Intersections:
An Addition to the School of Architecture, the Institute, and the City
by
Kari Lin Kimura
Bachelor of Arts in Architectural Studies, University of Washington
Seattle, Washington, June 1990

Submitted to the Department of Architecture in partial fulfillment of the requirement for the degree Master of Architecture at the Massachusetts Institute of Technology February 1995

© Kari Lin Kimura 1995. All rights reserved.
The author hereby grants to M.I.T. permission to reproduce and to distribute publicly paper and electronic copies of this thesis document in whole or in part.

Signature of the author: Kari Lin Kimura, Department of Architecture, January 13, 1995

Certified by:
William Porter
Professor of Architecture
Thesis Supervisor

Accepted by: Ellen Dunham-Jones
Chair Person, Departmental Committee on Graduate Students

MAR 21 1995
To mom and dad, my first teachers, for whom teaching is first of all an act of love.

1 Early plan sketch
Intersections:
An Addition to the School of Architecture,
the Institute, and the City

by
Kari Lin Kimura

Submitted to the Department of Architecture on January 13, 1995
in partial fulfillment of the Degree of Master of Architecture

ABSTRACT:

"All education practice implies a theoretical stance on the
educator's part. This stance in turn implies - sometimes more,
sometimes less explicitly - an interpretation of man and the world."
-Paulo Freire

The assumption made is that formal decisions are not neutral nor value-free. Form decisions embody interest and a theoretical/philosophical stance. Form does matter. The making of architecture is taking a position, it says simultaneously what is not as well as what is.

The architectural education proposed at M.I.T. is:
• a holistic approach; this implies inter-disciplinary cross-pollination as a means to inform architecture.
• dialogic; the means by which one approaches synthetic understanding.
• public; this implies responsibility and accessibility to the world outside of academia.

The design of an addition to the school of Architecture at M.I.T. is put forth as an attempt to say in form what an architecture school ought to be.

Thesis Supervisor: William Porter
Title: Professor of Architecture

Readers: Prof. Stanford Anderson and Prof. Roy Strickland
Acknowledgments

Bill Porter, a true teacher who will always have
my highest respect

Stanford Anderson, who asked the right questions just
at the right time

Roy Strickland, who always spent more time with me
than he ever intended

John Habraken, who gave me an entire afternoon of his time at
a critical moment and whose books I keep re-discovering

Kristina Hill, a source of inspiration who found time for me
in her busy schedule

Kyrre, Wendy, and Daniel, my buddies, who came through
for me in the final hours

The thesis kids, Rob, Kathleen, Luis, Anne and her dog Aesop,
who no matter what kept their tails-a-waggin'

Albert, whose ideas I keep stealing

and Shaun who lasted through it all and put it all together

Thank you!

-Kari

2 1896 Orient "Oriten", from the collections of Henry Ford Museum and Greenfield Village
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>6</td>
</tr>
<tr>
<td>Introduction</td>
<td>8</td>
</tr>
<tr>
<td>Research - Schools of Architecture</td>
<td></td>
</tr>
<tr>
<td>Palais des Etudes, Beaux-Arts 1839</td>
<td>10</td>
</tr>
<tr>
<td>Bauhaus Weimar 1907</td>
<td>16</td>
</tr>
<tr>
<td>Bauhaus Dessau 1926</td>
<td>22</td>
</tr>
<tr>
<td>Crown Hall, IIT 1956</td>
<td>28</td>
</tr>
<tr>
<td>School of Art and Architecture, Yale University 1963</td>
<td>32</td>
</tr>
<tr>
<td>Boston Architectural Center 1967</td>
<td>38</td>
</tr>
<tr>
<td>Architectural Association 1971</td>
<td>42</td>
</tr>
<tr>
<td>Gund Hall, Graduate School of Design</td>
<td>46</td>
</tr>
<tr>
<td>Harvard University 1972</td>
<td></td>
</tr>
<tr>
<td>Exploration</td>
<td></td>
</tr>
<tr>
<td>Addition, School of Architecture, MIT</td>
<td>52</td>
</tr>
<tr>
<td>Reflections</td>
<td>97</td>
</tr>
<tr>
<td>Bibliography</td>
<td>98</td>
</tr>
</tbody>
</table>
Why do a thesis on architectural education and form?

The reason has been my own curiosity into why some things in school seemed 'right' and other things not. For me, this thesis was an opportunity for searching out questions that I have been pre-occupied with since the start of my formal architectural education 8 years ago. And on a political level, I wanted to gain access to a much larger discussion about the future of M.I.T. and the Department of Architecture as it faces change.

M.I.T. has always been in a state of transformation, it has never been static or fixed in its pedagogic position, nor physical location. But recent events have indicated that we are at a point where the rate of change has increased in magnitude and scope. Some major issues of concern and interest for all include:

a) the search for a high profile tenured design faculty member  
b) a significant move of the architecture studion back to the main building  
c) an increase in student diversity  
d) studios of the 'future'  
e) 'sustainable design'  
f) a new curriculum  
g) another increase in tuition costs  
h) re-engineering  
i) three design faculty members in semi-retirement  
j) the loss of five design instructors in the past 2 years  
k) the addition of three new design instructors  
l) "publishing" as the measuring stick for faculty in the Institute's eyes  
m) thesis presentations become required  
n) talk of a student publication and new publications for the department.

Important decisions will be made with lasting consequences. Therefore it is necessary to be clear about the agenda of this school and to understand where it is situated in the larger context of architecture schools. I think it is a mistake to allow for anything and everything in an attempt to be inclusive and politically correct. Education needs to be coherent, not schizophrenic, there has to be continuities that allow for the appreciation of differences. It is necessary to provide a solid foundation for each student to base their own judgments upon. What M.I.T. has been for the last twenty-five years is something that the rest of the world is now waking up and searching for. I am not at all proposing that we return to another time, for there is still much room for improvement and some things have changed. What I am proposing though is a respect for past and present teachings as they speak to an ever present future. Remember, teaching above all else is what a school has to offer.
Transformation, a zen expression

3 Inscription by Takako Satoh for Pacifica International Foundation
A burning question for many architects and architects-to-be is, “what is the meaning of architecture?”

Instead of asking for a direct answer to such a complex question, I propose some mediating questions, “what does the architectural form allow for? What are the implications of the architectural form?”

Meaning, Propensities, and the Consequences of Form

Stanford Anderson put forth the notion of understanding both place and inhabitation through the examination of the propensities of situations. Situations being manifested through the dynamic interplay of people and environment. This approach is resistive to the claim of a socially deterministic architecture as well as resistive to a totally autonomous architecture while still claiming that “Architecture matters.” It is this notion that I, as a designer of form and an inhabitant of the planet, am particularly interested in. Form factors in a situation’s unfolding and is responsive to and responsible for that realization.

Akin to Anderson’s use of ‘situations’, which is neither people nor environment alone but an interacting whole, Paulo Freire also writes of ‘men in relations with the world’ and takes this idea one step further positing that this position is essentially a democratic one by denying the domination of man on the world. Freire writes:

“Education as the practice of freedom - as opposed to education as the practice of domination - denies that man is abstract, isolated, independent, and unattached to the world; it also denies that the world exists as a reality apart from men. Authentic reflection considers neither abstract man nor the world without men, but men in their relations with the world. In these relations consciousness and world are simultaneous; consciousness neither precedes the world nor follows it.”

-Paulo Freire from Pedagogy of the Oppressed

To view man in the world is democratic in that it allows for the free, dynamic interplay of things as they are. This view does not allow one to subsume reality under concepts. Instead one begins with reality and subsumes concepts under it in order to further understand reality. The former is an act of domination as authority is held with the concept maker, the latter an act of reflection where authority is held by the experience of life.

“The tradition of Architecture at MIT is to be concerned with people and the environment. In a concern for “people-environment,” our attention is drawn neither to people nor to the environment alone, but to situations. These situations do not yield to deterministic, causal analysis, yet they are possessed of certain tendencies, leanings, inclinations, proclivities - certain propensities. There is a propensity for a situation to unfold in some way. But our experience also tells us how complex is every situation - that both the actors and the setting have propensities, and the dynamic of these interacting propensities cannot be completely foreseen. The situation is not determined. Yet it is also not the case that “anything goes.” There are zero propensities: conditions that will not appear in the given circumstances. And the operative propensities do privilege some possible outcomes over others. For those of us with a particular concern for the physical environment, it is of interest to inquire into the propensities of artifacts, even as we acknowledge that they can only be known in the larger constructs of “situations”.

-Stanford Anderson from “Architecture and Propensities”
Both examples point to a belief in holism, which implies interconnectedness and views man and the environment as a single system. By definition, holism is a theory that the universe is seen in terms of interacting wholes that are more than the sum of elementary particles. This is fundamentally an ecological view of the world in which one can find the roots of sustainable design. What are the implications of holism for education and architecture? Basically, everything is connected to everything else, which implies that there are connections between words and action, that there are connections between what is taught in architecture school and the way practitioners operate in the environment, that there are connections between the artifacts that we make and society. All of these are connected to the continuity we call 'life.' Given that we accept the notion of holism, we can then begin to understand the relationships between what is taught in school and how we build in the world and be held responsible for the consequences of building.

It is primarily this link between education and the form of our physical environment which needs to be understood in a school of architecture. This issue raises questions about the 'what' and 'how' of teaching as it relates to the way we engage in the design of our built environment. Faculty and administration need to claim responsibility for the built environment as a product of their teaching. To fail to see that connection or claim that it is not relevant is ludicrous and essentially anti-democratic. The challenge is to understand connections rooted in reality through action and reflection, otherwise we are just playing some distant, abstract, intellectual game.

The goal of this thesis is to unveil the relationships between a holistic, democratic view of the world, education, and ultimately meaningful architectural form.

