings were restored and an addition was created joining the two houses.

The addition is kept to the same scale as the existing, both in the overall size and in the building elements. Note that the cmu's used on the new are approximately the same size and shape as the original stone in the house, thereby creating a continuity between the old and the new, yet acknowledging the times in which the new was created. Also, the large expanse of window on the addition's streetside gives a sense of lightness to the addition which then uses the houses on either side as anchors. Each part works to support the whole without sacrificing its own identity.



## sonogno, ticino, switzerland

One of the more intriguing aspects when walking around European cities is the ability to see a progression of time through their architecture. The changes and adaptations of building types and building means is present throughout all layers of the city. One such example is the village of Sonogno in the Canton of Ticino, Switzerland. Even though the village is on a much smaller scale, it still shows evidence of such a progression in the slight variations and transformations of the structural elements.

A walk around the village reveals the houses and other structures still being built in a manner that is typical of that village. The houses are still constructed of local stone, which is used for both the load bearing walls and the roofing materials. All of the homes have a solidity of mass which does not change regardless of which century they were built. The newer homes, however, show an evolution of construction and use. The upper level is now used for living and not storage; therefore, while the upper level openings still exist, they are now framed and glazed. Changes are also evident in the roof construction: previously the roof was constructed so that only the stone roofing was evident. The current prototype is to expose the timber framework while still using the stone as roofing material. The differences indicate an adaptation to changing uses, lifestyles and knowledge without breaking all ties to what has gone before.



you have to distinguish between  
reason and thinking. Reason has to  
do with finding the ground of  
being and the fundamental  
structure of order of the universe.

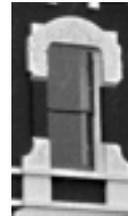
- Joseph Campbell

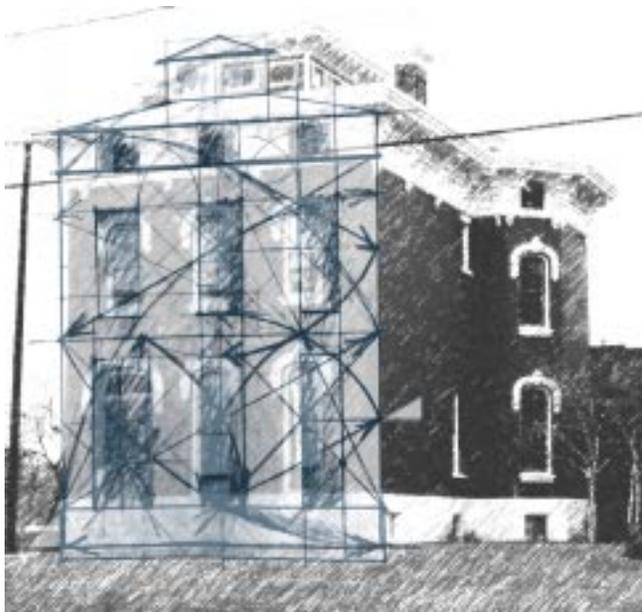
the project

The idea, then, is to continue the thread of the existing without sacrificing the building's identity as a new construction.

The Nelson Sanford House was built in 1862 and the Robert Rhodes house was constructed twelve years later in 1874. Both houses are brick construction and sit solidly on the site. Each house sports its own decorative elements and are excellent examples of the last century's Italianate style.

The Italianate Style was popular in American from approximately 1850 to 1880. This was a less formal style than the previous era of Classicism and emphasized a more rambling, asymmetrical floor plan. Exterior elements include a low-pitched, hipped roof with wide overhanging eaves and decorated brackets, decorated cornices and tall narrow windows emphasized by a heavy lintel or a curved opening. Whimsical features such as the belvedere on the Sanford House were also elements of this style.





At first glance, these houses share only a style and building materials; however, there is a much stronger connection between the two, one which provides an underlying connection – namely, proportion.

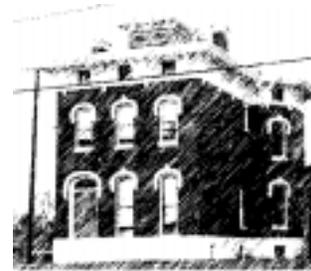
A study of the geometry reveals the square root of two as the underlying order of the whole, i.e., the proportion which governs the massing of the structure. A secondary, but no less important, proportion used in these houses is the golden section. This system of proportions is used to determine the placement of the various building elements, such as the height and width of the windows, the cornice and the base.

This harmonic relationship serves as a framework for creating an architecture that resides in the world of composition rather than a mere composite of noise. As stated in the 1793 *Carpenter's New Guide*: design is an adventure and geometry discovers secrets. What was uncovered, therefore, was a measuring system that provides a framework for the new buildings. A framework, that is, not a recipe since a proportioning system alone does not lead to a well-designed building any more than a piano can create music.

The insertion into an existing fabric requires a dialogue between what was and what will be. While a building should reflect its own time, it cannot disassociate itself from the existing structures. The physical presence of such mass requires the initiation of such a dialogue. The integration of the rational and the context creates a building that continues the harmony and rhythm of the urban fabric.

Within this thought process, context is important. Contextualism, however, is not. To create a building that is a direct copy of its neighbor's style is to produce a building that has no life of its own. It becomes an exercise in matching a design solution, rather than acknowledging a design idea, and diminishes the act to nothing more than pasting decals on a plane.

The idea of context is to look for clues from both the surrounding neighborhood and the site. Clues that would be acknowledged, within the architecture of the new; a reinterpretation rather than a direct copy. One clue to be considered is visual scale.





Ohio City is a residential neighborhood with most buildings standing no higher than three stories. The taller buildings, such as apartments, are closer to the commercial areas and are usually situated on corner lots, thereby anchoring that quadrant of an intersection. But generally, the buildings in this neighborhood are two or three story residences.

Another clue to take into consideration is the use of materials. The important houses within Ohio City, and both the Sanford and Rhodes building fall into this category, are of brick construction. Their solidity of form sets up a contrast with the intermingled wooden-framed workers' cottages and creates a definite hierarchy within the neighborhood. That level of importance needs to be maintained.

