Towards an Architecture: The Design of an Architect

An undergraduate Thesis
by Mike Walker
Ball State University
College of Architecture and Planning
May 1996

The Thesis states that in order to improve the profession of architecture there must be a comprehensive modification of the architect, the architect's office, and the public's awareness of both of the preceding.

This project is carried out in the design of an architect's office and supportive spaces. The location for the Thesis the historic district in downtown Fort Wayne, Indiana, known as The Landing.
Thank you to Dr. Bruce Meyer, Dr. Patrick George, and J. Robert Taylor for their assistance and guidance in this undertaking.
Conceptual Design 39
Final Design 49
Introduction 1
Model Construction 63
Precedent 3
Program 9
Site Analysis 27
Throughout my time in the College of Architecture and Planning I have heard a number of opinions concerning the future of the profession of architecture. Many critics blame architects themselves as being the downfall of the profession. We are not educated enough, we do not have understanding enough, or we are simply untrustworthy in the public eye. Others claim that the reason architecture is approaching a downfall is the enormous responsibility and liability architects have in contrast to the relatively minute monetary compensation. There is rumor that architects are loosing their jobs to prefabricated structures or developers and engineers who can build structures more readily and inexpensively than architects. Why not simply go to Lowe’s, Builder’s Square, or a Better Homes and Gardens catalog for a design? Aren’t engineers more valuable to industrial, commercial, and high-rise construction than architects? I personally associate the negative perception of architecture to the fact that much of the practice seems to be uninteresting to architects and that the profession of architecture has become the practice of doing what needs to be done and nothing more.

This Thesis believes that you can improve the practice of architecture through the following chain of associations. You can improve the architect by improving the architect’s office. Make the office more comfortable to work in. Make it easier to work in. Make the office more dynamic in terms of function and aesthetics. The office should be designed as a place for designing rather than for cramming the largest number of desks in the least amount of square footage. You can improve the architect’s office by improving its visibility to the public eye. People who know nothing about the office should be brought into it. What goes on in the office should not be shrouded in secrecy for fear of having commissions stolen. The work should be publicized before it is undertaken and while it is being carried out. The public should see the practice of architecture while it is happening and not after it has happened and been published in an ”architecture” magazine. You can improve the public’s opinion of architecture by improving the architect. The architect should be true to the design. There are always solutions which are not compromises. The design should be true to the project. Do not design for what is stylish, trendy, or flashy. Design for what is authentic, honest, and unforced. Using these associations to define yourself as an architect will work to strengthen the profession.

Before you continue into this Thesis I will share a story with you. When I initially approached an individual (who was a possible candidate for my Thesis Committee) with my idea for the Thesis I was told that my project was to trivial. I was told that by designing the perfect office I was merely trying to build the equivalent of the dream house that every High School student in a drafting class longs to build. My project was an exercise in expressing my ego. I was asked to find someone else to sit on my committee. Though at the time I could not think of anything to say, I would have liked to have said self improvement has to begin somewhere, and I would have liked to have said that there is nothing wrong with starting with the ideal and working it into the real.
The precedent research for this project was carried out by visiting the offices of several practicing architects in Indiana. The observations were then categorized into the following pages.
Note: The Design Collaborative is where I spent a seven month internship.

Open office

Close to city/County Building, contractors, and other support

Tie to historic architecture

Adapted to space

Casual work environment

13+ people
Many Partners

Separation of professions

Separation by status

High status - closed office

Low status - open office

efficient use of space, money, time, etc.

Building is symbolic of future and power

Built with new technologies

Large Format Offices
5 to 15 people

Building does not reflect architects

Little room for personal identity

Difficult to expand

Must fit into space

Mixed use in building

"Plastic" environment

15+ people

Contemporary/ Efficient design

Free standing

Alludes to sense of self although the design does not always represent the owner/architect
8 to 15 people