---

2Ibid. Anderson
I shall consider the Palais des Etudes primarily as Duban’s design. Unlike Mies and Gropius, there was no stated pedagogical intent on Duban’s behalf, but one can look to the building itself as the execution of the Beaux-Arts teaching in form. The Palais des Etudes was designed first in plan, followed by sections and elevations per the Beaux-Arts design process. This allowed Duban to alter the design of Debret’s quickly while incorporating all of the built zones to date. In terms of the siting of the building, like most Beaux-Arts assignments, the building would be free-standing and on a flat site. The plan distribution of programmatic elements were always symmetrical and hierarchical, one can ‘read’ the equal importance given to Galerie Grecque and Galerie Romaine, where fragments of buildings and statuary were kept. One could also postulate that Duban after winning the Grand Prix of Rome and upon return from his travels, inspired by the Italian Renaissance buildings, set out to bring that fragment of history back to the Ecole. Therefore Duban was both a product and a producer of the Ecole des Beaux-Arts, a learned student in the ways of the Beaux-Arts and a Grand Prix winner who saw, measured, and drew buildings from the Italian Renaissance to inspire and augment his work in Paris.

Notes:

A brief history of the building of the Palais des Etudes - the main building of the Ecole des Beaux-Arts:

The site of the Palais des Etudes was originally that of the Convent des Petits Augustins which in time became the Musee des Monuments Francais. The eventual location of l’ecole was settled by royal decree on December 18, 1816 by Louis XVIII.

Francois Debret was appointed architect of the Palais des Etudes in September 1819, by October 1819 Debret’s plans had been approved. In January 1832 Debret gave up the Ecole in order to concentrate on the restoration of the abbey church of St. Denis.

Debret’s brother-in-law Felix Duban took over as architect of the Ecole. At that point foundation stones were laid in the gardens of the Petits Augustins, the left wing completed with architectural fragments already installed. The right hand wing had already reached the first floor level.
Plan of the Ecole des Beaux-Arts, (drawing from The Beaux-Arts ed. Middleton)

5 Plan de la Ecole des Beaux-Arts, (drawing from The Beaux-Arts ed. Middleton)

Research Palais des Etudes, Beaux-Arts 1839
Duban had been under-inspector of the building from the beginning and
Debret nominated him as Director of works in 1819 only to be rejected by
Descaze. In 1823 Duban won the Grand Prix and went to Rome.

Once the official architect of the Ecole, Duban requested a program of the
actual requirements of the Ecole and on January 22, 1833 he was informed
that there should be classrooms and studios for every day teaching,
exhibition areas for the Concours d’Emulation and the Grand Prix, and
storage space for works sent from Rome. Additional areas for the Musée
des Etudes, the library, the exhibition rooms, and an assembly hall were
also requested.

April 5, 1833 Duban submitted his proposal - five drawings and two written
reports. Changes were necessary to provide facilities left out in Debret’s
design and also “to enhance the stature of the Ecole”. Duban proposed that
the different activities of the school should be separated, as had been
demanded since 1817 by the director and professors.

The loges were to be used for competition work while the main building or
‘Palais des Beaux Arts ’ should serve for exhibitions, an amphitheater and
official functions. For the library he proposed to add an attic story.

With this new design, teaching was intended to take place in the new
building rather than the cloister of the Petits Augustins. The ground floor
was to be used to exhibit sculptures and works of the pensionnaires.

Beyond plan organization, Duban’s design intervention commanded major
decorative projects within the Palais des Etudes. Most noteworthy is the
treatment of the first floor loggias, “although the professors do not appear to
have wanted more than a direct copy of the loggia, I thought to reinforce
their wishes in submitting a design that suggested the Vatican itself
- something that would be both an addition to the Palais and a setting more
worthy of the loggia” - Duban.

1864 - the Conseil d’Administration decided that the library should be set
up in the front room on the first floor of the Palais des Etudes.

1867 - the central courtyard is roofed with glass.

The building is definitely of Italian Renaissance inspiration, and it is of note
that at that time Duban was the first to employ this style into French
building. It is also of interest that Duban selected only Renaissance
elements from Lenoir’s museum for display. During the same time, Duban
transformed Cour du Murier which he had first modeled on the old cloister
into a Pompeian atrium decorated with murals, paintings, mosaic paving
and casts of the Parthenon frieze and antique statues. 6

6 Facade of the Palais des Etudes, (photo from The Beaux-Arts ed. Middleton)
The following has been abstracted from, “The Ecole des Beaux-Arts: Modes and Manners”, printed to help show what it was like to be a student at the Ecole. The article is based upon personal reminiscences of Jean Paul Carlhian. Carlhian attended the Beaux-Arts post WWI which one must note was past the peak of the Ecole, but his notes on the curriculum are said to be close to that of his predecessors.

Curriculum:
Before one even has a chance of entering the school, one must join an atelier, choosing an atelier was like deciding upon a surrogate family, somewhat like a fraternity, where allegiances were taken very seriously. Changing ateliers was frowned upon and as Carlhian states “practically impossible”.

At the atelier, the home of the student for the duration of his life at the ecole, all of the design exercises, “the core of the educational system” took place. It was here that one prepared for the entrance competition and where one recruited help to finish his Thesis. “It was there that all design instruction took place, whether from older students (anciens) which were the greater source of such help, or from the patron, the nominal head of the atelier, whose reputation, prestige, busy schedule and adherence to traditional teaching methods prevented him from providing any form of individual attention to the hundred or so bodies which constituted his atelier.”—Carlhian.

The entrance exam, 12 hours of architectural design, “simple in nature, requiring the use of classical motifs expressed in plan, section and elevation and rendered with appropriate shadows”.

8 hours of design for the execution of a decorative element, antique or classical. To be demonstrated in a plaster cast as accurately as possible. In addition, a soft clay reproduction of a low relief ornament was to be modeled.

Exams in the scientific field. “... the most difficult being a two hour exercise in descriptive geometry, such as, for instance an accurate graphic representation of an intersection of vaults...”
Eleve de l'Ecole des Beaux-Arts, title given to students of the school.

The second class: "more or less devoted to exercises pertaining more or less to two disciplines: architectural design on one hand and a set of scientific and construction courses ..." "Rounding up the second class requisites, besides the course in History of architecture were the 'Trois Arts'...exercises...consisting of the freehand drawing of an ornament, that of a figure, and hated by all, clay modeling of a decorative element."

- Analytiques, the initial design problems given consisted of the organization of elements definitely borrowed from the classics into simple structures. One had to receive passing grades on at least three projects of this kind before being allowed to take on contemporary projects. "The importance of this step and of the administration's insistence that it be mastered first cannot be overestimated. ...its basic value, and one essential to the student's whole future attitude towards historical matters, rested upon the fact that by forcing him to actually make use of past historical elements as basic components of his own composition, it developed in the student not only a familiarity with but an attitude towards history...historic elements, far from being illustrations in a book, or a slide projected on a screen, became his to use, manipulate, distort or rearrange. Should he or she one day decide to discard them deliberately, it would be en connaissance de cause and not through sheer ignorance."

- Individual Esquisse the architectural problem per se. It was executed 'in camera' at the Ecole, to be developed and enlarged with outside help (at the atelier) into a project rendu.

8 Courtyard of the Palais des Etudes as originally built, (photo from The Beaux-Arts ed. Middleton)

9 Rendered elevation of the Palais des Etudes by F. Duban, (from The Beaux-Arts ed. Middleton)
The first class..."where he could indulge full time in his true passion, architectural design..."

There still remained some other requirements, i.e. 'Trois Arts', physics, professional practice, history, but design remained the focus.

Diplome or Thesis..."to some, just a formality to get over with, to others a chore to be painfully performed in order to obtain a coveted piece of parchment, and for most the opportunity offered by the freedom of choice of the program submitted for approval a first step of a carefully planned career, already mapped according to a definite orientation."

"A final prerequisite to the undertaking of one's thesis was furnishing proof of one's having been involved in the actual practice of architecture by having served as an apprentice in a recognized architectural office for a period of at least one year."

"The thesis consisted of a lengthy oral examination by a prominent jury accompanying the complete presentation of a selected building including all necessary plans, sections, and elevations, duly dimensioned and indicated in the manner of working drawings featuring construction details, structural diagrams and computations, as well as outline specifications and cost estimate."

Architecte DPLG, the degree conferred to graduates of the Ecole which gave the bearer of this title the right to call oneself an Architect and to build anything in France.

The design process
A) Reading the program, the student was expected to be able to grasp the main elements of any program at first glance and to single out their relative importance leading to a hierarchical organization.
B) The Parti, (the basic general scheme of an architectural design) was laid out giving the most important element of the program the position of top and center relative to the sheet of paper. If there were an even number of secondary elements, they were then laid out in a symmetrical fashion about a central axis. If the secondary elements were of an uneven number, then an asymmetrical parti was called for, of which certain strategies were used. "Turning the sheet on its side allowed a large area to be devoted to the disposition of all other and equal in importance secondary elements. These were commonly deployed to the right, as reading goes traditionally from left to right..." The third ranking elements were then to be laterally dispersed, leaving a view to the main element unobstructed.
C) Section, always taken perpendicular to the main facade
D) Elevation, which had been somewhat committed to the section, "posed few difficulties for an able student. In the front row, one found the tertiary elements. then came the secondary elements, read clearly above them. The main element, conventionally and rationally the highest of all, remained free to offer all its glory to the viewer, at the end of an unobstructed vista carefully kept open for such a purpose from the very beginning."

Jean Paul Carlihan, "The Ecole des Beaux-Arts: Modes and Manners" Journal of Architectural Education (Nov, 1979 v.33 no. 2)pp. 7-17"
The Weimar Bauhaus must be first considered from the vantage point of Henry van de Velde, architect of the Fine Arts Building in Weimar. Van de Velde created a kind of laboratory that brought together craftsmen and industrialists in an ‘Arts and Crafts Seminar’ twenty years before the Bauhaus. It is important to remember that Gropius did not totally invent anew the Bauhaus, contrary to invention, he had inherited this tradition of combining the arts and crafts from Behrens’ Dusseldorf school and the German Werkbund. The main building of the Weimar Bauhaus is of stone, bearing wall construction with a timber roof. The major workshop spaces and meeting rooms are positioned on the north side of the building looking out into the academic quadrangle through large north facing windows. The skylit exhibition space is located on the top floor furthest removed from the main access, faculty and administrative offices are located on the south side of the building on the first two floors and both mezzanines. Van de Velde’s design seems dominated by a strategy aimed for best natural light conditions (perhaps this reflects back to his origins as a painter). The best rooms are definitely on the top floor where the rafters meet glass to let the light in. How this affected the Bauhaus is not quite clear to me yet. From the few photos that I’ve seen of the Bauhaus in Weimar, I know that Gropius’ cabinet making workshop inhabited one of these well lit spaces as did exhibitions of pottery and woven rugs. Van de Velde also designed the Arts and Crafts building (L-shaped) around the same time, both buildings helping to define a green quadrangle.