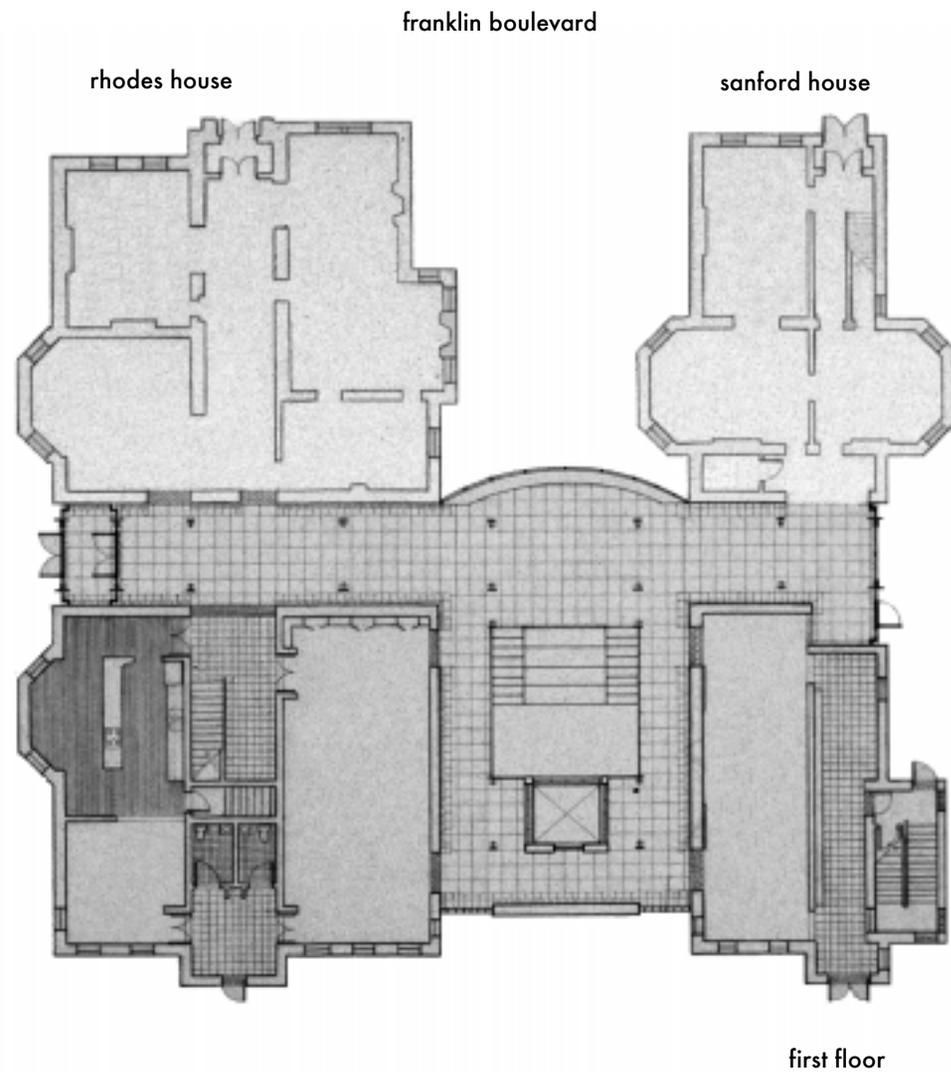
In addition to materials, further study reveals certain elements consistent within the various houses in the neighborhood. Elements such as heavy emphasis on window openings; a cornice, sometimes highly decorated; deep eaves usually with decorative brackets or decorative trim. In addition, the brick homes were generally constructed using the Common Bond pattern on their load bearing walls. This sets up a subtle but nonetheless evident design on the facade.

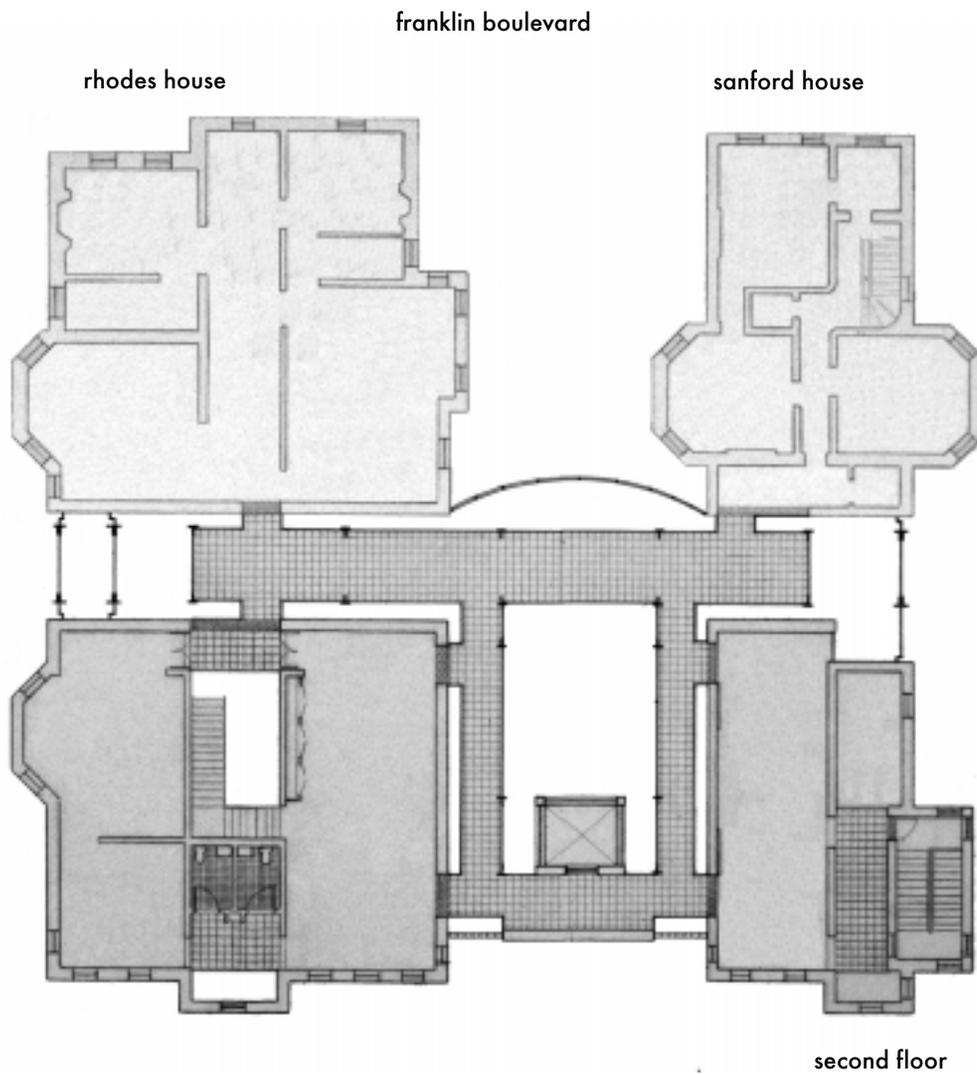


The final clue to be gleaned from the existing buildings is an examination of the regulating lines to determine if any could be continued within the new in order to reinforce a sense of continuity. Regulating lines not only give the various forms a quality of rhythm, they also help us to perceive an order to the whole by drawing our eyes from one element to the next, from one side to the other. Again, this relates back to the geometry which sets up a framework for the placement of elements.

The existing was examined in order to create the new. This was necessary because while a building should reflect its own time, it should not disassociate itself from the surrounding elements. Therefore, from the existing the principles of scale, materials, tri-part construction and geometry were carried directly into the new. Certain other elements, such as window articulation, cornice, brackets and brick design, underwent transformation within the new. And, of course, there are the new contained within the steel and glass section.

