ENLIGHTENMENT IN THE 21ST CENTURY: Individual Expression Through Architecture

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The concept of this thesis has been the issue of enlightenment in architecture; more precisely, to create an architecture which promotes expression of the individual. My thesis project has attempted to illustrate the above through the adaptive reuse of an endangered historic building in my hometown of Jeffersonville, Indiana. The building was built by the U.S. Army in 1871 and was used during World War I and World War II as manufacturing and supply of goods. Its history, as well as that of the city of Jeffersonville, has much to offer. My proposal, in the spirit of enlightenment, is to humanize the authoritarian design of the this building and create a place which celebrates individual expression. My plan imposed an arts school, as a true form of expression of individualism, on a militaristic based environment. My process in achieving this has included documenting existing conditions, developing a program, and designing a master plan as well as detailed plans for portions of the building. My goal has been to develop and create a practical and feasible design for an arts school which encompasses "enlightenment" as well as the historic background of the building and its context.
"If art is to nourish the roots of our culture, society must set the artist free to follow his vision wherever it takes him."

- John Fitzgerald Kennedy

Art may be looked upon by some as useless and without a purpose. But to those who appreciate and understand it, that is the intrigue. One definition of art is that it is proudly without a purpose. It performs no necessary function. I would have to disagree, however, that art performs a very important function. It brings beauty and wonder into our world, it is a valuable means of self expression, and it provokes thoughts and ideas for those who experience it.

There is a long-standing debate regarding art and architecture. Is architecture inhabited sculpture? Or is it “a machine for living” as Corbusier once said? How much of architecture is aesthetic, and how much is pure function, and where do these two seemingly opposite forces meet? I have developed my own opinions on these issues, but this project is not about proving one or the other.

Here is an opportunity to utilize architecture as a means for promoting the individual expressions of its users. The building itself is not what is important, it is what happens within; the actions which are stimulated by the architecture are the energy and pulse of this space.
The fascinating histories behind both this project and its site are unique and impossible to overlook. The context in which I am working is the city of Jeffersonville, Indiana, located on the Ohio River just north of Louisville, Kentucky (fig. 5a). Jeffersonville began with the river; settlers traveling down from the northeast stopped there when their boats could not pass through the Falls of the Ohio. The falls is one of North America’s largest fossil beds. With the exception of industry, Jeffersonville now all but ignores the river that put it there in the first place.

The original plan for the city was designed by Thomas Jefferson in a pattern similar to that of Savannah, Georgia with a checkerboard pattern of green spaces (fig. 5b). Unfortunately that plan never materialized, supposedly due to economics.

This project involves the adaptive reuse of an historic building located in Jeffersonville. The Quartermaster’s Depot was built by the U.S. Army in 1871 and operated as a major manufacturing/supply depot during World War I and World War II. It is a quadrangle configuration (hence its name given by locals) which encompasses approximately 17 acres and 150,000 square feet. The building is 800’ feet long on each side and 50’ deep, enclosing a 700’ square courtyard.

The building was originally built as a very defensive, very fortress-like structure. Its walls had no windows and the only entrances were through sallyports in the center of each of the four sides (fig. 6b). A 200’ brick tower in the center (now destroyed), once served as a lookout tower for approaching enemies (fig. 6a).

Jeffersonville was chosen as the site for the Quartermaster’s Depot during the Civil War because it was an ideal location for the Union Army to access the South. The river also provided a natural protective barrier against enemy troops.

The Quartermaster’s Depot faithfully served our country throughout World War I, World War II, and the Korean War as a manufacturing center for everything from uniforms to saddles to cookstoves. At one time during World War I, it was the largest shirt factory in the world.

In 1965 the Quadrangle was sold by the Army to a local developer, the late Joe Connor, who attempted to turn it into a shopping center. Throughout the past 50 years, the building has been maintained very little and today is almost entirely vacant and dilapidated. Despite its outstanding architectural character, it is not listed on any historic register because Connor would not allow it, fearing it would limit what he could do with his building. Since Connor’s death nearly a year ago, the building has been for sale by his attorney and is in serious danger of being bought by a developer and demolished.

Concerned citizens and historians are presently working hard to save the Quadrangle, but no future is guaranteed. The goal of this project is to bring new life to this valuable building and explore possibilities for its adaptive reuse.
My intent in this thesis is to transform the Quadrangle into a school for the arts. Its primary function will be as a small private fine arts college for approximately 300 students; it will also be able to accommodate classes and private lessons for children and adults in the community. It will contain studios, workshops, classrooms, exhibition spaces, living quarters for both faculty and students, administrative offices, a library, small-scale retail, and a cafe/coffee shop. There will also be individual studio spaces for rent for use by local artists to work and possibly sell their art.