An important aside — (about people, food and community)
From Whitford, Frank Bauhaus
around 1920-1921, the school found itself without equipment or materials, the painting workshop seceded into its own academy, the place was in shambles, the students had no where to live etc.

“The only truly positive thing about the Bauhaus from the students’ point of view was the canteen set up in the former military-hospital laundry. The canteen stayed open in the evening and provided staff and students with at least one nourishing meal a day. A limited number of students were able to eat for nothing after Gropius had persuaded several wealthy men in Weimar and elsewhere to donate ‘free tables’ and money for grants...”

“Most of the vegetables were grown in the school’s own garden, on some of the seven thousand square meters of land on the edge of the city leased to the school by the government. A full-time gardener was helped by students who were paid in food tokens.”

“...The Bauhaus canteen quickly became the most important part of the school, the center of its social life and the basis for what Gropius hoped would become a genuine community.
From the beginning Gropius was determined that the Bauhaus would become much more than a mere school. He hoped that the students would learn to live and work together in a miniature society which would serve as a model for society at large. For this reason he introduced what for the first time was a startling degree of democracy: students were given two seats on the governing council of the Bauhaus and a student union was encouraged. Each workshop had an elected student-representative who was kept informed of all decisions, and the students generally organized many independent activities, among them lectures in art history and a regular Sunday hike.”

12 North elevation of the Bauhaus Weimar, (photo from ACSA design competition pamphlet – “The Bauhaus Weimar Revisited”)
Principles of the Bauhaus

"... a thorough training in the crafts acquired in workshops and on experimental and practical sites, is required of all students as the indispensable basis for all artistic production..."

"The school is the servant of the workshop and will one day be absorbed by it. Therefore there will be no teachers or pupils in the Bauhaus but masters, journeymen, and apprentices."

"The manner of teaching arises from the character of the workshop. Organic forms developed from manual skills, avoidance of all rigidity, priority of creativity, freedom of individuality, but strict study discipline. Collaboration by the students in the work of the masters. Securing of commissions, also for students. Mutual planning of extensive, Utopian structural designs - public buildings and buildings for worship - aimed at the future. Constant contact with the leaders of the crafts and industries of the country. Contact with public life, with people, through exhibitions and other activities. Encouragement of friendly relations between masters and students outside of work; therefore lectures, poetry, music, fancy-dress parties. Establishment of cheerful ceremonial at these gatherings."

Range of instruction

Instruction at the Bauhaus includes all practical and scientific areas of creative work.

A. Architecture
B. Painting
C. Sculpture
including all branches of the crafts.

Students are trained in craft (1) as well as in drawing and painting (2) and science and theory (3).

1. Craft training - either in our own, gradually enlarging workshops or in outside workshops to which the student is bound by apprenticeship agreement - includes:
   (a) sculptors, stonemasons, stucco workers, woodcarvers, ceramic workers, plaster casters
   (b) blacksmiths, locksmiths, founders, metal turners;
   (c) cabinetmakers;
   (d) scene-painters, glass painters, mosaic workers, enamellers;
   (e) etchers, wood engravers, lithographers, art printers, enchasers;
   (f) weavers.

Craft training forms the basis of all teaching at the Bauhaus. Every student must learn craft.
2. Training in drawing and painting includes:
(a) free-hand sketching from memory and imagination;
(b) drawing and painting of heads, live models, and animals;
(c) drawing and painting of landscapes, figures, plants, and still lifes;
(d) composition;
(e) execution of murals, panel pictures, and religious shrines;
(f) design of ornaments;
(g) lettering;
(h) construction and projection drawing;
(i) design of exteriors, gardens, and interiors;
(j) design of furniture and practical articles.

3. Training in science and theory includes:
(a) art history - not presented in the form of historical styles, but rather to further active understanding of historical working methods and techniques;
(b) science and materials;
(c) anatomy - from the living model
(d) physical and chemical theory of colour;
(e) rational painting methods;
(f) basic concepts of bookkeeping, contract negotiations, personnel;
(g) individual lectures on subjects of general interest in all areas of art and science.

Division of Instruction
The training is divided into three courses of instruction:
I. course for apprentices:
II. course for journeymen;
III. course for junior masters.

The instruction of the individual is left to the discretion of each master within the framework of the general programme and the work schedule, which is revised every semester. In order to give the students as versatile and comprehensive a technical and artistic training as possible the work schedule will be so arranged that every architect, painter, and sculptor to be is able to participate in part of the other courses.²

---

Note: plan, section overlays from the AIA/ACSA Competition Design packet "The Bauhaus Revisited" (Washington D.C. 1993)

² Frank Whitford, Bauhaus (Thames and Hudson, London 1980) p.25
³ Ibid Whitford, p.45
16 Ground Floor Plan of the Bauhaus Weimar showing Public Spaces

17 Ground Floor Plan of the Bauhaus Weimar showing Light Quality
18. Second Floor Plan of the Bauhaus Weimar showing Public Spaces

19. Second Floor Plan of the Bauhaus Weimar showing Light Quality
Observations on the form of the Dessau Bauhaus:

In plan the building has a pinwheel organization, each leg a distinct building and use. The ateliers where the students were housed was at one end, connected to the canteen to the main hall, which connected to the workshops. The bridge housed the administration and the architecture department, which one crossed to arrive at the classroom building. This 'peripheric' organization does not abolish the center as this 'new' compositional technique so aspired to do. In fact, the asymmetry of the Bauhaus pinwheel does give rise to a center—the place where one would place the 'pin' in the pinwheel. One could also call it the origin and it is not by chance that this privileged position is the two-story bridge inhabited by director Gropius and the department of architecture. The department of architecture did not exist at Weimar, this was the single most important change to the Bauhaus. Though the department of architecture did not open till 1927, Gropius had made plans for it in the design of the new building. In addition to the introduction of a new department, Gropius also changed course in convictions about architectural education. From Bauhaus by Frank Whitford:

"Gropius remained convinced, at least initially, that students would be ready to approach architectural problems only after a thorough grounding in theory, craft- and design-skills. Soon after the move to Dessau, however, Gropius changed his mind. In 1927 an architectural department was established, and was the equal of the workshops. After completing the preliminary course the student could opt to specialize in architecture and was thus not obliged to acquire any craft skill of any kind." 2

The privileging of architecture was reinforced by the fact that at Weimar Gropius was Master of Form in the cabinet making workshop, but at Dessau he gave up that responsibility to concentrate on architectural commissions and administration. That was not the only change, according to Whitford:

"At first students worked for qualifications validated by external bodies, but later for a single diploma awarded by the school itself. The democracy of the Weimar period was abandoned: decisions were now taken by the director alone." 3
At Dessau these changes in the curriculum and the changes in the director’s attitude are clearly reflected in the design of new building. The Bauhaus was no longer an experiment, it was now an institution. In Whitford’s words:

“The atmosphere at the Dessau Bauhaus was quite different from that of the Weimar school. The clean-lined, functional and assertively modern building served as a constant reminder that the school had come of age, not as a place where old-fashioned crafts lived on in rejuvenated form, but where a new kind of industrial designer was being trained. The period of experimentation was over. What went on now was serious, practical and effective.”

Notes on the form itself:

- Plan organization to separate different functions. Like a built diagram, this design does not take into account other layers to inform the architecture, i.e. solar orientation for day lighting and warmth in the winter.
- Not much in terms of sectional quality.
- Major public spaces like the main hall, the exhibition space, and the canteen are all on the ground floor — possible to be open to the outside public.

26 Map of Dessau with the Bauhaus situated relative to other institutional buildings, (drawing from Die Bauhausbauten in Dessau by Engelmann and Schadlich)
The Bauhaus wants to serve in the development of present-day housing, from the simplest household appliances to the finished dwelling...

An object is designed by its nature. In order, then, to design it to function correctly - a container, a chair, or a house - one must first of all study its nature; for it must serve its purpose perfectly, that is it must fulfill its function usefully, be durable, economical and "beautiful"...

It is only through constant contact with newly evolving techniques, with the discovery of new materials and with new ways of putting things together, that the creative individual can learn to bring the design objects into a living relationship with tradition and from that point to develop a new attitude toward design...

The building, whose interior was designed and fitted workshops, bristled with special features. The kitchens, connected to the canteen by a serving-hatch, had a food-lift which could serve every floor of the studio flats and the roof garden above. The stage separated the canteen from the main hall, and when folding screens were operated the stage, canteen and hall could be combined into a partial theatre-in-the-round with the audience seated on both sides of the stage. Students could reach every part of the school under cover.

Structurally the building was an experiment. The skeleton was of reinforced concrete, the floor was of hollow tiles resting on beams. Students could reach every part of the school under cover. The new building consisted of teaching and workshop areas, a theatre, a canteen, a gymnasium and twenty-eight studio flats for students, above which was a roof garden. The outstanding visual features of the main building were a vast glass curtain-wall on the workshop side, and an enclosed two storey bridge spanning a road, in which the administration and Gropius' private practice (later the architecture department) were housed.

Ibid. Whitford

"The enthusiasm for sport reflected a general trend in Germany at the time. What was previously regarded as a pursuit of the leisured class was now seen not only as important for health but as a means of breaking down class-barriers and of making democratic Republicans out of authoritarian Germans. The team was the thing: in soccer as in workshop-production and architecture."

"Teachers at the Hochschule fur Gestaltung were no longer known as 'masters' but as 'professors'. The dual system of Masters of Form and Workshop Masters was abandoned. Trained craftsmen were employed to assist with workshop teaching, but they were no longer treated as the equals of the professors. The apprenticeship scheme continued for some time, however, as did the division of students into journeymen and apprentices. At first students worked for qualifications validated by external bodies, but later for a single diploma awarded by the school itself. The democracy of the Weimar period was abandoned: decisions were now taken by the director alone."

"In Weimar the printing workshop had been devoted to the production of graphic art. In Dessau it concerned itself with layout, typography and advertising. It was run by Herbert Bayer. Much more continued to have responsibility for weaving (assisted by Gunta Stollz, a former student) and Schlemmer for the theatre workshop. The mural-painting and sculpture workshops were run by Hinrich Scheppe and Joost Schmidt respectively. Moholy and Albers taught the volkarks and Kandinsky and Klee their basic seminars in form, which remained compulsory. Gropius who had been Master of Form in the cabinet-making workshop in Weimar, now gave up teaching to concentrate on architectural commissions and administration."