As the plans show, there are now two new buildings that sit behind the existing houses. The geometric framework of the square root of two was continued through to the new buildings, both as a means of providing an underlying structure to the forms and in determining scale and proportion. The sense of rhythm and interplay of spaces resulting from this framework, therefore, is present throughout the entire structure, thereby establishing a linkage between the old and the new.

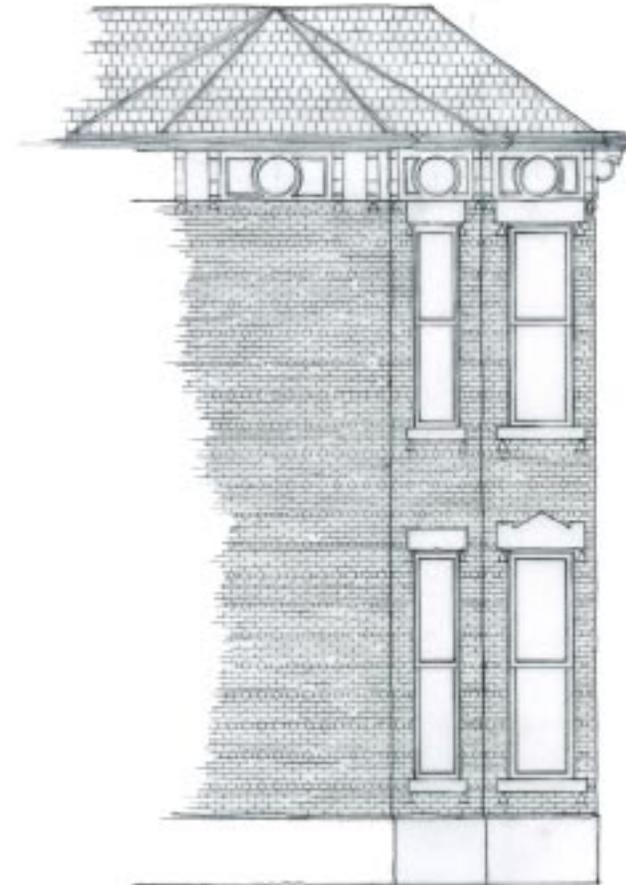




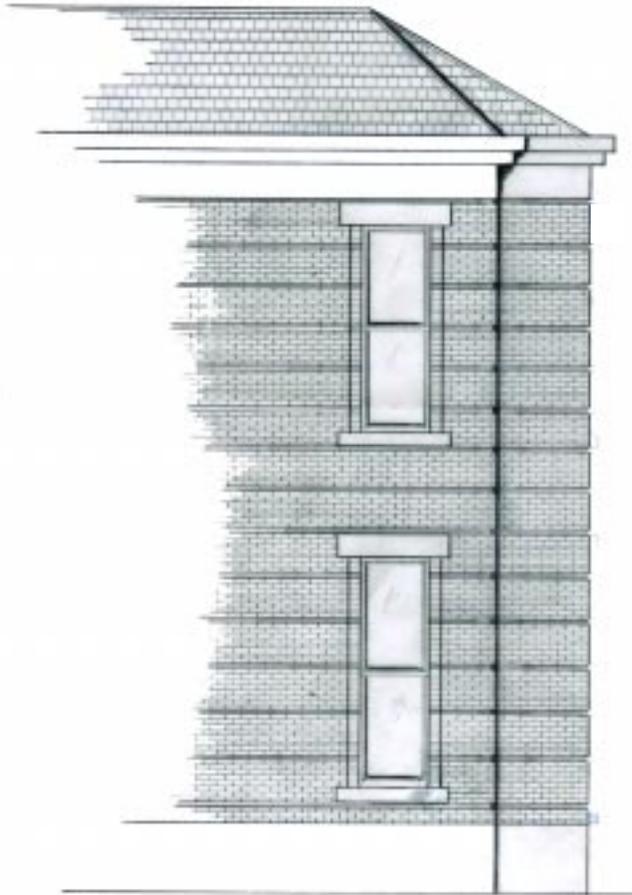
The middle structure is the connection not only between the two new buildings, but also between the old and the new. This structure of the in-between is a zone of transition that both separates and connects all the buildings. It is a zone of egress between the outside and the inside environments and between the interiors of the various buildings.

In dealing with the exterior, various elements were carried through to the new additions, but in a transformed state. As with the existing, the facade of the new is divided into three parts: the foundation, the facade, the cornice. And, in fact, both the cornice and the foundation are again in a contrasting material to offset the facade. In addition, the windows openings are heavily defined. However, that is where the similarities end.

The brick facade on the new addition, since it does not have to serve load bearing purposes, does not have to be created in a structural pattern, such as the Common Bond on the existing facade. This pattern, however, is very much an integral part of the existing buildings; it adds a depth to the facade which would not otherwise be present and should not be ignored. It is this pattern which is paid homage to in the new by creating a coursing that is slightly set back from the remaining bricks. This set back creates a visual pattern for the eye to follow with its interplay of light and shadow on the facade.