Tie to historic architecture

difficult to expand

enhances sense of downtown

must fit into space

8 to 15 people

Tie to historic architecture

Neighborhood environment

Difficult to expand

Small tight rooms

Limited Parking

Architecture creates a mind set
The inclusion of an aquarium and a cat into the office environment will modify the aesthetic of the office in several ways. It will make the office feel more casual. Animals are said to help relieve stress and cause people to lead happier and more productive lives. Having a pet at home is common, but having a pet at the office is unique and may give someone something to look forward to when they are having a bad day or are working late alone. Obviously the selection and control of the animals is important. The aquarium may act as a wall or divider between spaces or as a free standing display piece. The cat should be restricted in movement only when necessary as in the case of allergies or the security of an object.
The ArchEd studio is similar to a hands-on museum of science. It allows a person to better understand architecture by directly interacting with it. The ArchEd studio has several features to it. One being a large 3D map of the city of Fort Wayne. The map will chart the evolution of the city through time. Pieces for the map may be made in the Workshop (see Workshop) The studio will also display projects by local architects and design firms as well as temporary project displays set up by larger firms like SOM, Michael Graves, and Aldo Rossi. In addition, the studio will have interactive features which allow people to understand joinery, materials, and other technologies. The ArchEd studio is funded by donations and local architecture firms. The ArchEd studio is expected to draw visitors from not only the city, but from across the country. The Studio will be supervised by the AIA and also be used for guest lectures and continuing education workshops.
The archive houses all of the office dead files, computer backups, tube files, and flat files. Views into and out of the room are nonessential to the room itself. Temperature for storage of certain materials like computer disks and hard line drawings is very important.
The blue line room is simply a room designed to hold a blue print machine and support materials. The most important aspect of the room is its ventilation of the ammonia fumes common with such a machine. The room should be directly connected to both the media/print area and the archive room.
The large conference room supplies a variety of functions. By having the capacity to hold 15 people it can act as a meeting space for clients, a place for office meetings, project presentations, office parties, and so on. It is located near the waiting and reception areas. The room should also be as transparent as possible while allowing for the walls to become opaque when needed for privacy, slide presentation, etc.

The room is equipped with slide machines, opaque projectors, television, tack-up space, and display shelves. In addition, the room also includes a bar for social events. Another feature of the large conference room may be the inclusion of an aquarium to add a relaxed aesthetic to the work environment.
Like the large conference room the small conference room(s) should be open though allow for privacy and the exclusion of light. It also has space for drawing and model displays. In contrast to the larger conference room these rooms are made for two to six people. Since the work space in the office is a large open studio (see studio) these rooms also act as general offices. They are used in rotation by the staff when necessary. Therefore, it is appropriate to have two to four of these spaces available for use.
The library is similar to the archive, but stores product catalogs, shop drawings, and code books instead of hardline drawings. The room is directly accessible to the studio and the print/media room.
The locker room is set apart from the studio and acts as an employee restroom. The purpose of the locker room is primarily to allow the studio to become more casual by eliminating a dress code (shirt and tie). One could wear jeans and a T-shirt in studio and quickly change into a suit in the locker room when one had to meet with a client or was attending a formal function.
The lounge is a place where one can take a break from studio or find an alternative place to work, read, or think. It should include multiple views of the exterior from the interior as well as outside places to sit. The lounge also includes a small kitchen area as well as a television and seating.
The media/print room is directly adjacent to studio, and directly related to the archive and blue print rooms. The media/print room acts as an extension of the studio workstations and includes room for office supplies and equipment which is not economically appropriate for every member of the office to have; copier, plotter, light tables, kroy machine. The office manager also has a workstation which is located in the media/print area so that he or she can supervise and maintain the equipment easier. In addition, there are layout tables and pin-up boards in the media/print space should more room than what the work stations provide be needed. Work space which is typically needed when using a copier or when trimming drawings which are plotted out on large paper is also provided for.
Like other studio support functions the model building room is directly accessible from the studio. It has space for the construction and display of models and other built forms, and has equipment like airbrushes and small electrical tools which are not practical to have distributed throughout an office. A large well ventilated paint room is part of the space as well. The paint room provides space for spray painting small pieces of models or building and painting large scale models or objects. The model building room also logically provides the sink and first-aid stations for the studio.
The play room is a space for employees' children. It includes facilities for infants as well as preschool age children. The room is divided into active and non-active areas. This room is very important because it gives an employee an option to be near their children during the workday.
The reception area is a transition point for moving from one part of the project to another. It is the first and last space a person experiences when entering and leaving the building. The space is large, open, and flooded with natural light. In addition, examples of the offices work will be displayed in the reception area for public viewing.
The restrooms in the reception area are segregated into one female and one male restroom joined by a central foyer. Inside the restrooms a separate toilet room exists in place of a stall or stalls. This gives an individual an increased sense of privacy. Ventilation and sound proofing of the restrooms from the remainder of the building is also important.
The studio is a large open room filled with work stations. Each work station is composed by its user from a variety of pieces; layout tables, computers, lockers, file cabinets, and shelving. Adjacent to the studio are all of the essential support functions of the office as well as non-working functions. The studio is a very casual environment. It lacks the staticness of uniform cubicles and dress codes (see locker room.) The studio space is well lit and has multiple views to the exterior wherever possible.
The waiting room is directly adjacent to the reception area. The space should allow for an individual to both see and interact with the outdoors.
The work shop is independent of the thesis office. It provides a place for laymen as well as professionals to work. Memberships may be bought to the shop of a one time use fee may be paid. The shop is not meant for use as a gallery space or store. It simply provides tools, guidance, and storage space for craft and trade work. The work shop is equipped with wood working, metal working, and sculpting tools.
Environmental Factors