"Of all the changes at Dessau, the most important was the introduction of a department of architecture. Although it began work only in 1927, Gropius had made plans for it by the time the new building was opened in 1926."

"The new building consisted of teaching and workshop areas, a theatre, a canteen, a gymnasium and twenty-eight studio flats for students, above which was a roof garden. The outstanding visual features of the main
1. Exhibition
2. Entrance/Assembly Hall
3. Stage
4. Cafeteria
5. Kitchen
6. Carpenter Studio
7. Machine Room
8. Classroom
9. Health Room

Ground Floor Plan of the Bauhaus Dessau showing Public Spaces

Ground Floor Plan of the Bauhaus Dessau showing Light Quality
First Floor Plan of the Bauhaus Dessau showing Public Spaces

First Floor Plan of the Bauhaus Dessau showing Light Quality
1. Weaving
2. Foundations Workshop
3. Teaching Room
4. Administration
5. Director's office
6. Library
7. Staff Room
8. Classroom
9. Dormitory

31. Second Floor Plan of the Bauhaus Dessau showing Public Spaces

32. Second Floor Plan of the Bauhaus Dessau showing Light Quality
Crown Hall - Illinois Institute of Technology IIT
Chicago, Illinois
Mies van der Rohe, Architect
Building completion August 1956

It is important to note that this building was designed by Mies in his later stages of modernism. It is not of the same design intentions like of those in the 20's exhibited by the Barcelona Pavilion. As Colin Rowe has pointed out in "Neo-'Classicism' and Modern Architecture II", written in 1956-57, that at this stage of Miesian design the relationship of the column to the enclosure has conflated to be one and the same, an implication of an "autonomous structural cell", as Rowe puts it. In terms of design strategy, the structure itself, is given to be the most important layer, all other considerations subordinate to it, left to be found within the limits of the pre-ordained structure/skin. This physical manifestation fits Mies' theoretical position stated in his 1950's address to IIT in which he alludes to the sanctity of the structure:

"Technology is rooted in the past. It dominates the present and tends into the future. It is a real historical movement - one of the greatest historical movements which shape and represent their epoch. It can be compared only with the Classic discovery of man as a person, the Roman will to power, and the religious movement of the Middle Ages. Technology is far more than a method, it is a world in itself...where it is left to itself (technology), as in gigantic structures of engineering, there technology reveals its true nature. There it is evident that it is not only a useful means, but that it is something, something in itself, something that has a meaning and a powerful form - so powerful in fact that it is not easy to name it."

This thing that one cannot name, Mies' clear allusion to the god-like quality of technology, is present in the classical roots of Crown Hall. This seems to match a description of the architecture school at IIT, as "monastic". The isolation of Crown Hall both physically and philosophically is reinforced by the presence of many faculty who have received their architectural education solely at IIT. Of course this lends itself to the school's master-apprentice relationship like those of the craft guilds between faculty members and students. But is there a physical manifestation of this guild society? One may be able to look at the highly crafted 'details' of Crown Hall as it is in accordance with Mies' minimalist asceticism, for up close that is all there really is to look at - a focused attention on the details. The workshops are in the basement as are all the classrooms and offices. Apparently with the Mies curriculum, students did not encounter architectural
Entrance to Crown Hall, design until the fourth year of study, does this mean that all classes for the first three years were held in the basement, emerging finally in the light of the main floor upon one’s final year(s)? Here’s the curriculum:

First year - freehand and architectural (mechanical) drafting courses
Second and Third year - visual training and construction courses
Third and Fourth year - planning (not like city planning - but making floor plans, "the plan being the functional arrangement of architectural space")
Fourth year - architectural design

Brown states in his article three basic Miesian values found within the IIT curriculum: classical order and form; craft technique; and concern for an ultimate moral and spiritual order.

"Wherever technology reaches its real fulfillment, it transcends into architecture. It is true that architecture depends upon facts, but its real field of activity is in the realm of significance. I hope that you will understand that architecture has nothing to do with the invention of forms. It is not a playground for children, young or old. Architecture is the real battleground of the spirit."5

The design of the building itself does affirm Mies’ commitment to classicism in the symmetrical spatial distribution of both floors, the axial entry sequence, and the six foot platform of which the main floor sits upon. The building is minimal of course with a willful asceticism.
37 Main Floor Plan of Crown Hall showing Public Spaces

38 Main Floor Plan of Crown Hall showing Light Quality

39 Front Elevation of Crown Hall

40 Side Elevation of Crown Hall
School of Art and Architecture, Yale University
New Haven, Connecticut
Architect: Paul Rudolph (dept. chair)
Completion August 1963
Gross area: 117,575 SF

This building probably contains the most program vs. square footage of buildable area - which may explain the resultant 'packed' arrangement of program. One need only look at the light quality study to see how problematically dark this building is. The basic form organization is based on four intersecting bars and I believe the bars are sized according to the space requirements for 2 sets of drafting table plus layout table combinations and circulation. The four bars create a larger space in the center, very courtyard like but filled with program, thus 'packed' — only the 4th floor - architecture receives skylights onto its 2 story space. The four bar super-structure defines the limits of the building, the basement floors are the only spaces relieved of the stringent confines of the superstructure.

Art and architecture are united under one roof - but that's about it. This building like some others mistakenly assumed that programmatic adjacencies would beget the 'bringing together' of different disciplines. Continuous space exists most fluidly between the faculty and administration offices with the exhibition space on the first floor and on the fourth floor of architecture. Other than that access happens in fire stairs. The student lounge is stuck in a dark corner on the first floor cut off from any reasonable traffic/use pattern and the mini-lounges are equally dark located on enlarged landings in the stairwell, again cut off from any other space. The roof is given over to the painters, but the continuity in space is lost for the light and continuity in the architecture floor.
"In the words of the Architect, the function of the building is to "excite and inspire the occupants", and to teach Architecture by displaying the very essence of the Art of Design."

"The school gathers all of Yale's student Architects, Planners, Graphic Artists, Painters and Sculptors under one roof. The disciplines are layered one above the other..."

"The Art and Architecture building ultimately developed out of six designs by the Architect. The first scheme was felt to be inappropriate for the corner site. The succeeding schemes were all variations of the overlapping pinwheel."

"On the fourth level is the most dramatic space of the building; architectural studios are on five levels, each connected by a few steps (one for each year of the curriculum); with its 22 feet high center, one gets the impression of a big room for the exchange of ideas. One level above runs two parallel mezzanines connected by a bridge. Dramatizing this space are two skylights soaring as much as two stories high. On the sixth and seventh floors are located the painting and graphic arts studios "to give the best possible light". Finally the penthouse is occupied by an apartment for guest critics and a terrace which offers dramatic views of the Yale campus and town."

Notes:
from Sam Zaki Simaika: An International Survey of Selected Schools of Architecture:

"In the words of the Architect, the function of the building is to "excite and inspire the occupants", and to teach Architecture by displaying the very essence of the Art of Design."

"The school gathers all of Yale's student Architects, Planners, Graphic Artists, Painters and Sculptors under one roof. The disciplines are layered one above the other..."

"The Art and Architecture building ultimately developed out of six designs by the Architect. The first scheme was felt to be inappropriate for the corner site. The succeeding schemes were all variations of the overlapping pinwheel."

"On the fourth level is the most dramatic space of the building; architectural studios are on five levels, each connected by a few steps (one for each year of the curriculum); with its 22 feet high center, one gets the impression of a big room for the exchange of ideas. One level above runs two parallel mezzanines connected by a bridge. Dramatizing this space are two skylights soaring as much as two stories high. On the sixth and seventh floors are located the painting and graphic arts studios "to give the best possible light". Finally the penthouse is occupied by an apartment for guest critics and a terrace which offers dramatic views of the Yale campus and town."

45. Section Perspective of the Art and Architecture Building
(drawing from Paul Rudolph: Drawings for the Art
and Architecture Building at Yale 1959 - 1963)

Note: plan underlay and sections from An International Survey of Selected Schools of Architecture
Sam Zaki Simaika, An International Survey of Selected Schools of Architecture
(College Park, Md. 1978)
56  Third Floor Plan showing Light Quality

55  Third Floor Plan showing Public Spaces

58  Fourth Floor Plan showing Light Quality

57  Fourth Floor Plan showing Public Spaces

59  Fifth Floor Plan showing Public Spaces

60  Fifth Floor Plan showing Light Quality
The BAC is probably the most straightforward building and program studied in this thesis. The school has an open-door policy for students and faculty, work in the profession is mandatory, and the tuition fee is nominal. The building with its great urban location in the Back Bay, adds to the life on Newbury street. The exhibition space on the ground floor meets the street like the shop windows associated with some of the gallery spaces nearby. The library and courtyard located on the roof are a wonderful gesture to the quieter public spaces. The basic design strategy is reasonable in its location of a core of service spaces backed up against the firewall allowing the main spaces to be free, facing the street. At the time of the competition in 1963 the school did not yet have an accredited program. The competition brief required that the design proposals be able to accommodate rentable office space as a means to help pay for building costs. Thus this building was designed for present and future uses from the outset. Like the AA, the BAC exist in a building that can accommodate more than just the life of a school of architecture, and I think that is a good thing.
Founded in 1889 as the Boston Architectural Club - "...a place where local practitioners could meet informally and socialize, mount exhibits, and conduct lectures open to a public interested in architecture." Soon there were evening classes in pen and ink drawing and watercolor taught by architects for the benefit of their draftsmen. Eventually courses in structures, design and architectural history were added.

In 1944 The club reorganized as the Boston Architectural Center, with a curriculum of architecture study. In 1971 its architectural certificate program received its first accreditation from NAAB and in 1979 it became a degree granting institution.

Admissions are on a first-come-first-served basis to anyone with a high school diploma. Tuition is nominal compared to most architecture schools. The faculty are a volunteer group working for free.

"Like the students, teachers have open admissions. Most of them come to the BAC on their own to volunteer. They match up their interest in teaching a studio course with the BAC’s requirement that students complete a range of design projects in housing, commercial buildings, community facilities, and urban design... The focus of the course’s content, its ideological tack, and how the course is conducted are totally up to the instructors..."