the existing

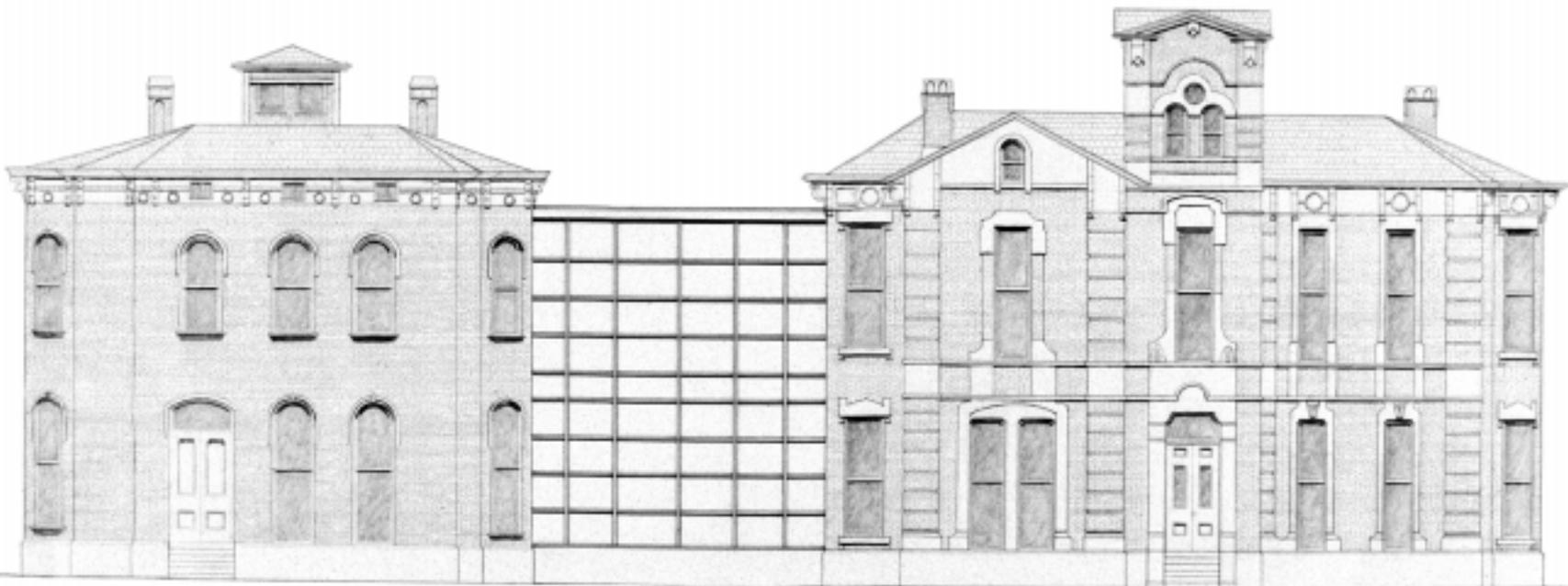


the new

The cornice is carried through to the new but in a slightly transformed state. The depth is the same, but the frieze is far less ornate than in the existing. In fact, there is only a nodding acquaintance to a frieze through the three dimensional articulation of the cornice. In addition, the three dimensional shape of the cornice pays reference to the brackets of the Italianate Style.

The windows are also transformed from the existing. Since the basic geometric framework was carried through from the old to the new, the height of the windows did not change. The articulation of the window opening, however, is refined to its essence, i.e., a heavy lintel rather than a highly decorated piece. In addition, emphasis was placed on the window by framing the opening with a rounded brick (details noted later).

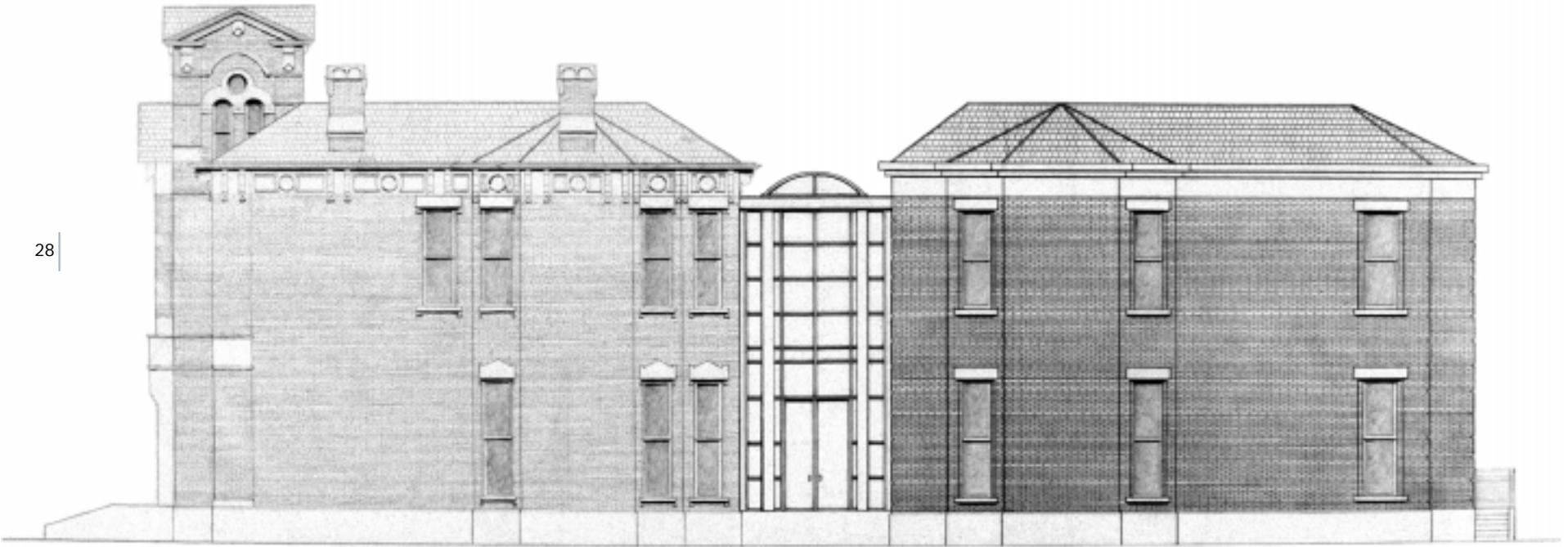
The integration of the new within the old creates a building that continues the harmony of the existing without sacrificing its identity as a building of this century.



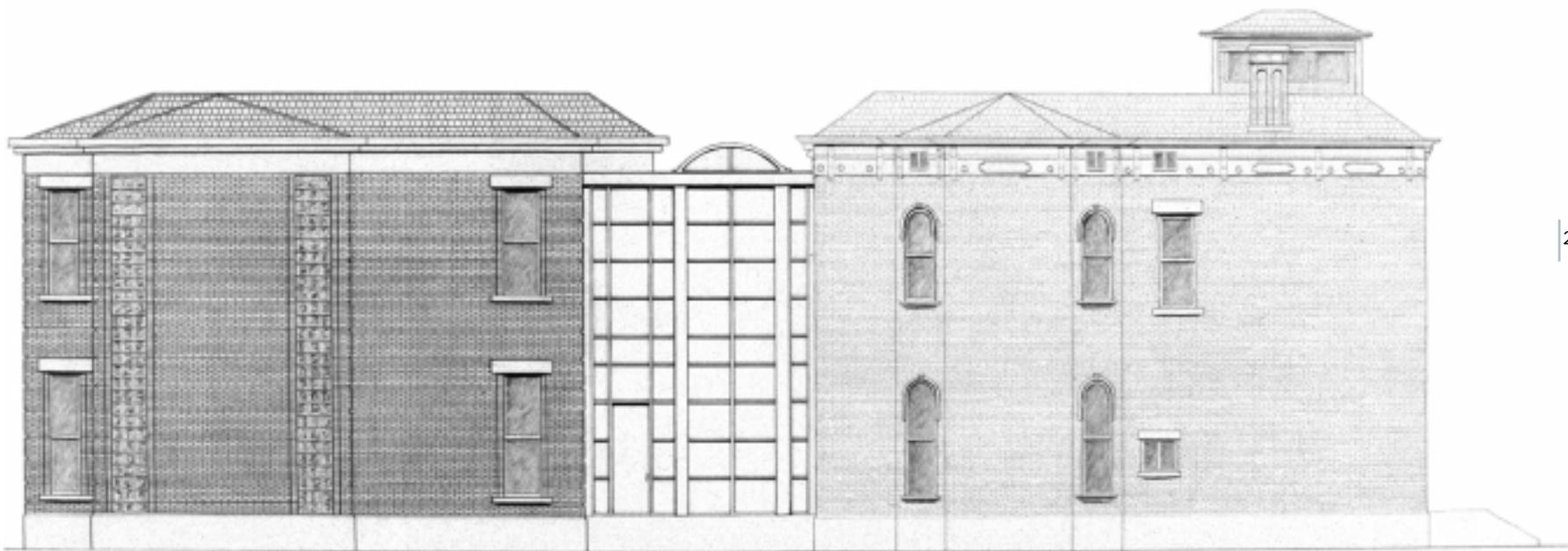
north elevation fronting along franklin avenue