NORTH

ENVIRONMENTAL FACTORS - 1" = 200.00'
North Facade of Building to be Renovated

South Facade of Building to be Renovated
Photographs of Building to be Renovated

North End of West Facade

South End of West Facade

East Door on North Facade

North/West Corner Detail

Utilities at South/East Corner
East Facade of Building to be Renovated and Lot for Addition
The initial design idea for the site was to build an addition element to the existing building which would run parallel to W. Columbia Street in contrast to the traditional perpendicular footprint of downtown row buildings. Based on the landscaping precedent of the small two story building occupying the north eastern corner of the site it was decided to construct a courtyard or park adjacent to the existing building. This courtyard later evolved into the outdoor component to a cafe located on the first level of the existing building.

The next problem became transitioning from street to courtyard to addition. The transition from street to courtyard was accomplished by designing a facade which would mimic the proportion and scale of the surrounding historic buildings. The facade acted as a gate to and from the street. At this point there was some controversy as to the extent to which the facade should be detailed. The transition from courtyard to addition was to be accomplished by tile patterns, landscaping, and visual cues.

Another issue which evolved out of the question of transitioning was that the addition's design might conflict with the facade's design. The solution was that the actual building facade would be a subtle surface; a backdrop for the street facade. The street facade was then allowed to become more detailed in order to mirror its surroundings.

One last problem with the two walls was that in order to visually support each other they would need to share a commonality, but remain individual. That commonality (proportion, material, or what have you) also needed to reflect the rest of the building: the alley facade, the floor plans, and other spaces. The final solution to this problem was that the constructed walls would be based on the structural grid of the addition.
The placement of windows, mullions, and walls all became dependent on the structural grid of the addition. The street facade reproduces the first three bays of the addition (20' - 20' - 10'). The facade is then made symmetrical by breaking the 20' bays into 10' bays. That grid is then carried into the paving pattern and landscaping pattern of the courtyard (see final design.)
The addition wall was to be constructed of glass panels held in place by "c" channels. The glass frame all was designed so that it could carry all of its own weight without addition support. However, the wall is support with steel tubes which resist wind loads. Originally these tubes acts as part of the structure for the building and cantilevered out of the concrete floor slab. However, in the final design the tubes have a diameter of 6", and are simply mounted to the edge of the concrete slab.

Like the street facade the mullions and framework of the glass wall are spaced to reflect the 20' structural grid of the poured concrete addition.

The wall was also designed to be continuous from basement floor slab to the roof. If you look out of the wall from the first floor you would see grass and trees. As you look through the wall from the third floor you would see sky. As you look out the wall from the basement level you see... dirt.
These drawings depict early design ideas for the southern facade (right), northern facade (below), and a north/south section depicting the building's structure (right).

The southern facade was originally very closed and dense. The primary design idea for the building's facades was for the structure to be exposed. The two horizontal lines crossing the facade are the ends of the floor slabs. The brick, which is non-structural, is filled in between the floors. The form of the brick was designed to look like a ribbon which would curve in and out of the facade's plane at the same intervals where the columns created bays. The final southern facade design is very open in order to allow southern light to enter the spaces.

One early design idea for the northern wall was not to make it smooth, but to simply make it uniform. The idea depicted below would be to construct the glass wall out of varied glass pyramids to create a rough texture for the wall. The entry to the building would then be off set as a plane of glass. This would allow the wall to be dynamic while still maintaining its status as a uniform backdrop.
These boards illustrate the structural systems for the addition. The addition is constructed with concrete slabs supported by reinforced concrete columns. The columns are spaced 20.00' apart and are centered on the floor slab in contrast to being placed at the edges. All design decisions are based on this grid. (This design should be reminding you of Le' Corbusier's Dom-ino house design.) The exterior and interior walls then become lightweight fill between the floor slabs. The northern wall is the exception to this. It is pulled away from the slabs instead of being fit inbetween them, but still mirrors the spacings from slab to slab and column to column.