"The student’s work in architecture offices is considered an integral part of the curriculum... Periodically students review with Brown (work curriculum coordinator) what their duties and responsibilities are at work, what they’re learning there, and how their studies at the BAC are contributing to their job performance."

There is a certain underdog mentality with the students at the BAC, they have the reputation of being hardworking technicians, the “backbone of the profession”, with a feeling of being draftsmen more than designers. Also of note, because the school is essentially a night school with studios meeting only three hours once a week, the BAC does not have studio as the social core of its institution.¹

¹ Michael J. Crosbie, "’Anyone Can Walk Off the Street’", Architecture (August 1987) v.76 no. 8 pp. 30-35
68 Longitudinal Section of the BAC

69 Cross-Section of the BAC
Ground Floor Plan of the BAC showing Public Spaces

Ground Floor Plan of the BAC showing Light Quality

70 Ground Floor Plan of the BAC showing Public Spaces
71 Ground Floor Plan of the BAC showing Light Quality
The Architectural Association - AA
Bedford Square, London
1971 Alvin Boyarsky (chair)

The AA is located in Bedford Square, across from the British national museum. It resides in what used to be three adjacent townhouses. There is nothing on the outside to distinguish its presence on the square, the only real sign of the activity inside are the students with portfolios and models getting in and out of cabs on the street or hanging out by the entrance. The atmosphere at the AA is intense, it is world renown in architectural circles not only as the anti-establishment, but also for its bar. Unlike any architecture schools studied in this thesis, Boyarsky had materialized the social aspect of architecture. At the AA there are no studios in the main building, but there is a bookstore, a cafe, a bar, a place for lectures - and all are open to the public.

Spaces are cramped or cozy depending on your point of view. The staircase is residential scale, (meaning you can barely pass by another person going the opposite direction), the lecture hall is the size of an extra large parlor, and there are people everywhere. This social aspect of architecture is about great places for people to meet, discuss items of interest or just have a cocktail. One may call it elitist, it has had that reputation, but there are so many truly interesting things going on in this school that it deserves a closer look.

‘Interesting’ is the key word, fashionable may be one interpretation as well, for faculty - tenure is not an option. Under Boyarski, instructors stayed as long as the students were interested, and students were able to take the classes they wanted as long as the instructor was interested. An interesting portfolio and an interesting presentation of the student’s persona is essential in securing a seat in any desired class. It certainly puts the pressure on the students to have outstanding portfolios and to be articulate about their interest. The instructors as well need to ‘attract’ students to their course offerings for there are no required courses. It’s a system that may resemble a job search or a dating game more than a typical class registration. It definitely protects itself (the school) from ‘dead wood’, but it does come with the cost of losing faculty and studies which are not yet in vogue.

The AA has no studio space, in the words of Boyarsky,

“The students work at home on their own, with their own music and apples in the refrigerator. I think that students working together in large studios is one of the most stultifying things that you can imagine...”
So the students cart about their drawing and well-boxed models to the AA from home to meet with critics. At some schools, the studio process is the gauge by which the student is measured, work ethic, team work, cooperation, may all factor into the judgment by the professor. At the AA, these things cannot (or perhaps do not) want to be observed. The drawings, models and verbal presentations are the focus. The AA files publishes and promotes the work of its students and faculty, being presentable is important. One can look to those associated with the AA to see what I mean. Leon Krier, Peter Wilson, Rem Koolhaas, Zaha Hadid, Charles Jencks, Bernard Tschumi, Peter Cook - all of these famous architects are more widely known for what they do not build, but what they have drawn, imagined, or written about and it should be noted that flamboyant avant-garde personalities dominate this group.

Is there a connection between this type of curriculum and values with the form at the AA? Well first of all, places for presentation and for meetings (chance and planned) are more important than places of work. A fashionable highly urban address in the heart of London is more important than cheaper space elsewhere. So it seems that this school is actually one of the clearest examples of form relative to values, and it is probably due to a limited site and a limited budget. In dealing with tight constraints, one has to decide what is most important.

Notes:
"Unlike any other architectural school in the world, the AA offers a culture of architecture rather than an institutional environment..."

"The AA lacks all the things that other architectural schools spend so much time anguishing about: There is no curriculum, there are no studios, there are no exams, the teachers work. The structure of education depends very much upon the motivation of both the students and the teachers, what Boyarsky would call a sort of "Jeffersonian democracy" that allows maximum autonomy, with maximum choices, and minimum interference. The key to the program is the unit system. At the beginning of the term each unit master presents a platform of issues and methods that will be part of his or her research during that period, and the students then decide which unit best suits their interests. It is a highly competitive process and insures that the 25 units maintain their differences. The student works in private and arranges to meet individually with the unit master and with the other teachers that the leader has hired as part of his team. The unit meets for seminars and at appointed moments has a jury to review the work. During five years of study a student will have had his or her work discussed in public at least thirty times by what Boyarsky calls an "international convoy" of architects and critics."
Boyarsky:

"People always turn to the AA looking for a glowing LA sunset because we're set up as the anti-statement to the boredom and disappointment which exists universally in the world of architectural education. It's hard work on the part of the staff, students, and service people alike to maintain standards in what we do. The idea of AA at the moment is one based on the participation of teachers with something urgent to discuss and to research.

"...we set up the unit system whereby each of the Unit Masters had to attract the students with a program of their own making. Suddenly, people with great intelligence and potential who came through the sixties in London were faced with the question: "What do you stand for?" There was this incredible burst of energy, theoretical positions were assumed, enormous rivalry emerged between the teachers, and students were able to select a series of workshops from appetite and interest and help develop the ongoing propositions. Added to that was the tough assessment of portfolios - students could not get into a unit of their choice unless they had something to show. Teachers in the end had to keep performing, because if students didn't want to work with them, they would have to resign...There's no tenure... - the London scene is loaded with wet "Ingleses", worse than any other species anywhere, who still think that the Welfare State should be put back in place and that the AA should be totally concerned with town planning and housing. That's the old post- WWII generation..."

"We are seen to be spending money - on exhibitions, publications, international lecture series...We throw enormous parties and we dress up...Basically, the AA is a club, you walk in the door and there's an exhibition gallery to the left, a lecture hall to the right, a reception desk. There's a bar, a members' room, the library on the main floor, downstairs there is a bookshop and a restaurant and it's all public..."

"There are no studios. This is absolutely the way it should be...The teachers see students by appointment, either at home, in their office at the school, or at the student's home - however it works out."
Gund Hall, Graduate School of Design GSD
Harvard University
Cambridge, Massachusetts
John Andrews designer
Completed June 1972
Gross Area: 154,000 SF

The ultimate in bubble diagram design is Gund Hall. The building design is dominated by the studio space where the primary instruction was to take place. The studio area is a column-free unified space defined by trays anchored by faculty offices, and roofed with a 3-D truss system spanning the entire building. The free space with no walls were to be symbolic of the triumph over “physical barriers to interdisciplinary pursuits.” The ‘support’ spaces, the L-shaped bar that houses all the other functions besides studio are mediocre at best and inhumane at its worst. Some faculty offices have no windows to the outside and those that do have windows have no operable sash. The lounge spaces, which have been placed at the elbow of the ‘L’, the intersection of the studio space and the support spaces, are deep and dark recesses. Who would want to be there? Anyway, also subordinate to the trays are the classrooms tucked into the section. The height of these rooms are constrained by the tray height dimension making for awkward spaces with minimal natural light yet too low for showing slides adequately. In terms of the site, Gund Hall is a free-standing building, which happens to fit the financial reality of the school (each school being responsible for its own fund raising). It sits on the same street as the Carpenter Center, the Busch Reisinger Museum, and the Sackler - all much more public buildings than the quad buildings in the yard (by having events that draw a larger audience, art, film, lectures, exhibitions, workshops, etc.). Piper auditorium is well located off of the entry gallery space, unfortunately the spatial understanding inside the auditorium resulted in a box. The addition of the coffee shop was a good move during the renovation providing a place to meet besides one’s drafting desk.

Notes:
The following from An International Survey of Selected Schools of Architecture:

“Gund Hall groups the faculty and staff of the School of Design together for the first time in nearly half a century. Centralizing such facilities as the studios, workshops, laboratory for computer graphics, audio-visual center,
offices, classrooms, library and auditorium, it allows for intimate collaboration between the various professional departments and their satellite resources.

The new building symbolizes the teaching philosophy of former Dean Jose Sert, who tried to demolish the physical barriers to interdisciplinary pursuits. "In at least one respect, this building is symbolic of our own practice; it houses a variety of disciplines, or interests under one roof where constant communication and interaction are encouraged," said John Andrews one of Sert's most promising offspring.2

The following from GSD News Sept. 1983

"The open studio structure was specifically designed to reflect an integrative approach to the study of the physical environment and to embody the idea of collaboration. There were to be no walls - physical or psychological - to separate the architectural faculty and students from those in landscape architecture, planning, and urban design. The organization of the building around the studio reflected the importance of the studio instruction of the curriculum in the 1960s. Classroom teaching - be it in the form of lectures, case-studies, or seminars - was then considered to be of secondary import."3

From Evaluation: No one is Neutral About Gund Hall by Nory Miller

"The original design for the ground floor was an open paved street off which were entrances to Piper, the studio, the library, and elevators. The design was rejected, some say because of the climate, some because Gund is on the edge of the campus and a walk through is not exactly a necessity. Baldwin says that the architects wanted an all night restaurant in the building, office space to lease to practicing architects and a supplies store to give life to the street. These were rejected as non compatible uses. The open street was turned down he says, for security reasons and because the interior space of the lobby was needed."4

Jerry Soltan (chairman of architecture when Gund Hall was built): "The sketch project complied with the priorities of visual contact between students, the library as a symbol, an imaginative technological conception, etc., but not many other needs that are so basic. The mistakes - not enough visual access to the outer world or clear communication of the circulation pattern, not providing for environmental needs, inattention to orientation to the sun - were noticed from the start but never corrected."5

Charles T. Stifter (ex-Harvard architecture professor, was faculty liaison to architects when the building was built): "Harvard got what it wanted, a powerful image. It reeks of success and money and courage."6

note: plan and section underlays from An International Survey of Selected Schools of Architecture