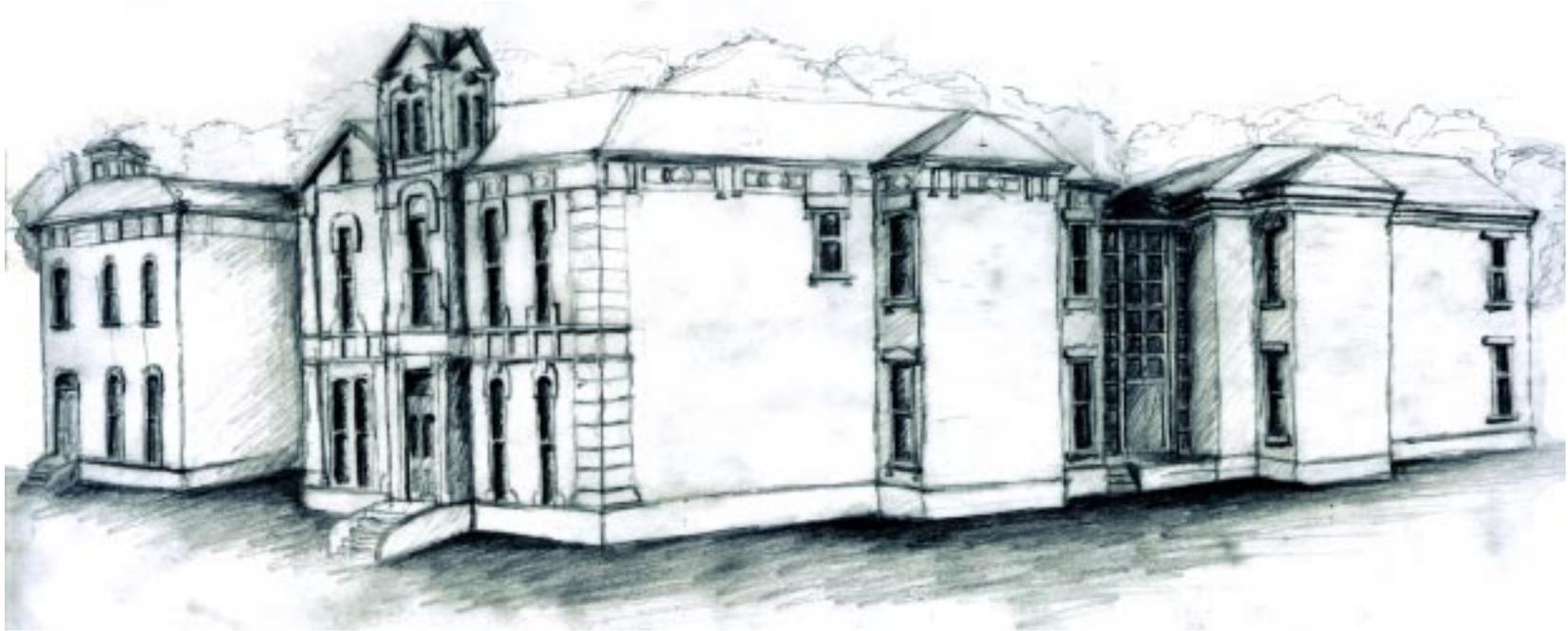
south elevation showing the additions



west elevation and main entrance fronting west 32nd street



east elevation



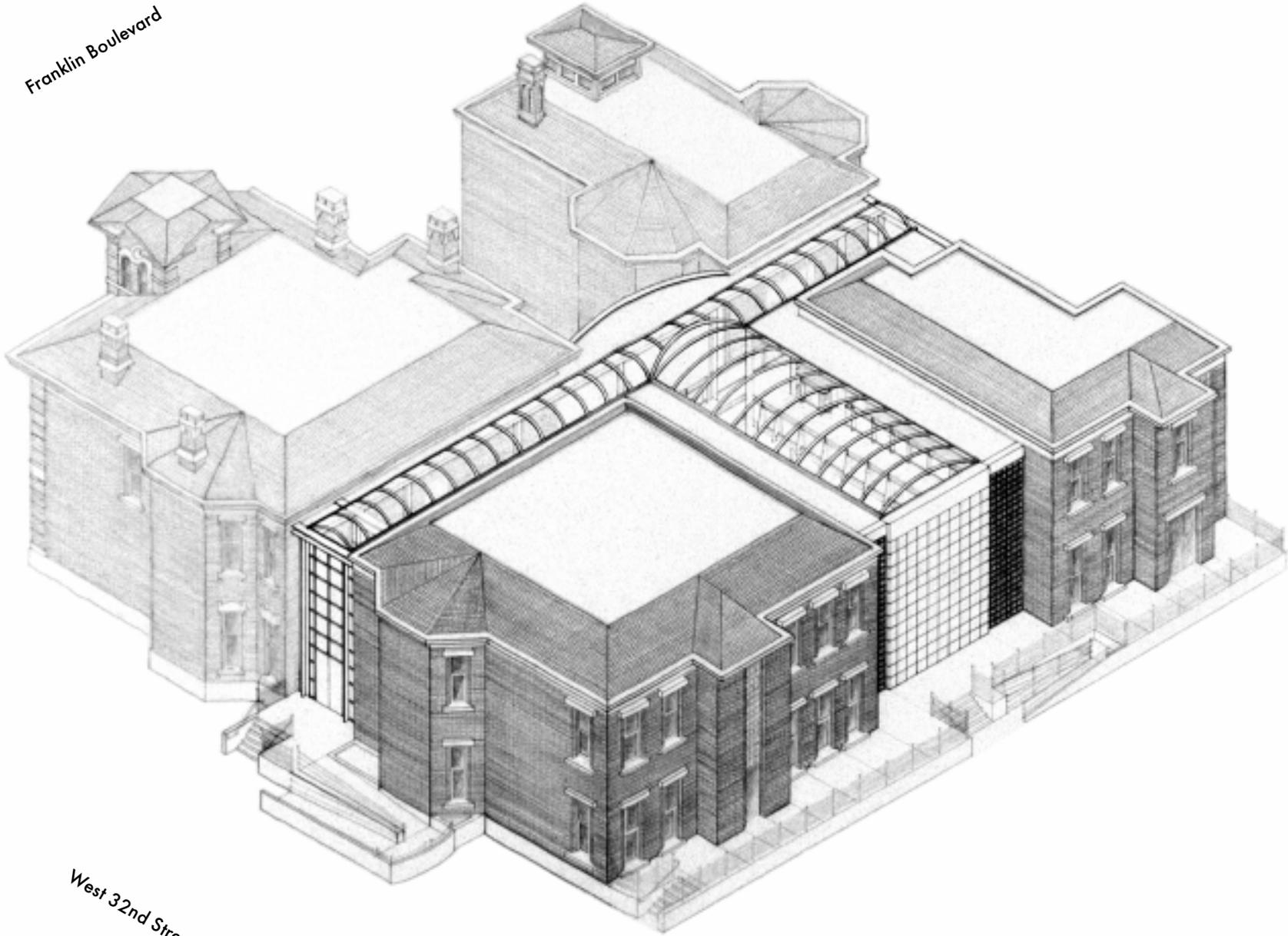
**W**hen adding on to an existing building, one concern is how to make the connection between the old and the new. In this instance, to abut the new directly against the old would cause a distortion of the original proportions, resulting in a disharmonious whole. The idea is to keep the integrity of the existing and hopefully to enhance it.