In contrast to the heavy concrete material of the buildings structure the roof structure is made of wood and thin metal trusses. This allows the roof to appear lighter than the rest of the building. The metal trusses act not only to support the roof structure, but the exposed mechanical systems are suspended from them as well.
These sketches show concepts for the new architect's studio design space. The idea was for the space to open and versatile. The designer's could arrange the studio as the saw fit.

The upper photograph shows the early concept of modulating the structural beams supporting the roof to give it the feel that the room changed shape as you walked from one end of the space to the other and then into the renovation building. The arched beams represented the new construction. The angled beams represented the flat roof of typical downtown row buildings.

The upper photograph also depicts the idea of having the Glulam beams stop short of the outside walls. This was to express that the glulams were supported by the concrete columns and the exterior walls were supported by the floor slabs.

This sketch illustrates how the floors of the addition were to be connected by a long linear staircase. This staircase was designed to zig-zag through the metal pipes which supported the wind load from the exterior northern wall. This sketch also shows the concept of placing skylights in between the Glulam roof beams. However, this design decision became impractical for heat loss and heat gain reasons and was modified to a completely opaque system.
The Wood shop is located in the basement of the new addition. It's design concept is parallel to the design of the architect's studio. Both are places for creative exploration of design. The ironic difference is that the advanced computer technology and refined hand drawn designs are high above the ground on the top level and the heavy loud hulking machines are located underground in the basement.

The basement level also shares its space with the mechanical systems for both the addition and the renovation

This board demonstrates the unique mechanical features of the building. One of the overriding design concepts for this building was that everything was to be exposed so that people entering the building would be able to understand how it worked. Nothing was to be hidden.

The main elevator is made of glass and travels through a shaft which is also made of glass. The mechanical systems (all of which are exposed) begin in the basement and travel up through the glass shaft with the elevator and branch out at each level.
The cafe and AIA bookstore were later additions to the project. These functions are combined on the same level of the renovation. The bookstore exists for the purpose of providing a place where visitors to the ArchEd studio can purchase books on architecture or where the average person could stop in and pick up a newspaper. The cafe also serves the dual purpose of providing a place to go before or after touring the ArchEd studio and acts simply as a place to have lunch.

The ArchEd studio is split up into two sections. The first is on the ground floor of the addition. It is the gallery space for architect’s to display projects and models. The second section is on the second level of the renovation. This section is the activity studio and is where continuing education and lectures take place.
South Elevation of W. Columbia Street.

North/South Site Section through Addition.

South/North Site Section through Renovation.
Photographs of New Addition Model

North face of completed project site

First Floor of new addition

South face of addition

Second Floor of new addition

Enlarged southern facades

Third Floor of new addition
Model of North Side of W. Columbia St.

Site Model; Corner of Main St. and Calhoun
• Break off one long and several short pieces of yarrow.

• Drape glue on long piece of yarrow.

• Fit short pieces of yarrow onto long piece and allow to dry.

Elevation of yarrow tree.

ISO of yarrow tree.
- Cut 2' x 2'-6" scale piece of crescent board
- Cut 40' scale piece of thin wire.
- Score & peel out partial section of crescent board
- Approx. dia. of wire
- Bend wire with plyers
- Glue wire into crescent board "nitch."
- Cover marble crescent board with crescent paper.

- Cover windows with clear tape.

- Trim tape from around windows with X-Acto knife.

- Trace outline of window opening with permanent black ink to indicate window frame.

- Detail window with Prisma-Color or crescent paper.
- Build shape of building with black marble crescent board.

- Cover windows with clear tape.

- Mark windows on marble board with white Prisma-COLORs.

- Trim tape with X-Acto knife from around window.

- Highlight Prisma-COLOR with back permanent marker.

- Cover marble crescent board with crescent paper.
DETAIL WINDOW
WITH CRESCENT
PAPER OR PRISMA-
COLOR.
Mounting Lamps and Trees

- Place prop of glue directly over hole. (Use white glue)

- Puncture hole of slightly smaller dia. than objects vertical.

- Glue will dry clear and object will appear to come directly out of board.

- Push object into hole through glue.