1 Sam Zaki Simaika, An International Survey of Selected Schools of Architecture (College Park, Md. 1978)
2 Ibid. Simaika
3 "Gund Hall Renovation Near Completion" (322 News Harvard University (Sept./Oct. 1983)p. 1, 8
4 Nory Miller, "Evaluation: No One is Neutral about Gund Hall" A.I.A. Journal (January 1979) v. 68 n.1) pp. 52-61
Section of Gund Hall showing Light Quality
During the middle of the summer preceding the ‘thesis semester’, I was still floundering with my site selection. My research on existing architecture schools narrowed down the possibilities to potential sites around Massachusetts Avenue on M.I.T. property. From my research I observed that an actively engaged street edge seemed to allow for a more public presence of a school in the city. The Architectural Association on Bedford Square in London and the Boston Architectural Center on Newbury Street are good examples of that street condition. All that I had decided upon at that point was to have an edge to the larger ‘public’ of the Boston area. While still debating upon a site, I met with Stanford Anderson one afternoon to discuss the beginnings of my thesis and the site selection. Halfway through our meeting Stanford said to me, “Kari, you either have to ‘go fish’ or ‘cut bait’ on this one.” This was a significant and timely suggestion. Stanford argued that I either deal with the socio-political reality of M.I.T. which meant I accepted the existence and present location of Rotch library (as I had originally intended), deal with existing facilities, accept the general move of the department back to the main building and expanding into building 9 etc. - or put those issues aside (as Stanford said, “for it presents many difficulties”) and design my ideal school. I had to make a choice and this is where the relationship of form and fundamental beliefs began to show itself. I chose to pursue a site that had more to do with the present socio-political reality of M.I.T. for it coincided with my beliefs about what an architect is - which is an active participant in the present and future of a particular place.

**Situation limits**

Building 9 on the M.I.T. campus and the surrounding area is the site. Some ‘givens’ of the situation I accepted were:

- Rotch library remains in its present situation
- The Department will be growing in a general north-westward move from building 7
- NS1-52 as home of the architecture studios will not exist
- Massachusetts Avenue transforms from 6 car widths to 4 car widths to allow for the widening of sidewalks and the addition of a bike lane as part of a Central Square improvement plan currently being discussed.
The choice made the site available to myself as well as my committee and to anyone else who has been to M.I.T. To have a site that my committee could physically, mentally, and over time access, meant that the power of site observation was had by all and contributions could be made by many. The site itself can be the grounds for discussion and debate. It is in the specifics of a place that the quality of good conversations are to be had. This is true because real sites present real issues that have real consequences and can engage all inhabitants of a place in meaningful dialogue.

Now there is a difference though, in site choices for studio problems between: a real site that can be experienced, a real site that cannot be experienced, and a fictitious site. The difference between a real site that can be experienced and a real site that cannot be experienced is held in the distribution of power. There is a significant power imbalance in the studio when the real site offered is one that cannot be experienced. Experience is then replaced by an abstraction of the site, usually visual and held frozen in time. The information is edited by the photographer’s eye and the instructor’s memory. What color is the light? How do you feel in that place? What does it smell like? Is it hot? Does the breeze change directions? What cycles exist that are non-visual? What larger patterns exist? The problem is that total authority over the site is held by the instructor. The opportunities for discovery at the site level are usually limited to scenographic or plan driven ideas. How can one engage in the physicality of building and the synthesis of form if experiencing the physicality of the site is impossible and only a reductive understanding of the site is offered? For the sake of clarity, there is yet another distinction to be made which is the condition of a fictitious site.

A real site demands the examination of things as they are and provides a field of potentials to be discovered. This attitude requires respect and humility for the things that one cannot change and curiosity and courage to seek out the things that one can change.

"You don't need a weatherman to know which way the wind blows" -Bob Dylan, from Subterranean Homesick Blues
The Intersection of Two Major Paths

At the site, building 9 and the surrounding area, is an intersection of two major paths. The path of the greater Boston area represented by Massachusetts Avenue and the main path of the M.I.T. community.

Along Massachusetts Avenue are a number of episodic ‘moments’ that make up the identity of this street. These moments along Massachusetts Avenue are, beginning from the south: Symphony Hall, Berklee School of Music, the Charles River, M.I.T., and Harvard University. Within M.I.T. there exist a major path taken daily and hourly by its inhabitants. This path goes east-west across campus and it allows for winter and summer options. In both cases the path is displaced laterally when there is either a change in the ground plane height (section) or at an intersection with another path. From observation and experience we know that these places along the path where there is change (section or intersection) natural stopping points and meeting places occur.

M.I.T. is notorious for not having decent places to eat lunch either alone or with friends. The dining hall at the Stratton student center is a poor excuse for such a potentially enlivened meeting ground. The Stratton dining hall is one big space with a mezzanine level wrapping around it. The space is simply large and impersonal, it feels more like a dining hall for a convention than for daily use by students, faculty, and staff. At the Architectural Association (AA) in London, much attention is given to amenities such as a bar, a cafe, and a member’s room. At the AA, it is in those social settings that people meet to discuss work, gather in groups, have a drink while waiting for friends, or even sit alone reading a book. The AA is usually packed with a lively mix of students, faculty, staff, and outsiders and it’s difficult to discern the difference. Back at M.I.T., the food trucks begin to help provide lunch options, but the physical form of M.I.T. hardly allows for a good place to take one’s boxed lunch, nor does it allow for a sense of territory that enables one to locate friends in a usual place. In spite of the existing conditions, to eat lunch, students, faculty, and staff choose to locate themselves along the main path of M.I.T. at places with: sectional change or intersection, availability of food, natural light, and protection from the wind. This observation is critical of the existing condition but sees great potential in the existing pattern of inhabitation as something to build upon rather than subvert.
Nearer to my site, the main path of M.I.T. literally collides with the path of the greater Boston area. One descends down the steps of lobby 7 only to be abruptly halted by cars and trucks whizzing by. From my notebook of field observations, this intersection has 20 - 40 people crossing Massachusetts Ave. every 25 second interval. It seems as though even the traffic engineer saw the almost equal intensity of the two paths and gave each equal time to cross one another. The reason why this intersection is so intense is that M.I.T. is generally subdivided in two parts. Housing, recreation, and amenities like food, barber shops, record store, coffee shop, etc. are located on the West side of campus while the rest of the Institute is located on the East side of the campus. Also of note is that M.I.T. is made up of a series of internal corridors that allow one to get across campus, from the subway stop at Kendall Square to Lobby 7 without ever having to go outside and face a harsh winter storm. This system of movement is stopped by the inability to cross Massachusetts Ave anywhere except outdoors at grade.

In the design of the school, the first moves were to understand the larger patterns of movement relative to the site. The additional paths that I propose are displaced off the main path and under Massachusetts Avenue through a tunnel filled with light and activity. This by-pass instead of collision allows for continuity across Massachusetts Ave without changing the existing flow of the City. I propose that the architecture school be located at this intersection of two major paths so as to allow for a place of dialogue within the Institute and to allow for a place of dialogue within the City.

Into the Site
From the outside
The parts make the whole
And the whole is a part:
Movement relative to the larger,
Stability relative to the smaller,
Makes Form.

The boundaries enclose the form
And the form becomes boundary:
Seclusion towards the outside,
But openness towards the inside,
Makes Place.

The rules define the similarities
And the differences share the rules:
Sameness in time and space,
Without repetition
Makes Understanding

The site is space and material:
Form, Place and Understanding
Make the Site

-John Habraken
Transformations of the Site

1 John Habraken, Transformations of the Site 3rd revised ed (Awater Press 1988) p.5
Looking into the building at the intersection,
(model photo by Shaun Roth)
Dialogue Within the Institute

Dialogue within the Institute means an exchange of ideas and concerns, it is the starting point of any interdisciplinary work. It is meaningful conversations that can lead to the understanding of connections. To allow for this exchange is fundamentally democratic and to engage in dialogue between disciplines is not only democratic but it is ecological. David Orr proposes in his book Ecological Literacy, six foundations of ecological education:

1. all education is environmental education
2. environmental issues are complex and cannot be understood through a single discipline or department
3. for inhabitants, education occurs in part as a dialogue with a place and has the characteristics of good conversation
4. the way education occurs is just as important as its content
5. experience in the natural world is both an essential part of understanding the environment and conducive to good thinking
6. education relevant to the challenge of building a sustainable society will enhance the learner’s competence with natural systems

"If these can be taken as the foundations of Earth-centered education, what will be said of its larger purpose? In a phrase, it is that quality of mind that seeks out connections. It is the opposite of the specialization and narrowness characteristic of most education. The ecologically literate person has the knowledge necessary to comprehend interrelatedness, and an attitude of care or stewardship. Such a person would also have the practical competence required to act on the basis of knowledge and feeling. Competence can only be derived from the experience of doing and the mastery of what Alasdair MacIntyre describes as a “practice”. Knowing, caring, and practical competence constitute the basis of ecological literacy."

During my studies at M.I.T. I have experienced a taste of interdisciplinary work and I can see the potentials that lay ahead. Interdisciplinary cross-pollination can result in work that is informed and can be tested by other fields of knowledge, it allows for others to enter the debate and engage in the design and responsibility of our shared built environment. Some of the most stimulating and meaningful experiences I have had at M.I.T. have been attending lectures and engaging in discussions with: Landscape Architect Kristina Hill, a Ph.D. candidate at the GSD and part of the M.I.T. DUSP faculty, breaking new ground in ecological planning; Jim Axley, formerly of the Building Technology group teaching the physics of energy and form; Susan Peterson, a civil engineer designing solar aquatic waste water systems; and Krzysztof Wodiczko, public artist and current director of CAVS (Center for Advanced Visual Studies) exploring the edges of art and theory in public settings.

There is a fundamental difference between what I have just described as interdisciplinary work and the mere borrowing and juxtaposition of forms and lingo from other disciplines a la Peter Eisenman. For the sake of clarity, one must be aware of the fraudulent claims of interdisciplinary work done in architecture. This occurs when understanding is replaced by a purely abstract, formalistic translation as an interpretation of say, linguistics, psychology, mathematics, etc. To force this kind of abstract game on a site and its inhabitants is a crime against humanity. It is singular and authoritarian. If one argues that this kind of work has a right to exist, than let us argue that it can and should remain in the realm of paper architecture. We must resist that kind of vulgar definition of the interdisciplinary work. True interdisciplinary work requires the exchange of in-depth knowledge between disciplines, it demands team work, it allows for new discoveries, and it shares responsibility.