**T**he creation of an in-between space connects the old and the new, yet allows each to stand on its own, thereby not having one subordinate to the other. The use of steel and glass creates a visual break between the two buildings and establishes their individual identity. However, since the underlying geometry is incorporated within the space of egress as well, the overall harmony of the entire structure is maintained.

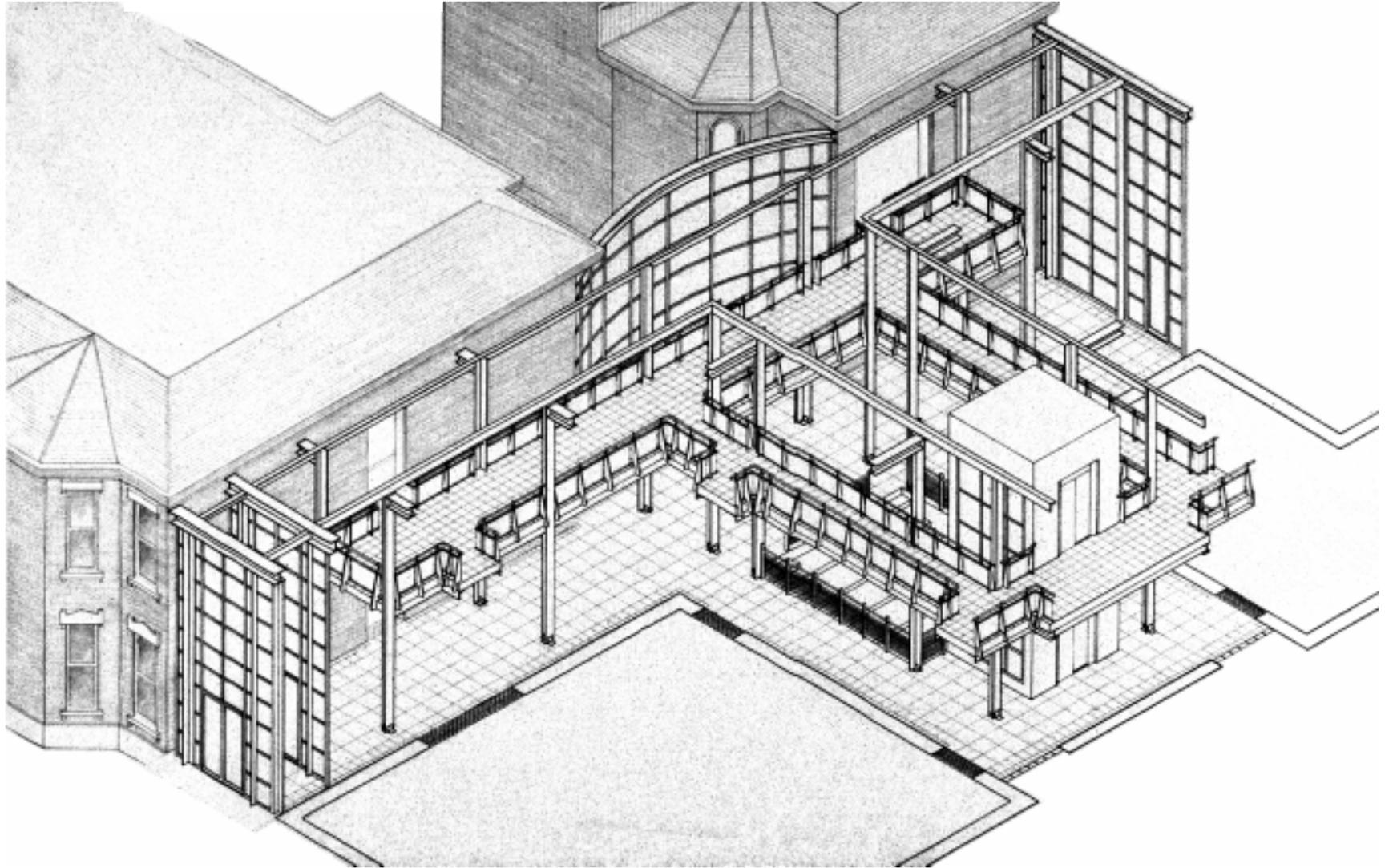
**T**he idea, then, is not to mimic what was created before. The idea is to glean the visual clues that allow a connectivity to be maintained. This thread of continuity ties together the visual diversity of the urban landscape and sets up the framework for future growth.

Franklin Boulevard

32



West 32nd Street





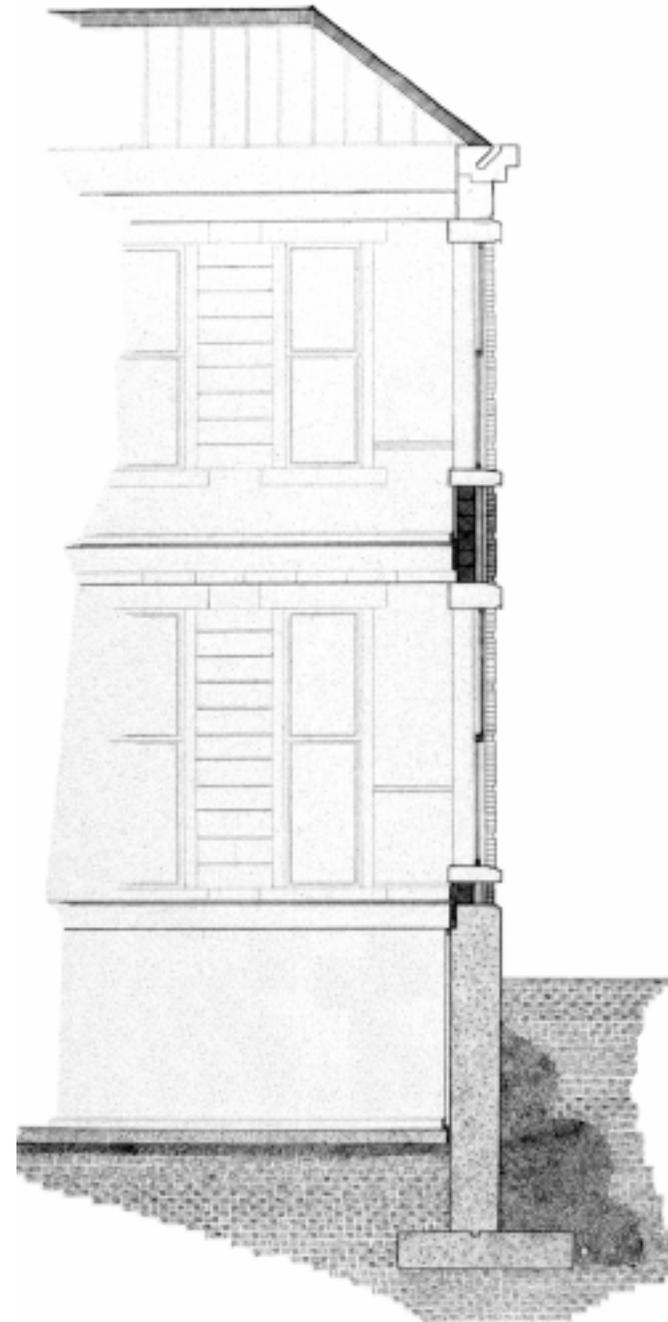
creativity lies at the interface of discipline and chaos.