The existing layout of the Quadrangle seems to lend itself well to the programmatic needs of an arts school. It is large enough to accommodate the functions of the arts school as well as some of the shops and businesses which presently occupy it. An advantage of the quadrangle plan is that all of the arts school functions can be focused inward and open onto the courtyard. The spaces which may not be a part of the school, but relate more directly to the surrounding area, can open up to the bordering streets. Some uses, such as residential, may have direct access to both.

The area of the building which burned to the ground four years ago allows a unique design opportunity. My intention is to create an outdoor area defined by a sculptural structural system which draws reference from, but also is a complete contrast to the existing structure.
The concept of enlightenment is what this design is based upon. Because this is an adaptive reuse project, many parameters have already been set. The building size, form, structural system, and style were established years ago. My goal, working within these parameters, is to "enlighten" the building by imposing the new program/design for an arts school onto the existing militaristic grid. Without radically altering the original structure and appearance, it will make a statement that this is no longer a place where the individual is reduced to a mere part of the whole and forced to conform; this will become an environment which encourages creativity, expression, and learning.

The most significant change which will be occurring in the original structure is that of environmental systems and awareness. Not only was this building built with no heating, cooling, or ventilation system, it was also designed with no attention to the cycle of the earth. Though it is not located on the cardinal axes (it is skewed about 30 degrees), it looks exactly the same on every side. The movement of the sun and directions of the wind were not considered. As part of its "enlightenment" I want to introduce the Quadrangle to the forces of nature which surround it and take advantage of them for both aesthetic and energy purposes. The structure will then serve as a learning tool for its users about the possibilities of harnessing the powers of nature around them.

My belief that sustainability should be an inherent part of every design was what first influenced me to do an adaptive reuse project. Recycling a building is not only environmentally responsible, however, it also represents the ability to restore life and vitality to a piece of history—something that was born generations before us. Architecture is a valuable means of storytelling; through its windows there is much to be seen about the society which preceded us.

Buildings, just like people, grow and change with time. They should be designed to accept these transitions gracefully and accommodate their users as their needs change. The "enlightenment" of the Quadrangle is all about this process; the building is being given an entirely different use for which it was built and it will adapt to it beautifully. As its new design progresses, it will be kept in mind that someday different needs will develop and that hopefully the Quadrangle will be able to accommodate them when the time comes.
The 4-block, 17 acre site on which the Quadrangle is located is a conglomeration of industrial, residential and commercial areas. The southern side of the building, of which half burned to the ground in 1992, fronts Jeffersonville's main artery of business traffic. It is conveniently located between the exit from Interstate 65 and the city's two mile stretch of fast food restaurants, strip malls, and gas stations. Jeffersonville's downtown business district is almost immediately south and just beyond that is the Ohio River. The south of the building presently houses several small businesses which seem to think they have a fairly valuable location.

The western side of the building, which now houses a couple of automotive service businesses, faces a residential street. The houses on the other side are small, run down, and many of them vacant. The northern and eastern sides of the building, much of which is vacant, border Jeffersonville's industrial area.

The courtyard of the building is the area of the site with which I will be most dealing with. The original radial planting pattern, designed by Frederick Law Olmstead, never materialized. Aside from the large building in the center, today it is occupied by nothing except storage sheds and access roads. My intentions for the courtyard include adding outdoor classrooms and exhibition space, landscaped walkways, and a greenhouse/solarquatic wastewater treatment center.
Though the primary use of this building is for the arts school, space was also programmed for residential, commercial, and public areas.

ARTS SCHOOL-
Classrooms and studios for the school occupy the entire northern wing of the building. Existing storage buildings are to be restored and used as additional space for the school. The large building in the center of the courtyard will house the administration and library. This creates a “campus” in the entire northern half of the Quadrangle. This is convenient because of the ample parking and convenient access to this area from the northern side. It also creates a separation between the campus and the busy traffic of 10th Street, which borders the building’s south side.

RESIDENTIAL-
The entire eastern wing of the Quadrangle will be residential. Apartments, ranging from studio to three bedroom, can house students and faculty of the school as well as others. This area was chosen for the residential because it fronts a residential street rather than industrial, as the other sides do. It serves as a nice transition between the public area of 10th Street and the private area of the school. Some of the apartments may serve as live/work studios for artists, either independent or affiliated with the school. A sales/work area could face the street and the living area could face the private studio.