The beginnings of true interdisciplinary work is already happening at M.I.T.

It is primarily in the design studios and workshops where one is able to struggle with the synthesis of form. I was asked by a researcher doing a study on architecture schools if I felt that there was a split between design work in the studios and other coursework (that being a major complaint of students at most architecture schools). I replied that in a well organized advanced level studio, one has in addition to a design instructor, a group of consultants as well. These consultants bring their expertise with
them into the design studios. Expertise ranges from architectural and landscape history to civil, structural, and transportation engineering, to real estate and development, to urban/ecological planning, to authors, artists, critics, and potential users. These consultants discuss with the student, on the specific terms of their field, the student’s design. Working together as a team they teach each other through design. They gain insights and make new discoveries resulting in synthetic not reductive form.

"...may we not have finally arrived at a time when the several sciences could profit from understanding the peculiar capacity of architecture to invent, define, elaborate, criticize, and question the relationships between human beings, their institutions, and the natural world?" -Henry N. Cobb

Design Intervention

What I propose for the addition to the school of architecture is not a radical split from its past. The addition is based upon observations of existing patterns that have great potential. The pattern of inter-disciplinary work already exists at M.I.T., but only at the administrative and faculty level. It rarely happens at the student level for there is no setting for students to meet casually on the M.I.T. campus. The pattern for involvement in the city and the local neighborhoods already exist in community service programs, public lectures, and open presentations. These events and services are public but accessibility to and identification of their respective locations can be quite intimidating to the outsider rendering them not-so-public.

The design proposal includes an extension of the M.I.T. path as a way to build continuities with the rest of the institute. This proposal builds upon the Institute’s larger pattern of physically linked disciplines. But programmatic adjacencies alone will not allow for an increase in interdisciplinary dialogue. From the research done, both the GSD’s Gund Hall and Yale’s Art and Architecture building were designed with the intention of promoting interdisciplinary work. Both designs were grand gestures to house all the related disciplines under one roof. Gund Hall and the Art and Architecture building both worked off of the assumption that disciplines located side by side or stacked would beget interdisciplinary work. Over time we have observed that this is not true. Part of the problem in both designs is the location of lounges and meeting places. These places of casual meeting are isolated, dark, and not on a main path. The proposal for the addition to the school of architecture at M.I.T. does not rely solely on programmatic adjacencies for interdisciplinary dialogue. Instead, the design goal is to provide places where people want to be where meeting can easily take place. The main public spaces of the addition to the school of architecture at M.I.T. are located in a prime location at the intersection, where the 'L' of the building protects against north winds and opens up to the south for sunshine. Throughout the design, this place will be referred to as the ‘knuckle’.

2Ibid. Orr
Major public spaces are located at the knuckle. The knuckle is formed on two sides by buildings that serve most of the architecture school. Existing building 7 is one edge of definition while the new studio-workshop building defines the other edge. The studio-workshop building bridges an internal M.I.T. street to engage the knuckle and provide an active presence of these activities within the public space of the architecture school. This active presence allows for the identification that this is part of the architecture school and not just a general M.I.T. space like lobby 10 or 7. This identification and territoriality allows an outsider to easily identify and find the architecture school. Identification of and open access to a place is essential in order to be inviting of participation.

Within the knuckle one can find the newly configured lecture hall/meeting room 9-150, major exhibition spaces, a storefront gallery, electronic cafe, coffee bar, and garden. All of these places are spatially continuous allowing for view and access from one level to the next in both plan and section. The light in this public area takes advantage of its southern exposure for active light, filtering the light for gains in the winter and shading in the summer. The effect of the screens is a dappled, broken up pattern of light analogous to the patterns under a tree, not totally shade nor totally sun, and appropriate for tropical plants and humans.

The public spaces within the knuckle have capacity for large events, with definition that allows for the gathering of 200 people, 50 people, 25 people, 8 people, 4 people, while still allowing someone to be there comfortably by themselves. Big parties and events can be held here. Social events are an important aspect of the architecture school and should not be disregarded. Celebrations at the end of the year and rituals like graduation are important markers of time and place. This aspect is continuous across all schools of architecture despite all their other differences. The Beaux-Arts had exhibition celebrations, the Bauhaus was famous for their jazz band and parties, the Architectural Association has a huge year end exhibition/cocktail party, and the GSD is known for their Halloween bashes, etc. All these examples point to the need for events that are not strictly architectural.
Details on the inside

In its current state of existence, lecture hall 9-150 is singular in use, its use being the dissemination of information. Currently we have our departmental general meetings there which really are not meetings after all since the room only allows for one directional communication. The new design allows for multidirectional communication by forming a geometry at the first few rows to be more ‘in-the-round’ to allow participants to engage each other. The newly configured meeting room 9-150 is placed along a path and visible through glass partitions. It reveals to passers-by events of interest and provides a zone of partial commitment that offers viewing into the lecture/meeting space from generous galleries along the path. This zone of partial commitment allows one to observe what’s going on and provides an option to gracefully enter, exit, or just linger for a while. This strategy of the partial commitment zone is used in the design of the major exhibition spaces as well. All the exhibition spaces are along a path, open to view through the use of sectional differences, given enough edge definition to provide places to linger, and always in the presence of natural light.

All of these design moves have the intention of promoting dialogue, whether it be in formal situations like an official meeting or exhibition, or those chance meetings that can happen walking from here to there, just having a cup of coffee, or just hanging out by the steps because it’s warm on a cold day. It’s those chance meetings in the hallway or on the steps that sometimes lead to the most illuminating discussions and insights because dialogue begins with that first ‘hello’. What the architecture can do is make places that allow for this kind of interaction through a range of possibilities.

"melting snow, stream runs freely, finds the edge, engages in quiet conversation"

-Kari Kimura
117 Cross section through Studio-Workshop building

118 Detail - Screens on SW elevation

119 SW Elevation, view from Massachusetts Avenue

120 Opposite page: View of screens from the inside, (model photo by Shaun Roth)
Details on the outside

In addition to providing public spaces inside the building accessible from Massachusetts Avenue, the design attempts to provide for other readings of public from the outside. Continuity of the street wall is made by; limiting the height of the building to be continuous with existing M.I.T. buildings 1, 3, and 7. The Lobby 7 entry and dome are perceivable a half mile away as one drives, bikes, or walks down Massachusetts Avenue from Harvard University to Boston. The wall of the SW elevation is held back by the street to emphasize the Lobby 7 entry at the bend in the road. The rhythm of light and dark created by the pilasters on the elevation of existing buildings 1, 3, and 7 are continued on the SW elevation through the construction of the light filtering screens. On the SE elevation, another opportunity is offered by the bend in the road. This allows the addition to have a side that is frontal to on-coming traffic leaving Boston and is visible across the Harvard bridge to downtown Boston. On this visible face the light filtering screens double as digital information billboards to help reveal to the outside the activity going on inside the school and inside the Institute. At this size, the digital information screens behave more like advertising billboards but it is in the spirit of hope that a re-interpretation of this form could further the notion of dialogue.

The relationship of workplace and public space

For the public spaces to be energized, a respect for the workplace as different needs to be recognized. For most architecture students the studio is their place of work, for the rest of M.I.T. it is generally labs and offices. Because of the current lack of public space, the workplace has become the coffee break hang out, the lunch room, and the gathering point. In an attempt to be both work and public space, the results are neither good workplace nor good public space. I propose that by their differences, the workplace and the public space can complement and support each other in a positive way. The lab is a place of work that requires some degree of privacy for concentration, meditation, and execution of an activity. The public space is its complement that offers meeting places for dynamic interaction and relief from intensely detailed work. When we work long hours, we always find a reason to leave our workplace to 'catch a breath of fresh air'. What we want to experience are differences. Differences in the qualities of place that could be social, thermal, light, air, space, etc. Public space needs to be different than workplace, but understood in terms of the workplace. This is a key point that needs underlining because a failure to recognize both activities together will ultimately sacrifice both work and public life.
Night view of Studio-Workshop building, the dome of building 7, and buildings 5 and 1 as seen from Massachusetts Avenue heading towards Boston, (model photo by Shaun Roth)
Opposite page:
View of Studio-Workshop building and existing building 7 as seen from across Massachusetts Avenue,
(photo by Shaun Roth)
Opposite page:
View of Studio-Workshop building,
knuckle, and existing building 7,
(model photo by Shaun Roth)
Opposite page:
Night view of Studio-Workshop building, knuckle, existing building 7, and proposed tunnel, model photo by Shaun Roth
Night view of Addition, proposed tunnel, and existing building 7.
(model photo by Shaun Roth)
I propose that the design for the architecture school at M.I.T. first of all be considered an addition, not a complete and isolated self-sufficient building. Part of building 9 and its existing connections to buildings 33 and 13 are kept to acknowledge what in fact is reasonable about existing building 9 which are essentially its office spaces.

The addition respects the existing continuity of connected buildings and maintains the existing connections, it offers some workshops to become part of a community of workshops existing on site (i.e. mechanical engineering machine shop), it depends upon resources distributed throughout the Institute, and it considers studios an extension of the laboratory - a place for work and contemplation, not a show place.

Studios and workshops, as an extension of the laboratory, are places for work. The spaces should not be overly designed as to restrict multiple lab configurations. Location of infrastructure is the primary design consideration. The design for the addition is first of all the lowering of the ground floor to 4 feet below grade to provide a common level for both the existing machine shop in building 35 and the new workshops. Next, deployment of a steel structural frame in a 12' and 28' rhythm, allows for labs and offices of different sizes and provides a zone for infrastructure in the 12' width (because in the 12' span the steel trusses between are shallower than those in the 28' span). Vertical infrastructure is in core units located in the 12' infrastructural zone. These core units are permanent features that allow for change. Located in the infrastructural zone are: plumbing, HVAC, ethernet cables, and vertical access. A variation on the infrastructural core is the vertical core that breaks through the roof for natural light and air.