- Donna Shirley

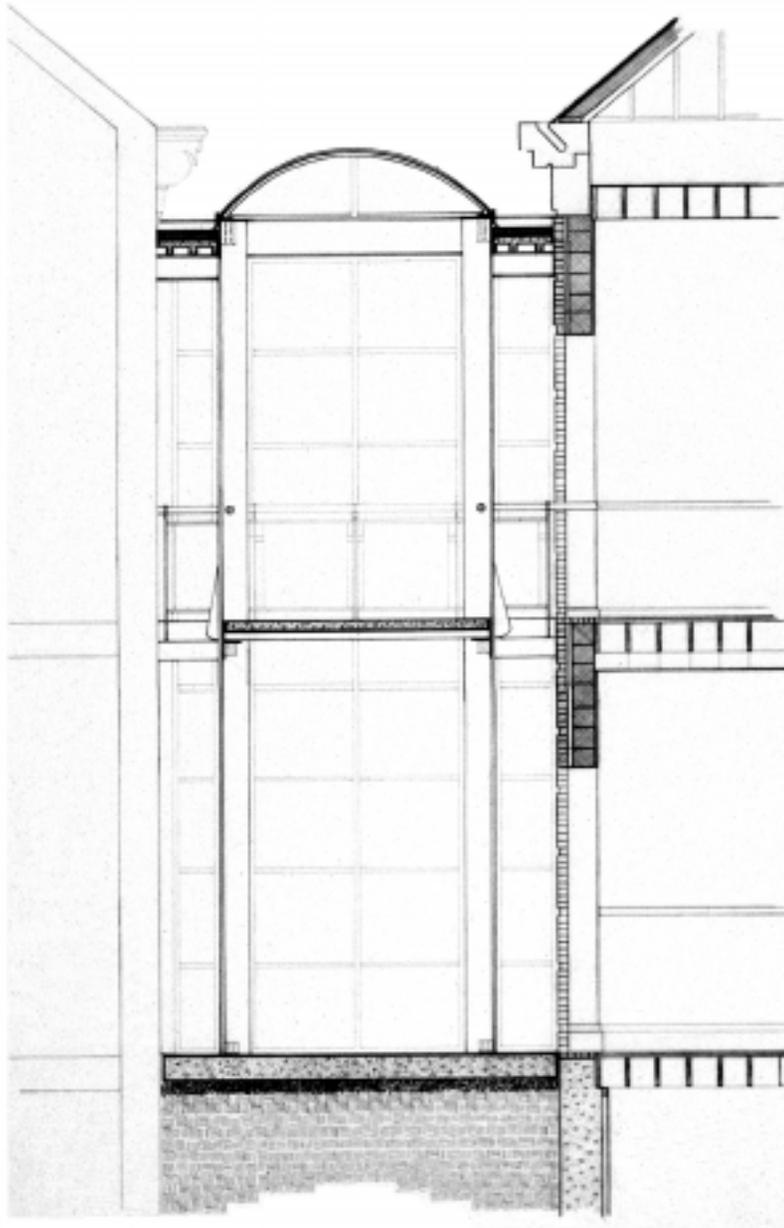
drawings



The new buildings are masonry construction with brick exterior cladding. The wall, from interior to exterior, is made up of drywall, cmu's, extruded polystyrene, air space and exterior brick. The exterior wall totals approximately 18", creating an appropriate thickness in relation to the existing buildings' load bearing walls.



exterior wall section



section showing interior wall

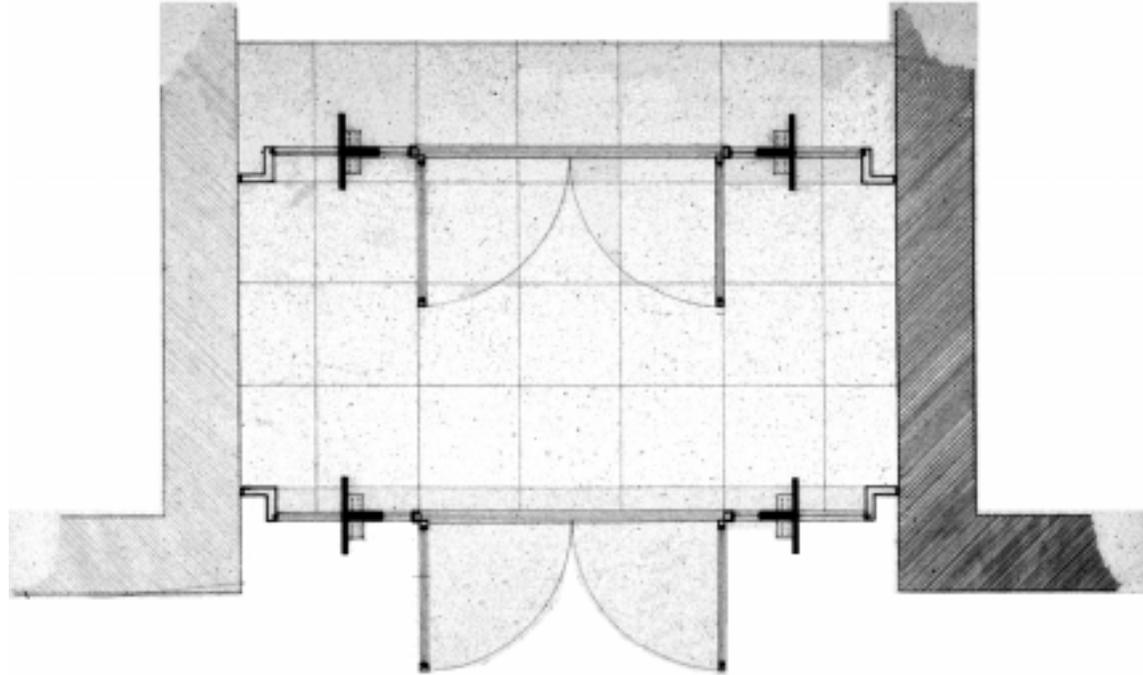
The interior wall is of a similar construction to the exterior, minus the insulation. The interior structure is steel construction with a concrete decking on the second level.