COMMERCIAL-
Small businesses will remain along 10th Street. The variety of shops include everything from hair salons to consignment stores to an indoor climbing gym. The appearance of these establishments will be improved by new landscaping, signage, and parking along 10th Street. The arts school would also contribute considerable business to the stores. Possibilities for new stores include an art supply store and specialty shops which sell the artwork of Quadrangle students.

PUBLIC-
Ironically, it was the destruction of the fire of 1992 which truly liberated the Quadrangle. What was once a completely walled space, a mystery to passersby, now has an opening which may be used to invite the public in. The entire southeastern quadrant now becomes a public area, anchoring it is a coffee shop.

Note: Due to the massive size of this project, certain areas of it were chosen on which to focus. These areas include a master plan (primarily the design of the courtyard), and detailed plans of one apartment, one art studio, and the coffee shop.
The landscape enclosed within the confines of the Quadrangle is perhaps as important as the building itself. It is currently devoid of any design, basically a clear, flat, 700' square lawn. The powerful form of the building surrounding it suggests a similarly formal circulation pattern. Frederick Law Olmstead’s original plan for the courtyard was totally bilaterally symmetrical, with trees and walkways radiating from the center.

As part of the enlightenment of the Quadrangle, I did not want to impose a formal, symmetrical plan on the courtyard. The gap in the building caused by the fire calls for an awakening and reconsideration of the regularity of the space. Though the Quartermaster’s offices occupy the geometrical center of the space, I wanted to design the new plan so that attention is not focused on this hierarchy of the past.

In beginning the design process of the courtyard I utilized the conceptual nature of collages. In the first study (fig. 11a), I experimented with a very formal, symmetrical plan similar to what was originally designed for the space. The second study (fig. 11b) explores proposed circulation patterns. The third and fourth studies (figs. 11c, 11d) become more curvilinear and abstract, taking the focus away from the dominating form of the surrounding building.

The plan then began to take its form from the curve of the golden section (fig. 12a), but I was still having difficulty integrating the courtyard design with the design for the southeast corner. I felt that the rigid square form of the building needed to be truly liberated, and through the corner was the way to do so. The final plan (process, fig. 12b) evolved from several of the previous studies (fig. 13a). A new focal point is created in the southeastern quadrant, off of which radiates the new “enlightened” portion of the Quadrangle. The new plan is based on the true north-south, east-west axes in attempt to bring an awareness of the building’s surroundings.

It is at the center of this “compass” that the new focal point is located. It takes the form of a tower element, drawing reference from the brick watchtower which once stood in the center of the space. This tower, however, is not a solid, massive, edifice, but is a light, sculptural piece. Perhaps it is something kinetic which reacts to the elements of nature around it. Perhaps it is a sundial. Whatever form it may take, its primary function is to symbolize the new life which is being brought to the Quadrangle. It is an icon of enlightenment.
design
courtyard
The new design for the corner blends the past and present of the Quadrangle together. Trees define the axis where the old building once stood before the fire, placed exactly on the points where the original structural columns were. Concrete piers march along the new radius of the space, supporting sculptural trusses (fig. 14a). This space is meant to be open and inviting. It draws references from the original building, but makes it very clear that something new and exciting is happening here.
Residential units occupy the entire western side of the Quadrangle. These apartments may be inhabited by students of the school, faculty members and their families, or citizens of Jeffersonville. Apartments will range in size from small studios to three bedrooms. Some may be designated as "live/work" spaces for artists in which they could sell their work out of the studio side (which would face the street), and have a private living space on the side which opens up to the courtyard.

The design of the apartments is intended to promote community interaction among its occupants. For this reason, I chose not to have separate entrances to each apartment but to cluster 2-4 apartments around an entrance corridor which extends the depth of the building from the street entrance to the courtyard. This entrance area, which can be locked from both sides, also provides added security.

I experimented with several different options for this entrance which are shown on the opposite page. In trying to avoid a narrow "hallway" feeling (fig. 15a), I attempted to open up the space as a garden area (fig. 15b). This, however, took up too much space and created too much of an interruption in the roof. The design then became a compromise of these two ideas (fig. 15a). One window bay (10 ft wide) is used as the entrance corridor. Immediately inside the existing walls of the Quadrangle, a garden area is created on each side through the use of skylights. To further develop this transition, a small structure on the exterior of the building (fig. 15d) clearly marks the entrance from the street. This structure includes a seating area.

The "apartment cluster" is not the only aspect of the design that is intended to foster a sense of community. The west sallyport, located in the center of the residential area, will be utilized as a community gathering space. It will house laundry and recycling facilities to be used by residents of the Quadrangle as well as the surrounding neighborhood. A community bulletin board and possibly a small meeting space would also be located here.