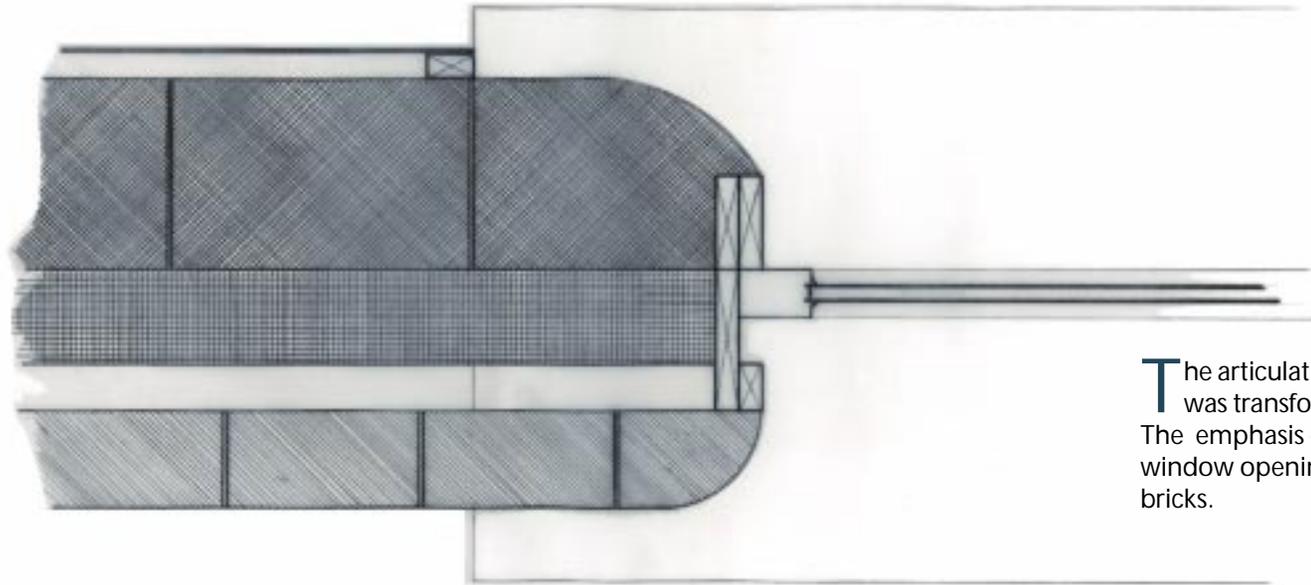




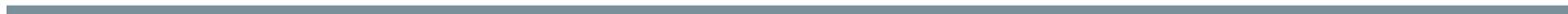
Section through new additions

The insertion of the steel structure between two brick structures brings up the question of how the door to that area will meet the brick. At the entrance, where the frame meets the brick, I chose to set back the frame slightly from the plane of the entrance. This sets up an interplay of light and shadow and further defines the steel section as an insertion rather than a continuation of the brick.





The articulation of the windows in the new was transformed from the Italianate style. The emphasis on the lentil was kept and the window opening is now faced with rounded bricks.



my books are water; those of the great  
geniuses are wine—everybody drinks  
water.

– Mark Twain

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in order to be irreplaceable, one  
must always be different.

- Coco Chanel

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résumé



## EDUCATION

**Virginia Polytechnic Institute and State University**  
Blacksburg, Virginia  
*Master of Architecture, 1999*

**Center for European Studies and Architecture**  
Virginia Polytechnic Institute and State University  
Riva San Vitale, Switzerland  
*January 1996 - May 1996*

**Virginia Commonwealth University**  
Richmond, Virginia  
*Bachelor of Fine Arts, Interior Design, 1994*  
*Magna Cum Laude*

## COMPUTER KNOWLEDGE

form • Z • AutoCad, release 12  
Freehand 8.0 • Illustrator 7.0  
QuarkXpress 4.0 • Pagemaker 6.5  
Photoshop 4.0 • BBEdit 5.0  
HTML • CSS • DHTML

## HONORS/PUBLICATIONS

*Graduate Student Representative*  
*European Director Search Committee, 1996*  
Center for European Studies and Architecture  
Virginia Polytechnic Institute and State University  
*Phi Kappa Phi*

*Golden Key National Honor Society*

*Collected Works, Virginia Tech Center for European Studies and Architecture, Spring 1996*  
College of Architecture and Urban Studies  
Virginia Polytechnic Institute and State University

*form • Z Joint Program Study Annual Report, 1993 - 1994*

## Alice Toth

## EXPERIENCE

### Web Developer

*Virginia Polytechnic Institute and State University*  
*August 1995 - Present*

Virginia Tourism Corporation/Virginia Tech  
Research Project  
Member since inception of development team for VISIT Virginia, a multidisciplinary effort to create a database driven web site for Virginia Tourism Corporation. In Phase II, I participated in creating a new site structure, designing an updated graphical interface and reworking the HTML to take advantage of current technology. Phase III involves incorporating GIS mapping and e-commerce into the site.  
<http://www.virginia.org>

Public Service Programs  
Headed the team redesigning PSP's web site.  
Created the site structure, designed the graphics and assisted in writing the HTML.  
<http://public.service.vt.edu>

### Graduate Assistant

*Center for European Studies and Architecture*  
*January 1996 - May 1996*

Set up and maintained the Macintosh lab. Continued the on-going work of cataloging the Casa's library. Traveled to Zurich to pack-up and catalog the donation of a private library.

*Virginia Polytechnic Institute and State University*  
*August 1995 - December 1995*  
Maintained the Macintosh computers in the Faculty Development Lab, College of Architecture. Provided instruction on digitizing images and video and on using the various programs.

### Italian Tutor

*Public School Systems, Richmond, Virginia*  
*February 1993 - April 1993*

Nine week assignment involved teaching Italian culture and language to a first-year high school class.

*International Orientation Resource, Chicago, Illinois*  
*April 1993 - June 1993*

Tutored a Richmond, Virginia, executive transferring to Naples, Italy, in basic conversational skills.

### Junior Designer

*KSA Interiors, Richmond, Virginia*  
*December 1991 - January 1993*

Wrote specifications and pricing, chose materials and finishes, prepared boards for client presentations, pulled together information for responses to RFPs, ordered samples, maintained reference and sample library, ran blueprints.