The redevelopment of the Quadrangle will hopefully not only bring new life to it, but will improve the surrounding areas as well.
design

apartments
Due to time restrictions of the semester, it was necessary that I choose only one type of apartment unit to focus on. I chose the student apartment unit as the design to develop in detail. This living unit is not to be regarded as a dormitory, it is an independent apartment for anywhere between two and six (ideally four) students.

In developing this, I realized that near college campuses there is a true need for houses and apartments designed for specifically for students. Students move from dormitories into houses and apartments which were designed not for several young, unrelated people living together, but for traditional families. There are significant differences in the lifestyles of students and families that should affect the design of their living spaces. For example, a conventional kitchen is designed as a work space for primarily one person to prepare meals for an entire family. In a student home, there are easily three people in the kitchen at one time preparing three different meals. Refrigerators often contain numerous gallons of milk and abundances of endless other items.

In designing the student apartment unit for the Quadrangle, the special needs of student lifestyles were taken into consideration through the following design decisions:

- The first floor serves as the primary living area. The kitchen and bath or "utility" area is separated from the "living" half by a defined circulation axis. The main entrance is at one end of this axis.

- Instead of conventional "bedrooms", this apartment has loft spaces which offer more flexible options. Six spaces are available on two upper levels into which prefabricated modules with or without built-in furniture can be inserted. As many or as few as needed can be used, and the remaining spaces can be left open or utilized as common space. Access to the rooms is provided by catwalks which are aligned directly above the main circulation axis on the first floor. At one end of this is a stair, at the other, a fire pole.

- The kitchen has ample work areas and is open to the living space. Room is provided for an extra large refrigerator. The range is positioned so that more than one person can access it at the same time conveniently. "Nesting" worktables slide under the countertops and can be pulled out when necessary.

- A utility closet between the kitchen and bathroom houses the largest available residential water heater. The bathroom is separated into sink, shower, and toilet areas so that more than one person can use it at one time while still maintaining privacy.
The coffee shop is intended to be a gathering space for both members of the arts school community and members of the Jeffersonville community. Light food will be served here as well as a variety of beverages, the most important being (of course) coffee. People can also go there to read, study, converse with others, or just hang out. Musical performances or poetry readings might happen here. It is meant to invite the people of Jeffersonville into the Quadrangle and encourage interaction with the arts school. The coffee shop will also have display areas for rotating shows of artwork.

The shop has entrances from both the courtyard and from the street. An open counter area greets you in the center from either entrance and offers an ordering area and seating along a bar. The ceiling is open to the full 25' height and the “tree” structural system is exposed above.

The south wall of the coffee shop is almost entirely glazed to emphasize the area destroyed in the 1992 fire. Directly outside of this wall is and outdoor seating area which is to serve as an active part of the public plaza. Deciduous trees provide shade in the hot summer and allow sunlight to flow in during the winter months. The curve which defines the new corner area (defined by the truss elements and elevation change) is continued into the floor plan of the coffee shop. It divides the seating area and further defines it by a change in floor level. The curve continues to shape a portion of the serving counter.
Studios for the arts school occupy the entire northern portion of the Quadrangle. Existing storage buildings aligned inside the courtyard will also be utilized; glass will cover the area between the buildings, creating an enclosed atrium space through which to access studios and classrooms (figs. 21a,b).

The studios will be arranged in a similar manner to that of the residential. One window bay will be used as a corridor which links the parking area on the northern side to the atrium. Four studios and two faculty offices are accessible from this corridor (fig. 22a).

Studios are designed to be as flexible as possible, while providing ample natural light and ventilation. Storage areas are shared by one or more studios. An open loft above each studio provides additional storage space.
The Quadrangle has received more of my time and thought during the last few months than any other architectural endeavor I have undertaken. I suppose, however, that that is what a thesis is supposed to do. The project has been exciting and invigorating in every way; my only frustration is that there is not nearly enough time to take this to the level of detail that I would like.

As much as I have put into this, there is so much more that I would love to do. I must remember, however, that my goal this semester was not to produce a ready-to-build building... it was to explore and learn as much as I possibly could. And I feel that I have.

The interesting yet frightening situation with the Quadrangle is that its future is uncertain and could be decided at any moment. Sure, I’ve dreamed about some wealthy individual buying the building and wanting to use my design, but that’s doubtful. My greatest hope through this is that someone will recognize the tremendous value of the Quadrangle and that it will be appreciated and put to use, whatever use it may be.

The Quadrangle has been through a great deal during the past 125 years, but it is by no means ready to quit. May it continue to live a long and healthy life.