Workshops are essential because of the kind of work it allows for. Work done in the workshop grounds architecture in the act of making. Appreciation for high craft and respect for the physicality of the work itself is a fundamental aspect of an architectural education that claims to be involved and concerned with reality. For example, if one understands through experience the actual work involved in the making of a continuously curved concrete wall, then perhaps that understanding can influence the choice and deployment of that form for more appropriate situations than a frivolous deployment of geometry on a sheet of paper. Through the creative act of making, students reaffirm their ability as active actors within their environment which can provide the necessary self-confidence to be active citizens and leaders in whatever communities they are part of. Having organized and taken part in two quasi design-build projects at M.I.T., I can attest to the powerful positive energy that is produced during those creative acts of making. It has been empowering for most; to hold a screw gun in hand and a piece of wood in the other for the first time, to be part of a team of designer-builders, and to experience the process of design as it relates to building, from the initial gesture to the completed artifact. There are many lessons to be learned in the workshop, some unavoidable lessons regard ideas about building slack, designing for change, and dealing with unexpected circumstances.
Related to the notion of workshops being an essential part of the architecture school is an argument of education being a matter of "Skill vs. Talent".

<table>
<thead>
<tr>
<th>TALENT</th>
<th>SKILL</th>
</tr>
</thead>
<tbody>
<tr>
<td>natural gift</td>
<td>applied knowledge</td>
</tr>
<tr>
<td>genius</td>
<td>synthesis</td>
</tr>
</tbody>
</table>

If one believes that an architecture school is about culling out the talented, then the role of the educator is that of the talent scout, the educator is thereby not judged by their ability to teach, instead they are judged by their ability to associate with the ‘genius’. In turn the ‘chosen’, successful students can only lay claim to their privileged position by accepting the talent scout’s position of authority and accepting the power structure as it is.

If, on the other hand, one believes that the architecture school is about skill, and that there are in fact principles that can be taught, then educators have a responsibility to teach through lessons and exercises promoting practice, discipline, and discovery. Success or failure cannot be deemed by the educator. Given the proper opportunity to learn and grow, success or failure becomes the responsibility of the student, and that determination the students will have to judge for themselves.

As one would guess, I support the view that the architecture school is about skills. To teach skills means to enable one whereas to declare talent means control. The discussion about the architecture school has now meandered into the territory of making good citizens, giving responsibility and the power of judgment to students, which of course is possible accepting the holistic view that ‘everything is connected to everything else.’
"What I am concerned above all to do is to resist, theoretically and practically, two connections which are generally made, although not always explicitly. The first is the connection made between a democratic style and low academic standards; the second is that made between high academic standards and an authoritarian style.

Basically, those who make these connections do not conceal their strong dislike of democracy and freedom. It's as if for them democracy were something that had nothing to do with the seminar or laboratory context. It's as if were possible for us first, in an authoritarian way, well mannered, carefully guided and well adjusted, to achieve high academic standards, and then afterwards, with the standards thus acquired, go out there and do our democratic thing.

Democracy and freedom are not a denial of high academic standards. On the contrary, to live an authentically free life means engaging in adventure, taking risks, being creative. It is license, which is a distortion of freedom, that compromises academic standards.

Well, in the final analysis, my experience has always been enriching, and I am comforted by the fact that in the course of it I have never begun from the authoritarian conviction that I have a truth to impose, the indisputable truth. On the other hand, I have never said, or even suggested, that not having a truth to impose implies that you don’t have anything to propose, no ideas to put forward. If we have nothing to put forward, or if we simply refuse to do it, we really have nothing to do with the practice of education. The issue raised here concerns our pedagogical-democratic understanding or the act of putting forward ideas, nor can they refrain either from engaging in discussion with their students on the ideas that they have put forward. Basically, this has to do with the near mystery of the praxis of educators who live out their democratic insights: they must affirm themselves without disaffirming their students. This radical, or substantially democratic, position stands in contrast on the one hand to authoritarianism and on the other to what I call spontanismo.”

Paulo Freire
from Learning to Question

Paulo Freire put forward a position stating that teachers are responsible for putting forward ideas, beliefs, judgments. I apologize to those who think this a rather obvious statement, but at this point in the life of contemporary, post-modern theory, criticism alone dominates discussions. It is disturbing to me to constantly hear complaints of what one is not in favor of without an offering of what in fact one is in favor of. As citizens, teachers and students we have the responsibility to judge for ourselves and to be true to that charge. From my observations the most liberal of educators are not afraid of laying their own position on the line to be taken for what it is. Liberal educators offer a strong position, not a controlling one. A strong position is one that is well founded where the power of the word and actions have conviction. It is not some willy-nilly idea that is put forth ‘just to be clever’. The difference between the two is in the offering of the position. If the position is offered openly with heart felt conviction, then true dialogue is possible. To have strong, stable elements in a field of relativisms means that there are ways for one to help gauge where one is. And isn’t that part of the mission of education, to provide markers on the trail to discovery? And most importantly, democratic educators in light of their position, will always challenge students to ‘judge for oneself’. The key point not to miss in this discussion is something that Krzysztof Wodiczko said to me one day - which was something like this: you must have an opinion, you must take a genuine stand - don’t be afraid - you can always change your mind.
132 Section, Addition to the School of Architecture M.I.T. showing Light Quality

133 Section, Addition to the School of Architecture M.I.T. showing Light Quality
134 Ground Floor Plan, Addition to the School of Architecture M.I.T. showing Public Spaces
School of Architecture M.I.T. showing Light Quality
Level 4

Exploration

Addition to the School of Architecture M.I.T. showing Light Quality
The design of the architecture school has been a true exploration. There were many false starts, sleepless nights, moments of anxiety and panic, unexpected revelations, chance desk crits, and numerous times when I thought I was on to 'something' and had a glimmer of hope that I would get 'somewhere'. Sometimes these uncharted paths that I went down proved successful, many times I just got lost, and then there were the times that I happened upon a significant trail and didn't realize it. Worse yet were the times when I was about to wreck a good trail and fall off a cliff instead. For example the positioning of the school of architecture at the intersection of the Institute and the City, as the title of this thesis states was not at all the written proposal that I submitted at the end of thesis prep.

Before entering into the design stage of the thesis, I had clarified as much as possible through writing what the thesis was about. This was a necessary starting point and it was useful to begin with some focus. Once I began designing, the tools and processes of analysis were given over to form making synthesis, which is a crazy and hopeful conflation of multiple forces on the site producing form. I remember feeling at one point that I had lost site of the thesis trying to deal with some very basic issues like handling vertical circulation and eleven different existing floor heights. It felt like I was more in an M.C. Escher drawing than in a Master of Architecture thesis. At my first committee meeting, I re-introduced the thesis question with a preliminary design. At the time I was still preoccupied with the idea of school, food, and gardens from my thesis prep proposal, but in actuality I had begun to make design decisions based upon the site. I had a poorly organized presentation in which half way through I mentioned the crossing of two significant paths (M.I.T. and Boston). Voila!, Roy's eyes perk up—"that's where you need to start your introduction!" Of course I'm surprised by that comment since I hadn't been thinking along those lines yet. Bill and Stan agree that this discovery needs to be pursued, I realize the significance and agree too. That experience and numerous ones like that begin to show that special quality of design in that it can simultaneously pose questions and possibilities. In design we never know what the outcome will be at the start because designing is essentially an open ended discussion. The qualities of the design problem can be closely associated with what Paulo Freire calls 'problem-posing education'. Freire writes, "Problem-posing education affirms men as beings in the process of becoming - as unfinished, uncompleted beings in and with a likewise unfinished reality... In this incompletion and this awareness lie the very roots of education as an exclusively human manifestation. The unfinished character of men and the transformational character of reality necessitate that education be an ongoing activity.

Education is thus constantly remade in the praxis. In order to be, it must become. Its "duration" (in the Bergsonian meaning of the word) is found in the interplay of the opposites permanence and immobility, which constitutes the situation within which they are submerged, from which they emerge, and in which they intervene. Only by starting with this situation - which determines their perception of it - can they begin to move. To do this authentically they must perceive their state not as fated and unalterable, but merely as limiting - and therefore challenging."

Education remade in praxis is the practical application of a branch of learning. Knowledge itself is only half of praxis, it is only in the use of knowledge that praxis becomes real, where ideas have meaning, and visions become powerful. In fact, this whole discussion has been about relationships much bigger than just the Architecture school, the Institute and the City - essentially all been about life in its messy complexity but beginning from the starting point of place and inhabitation. And for architects especially, I think that is a reasonable place to begin.

This text has served to help me clarify what some of the arguments in this thesis are and to be disciplined in writing out the ideas behind the form. This time spent in the writing had its share of painful moments, but it has resulted in a better understanding of the thesis. It has been almost a month since the final presentation to this day of final publication. I think I am now beginning to understand this quote by William Carlos Williams, that both John Habraken and Wendell Berry have used in their books, which is, "no ideas, but in things." In writing the text of this thesis, I originally began with ideas, subsuming the form under ideas. I had been writing for five days and did not at all feel satisfied with the results, something was not right. Given some time, some good tea, and a chance to reflect, I realized that the situation was being forced, that the form did not allow itself to be neatly subsumed under categories of ideas. Instead, I started with the specifics of the form itself and subsumed multiple ideas under it in order to understand the form. The final version is presented here.

I stated very strongly in my thesis proposal that the judgment ultimately should be left to the thing itself without reliance on a text. And finally, that judgment is yours to make.

Bibliography

Architecture and Architectural Education

- A review of the Boston Architectural Center, its physical setting, its policies and curriculum. Some student projects published.

Bayer, Herbert; Gropius, Walter; Gropius, Ise Bauhaus 1919-1928 1938 Museum of Modern Art, New York
- A catalogue of sorts. This book states the pedagogy of the Bauhaus, showing examples of student and professor work, and describes the personalities, the lessons, and the structure of the Bauhaus.

Boston Society of Architects, Architecture Boston 1978 Clarkson N. Potter, New York, third printing

Boyarsky, Alvin and Design Book Review, "School of Thought: An Interview with Alvin Boyarsky of the Architectural Association" Design Book Review (Winter 1987 no. 11 pp. 8-13)

- Here the meaning of the term "discipline" at IIT, it is an account of Mies as a "master" - the basic structure and values of that educational system and how it fares in 1984.

Carlihan, Jean Paul "The Ecole des Beaux-Arts: Modes and Manners" Journal of Architectural Education v. 33 no. 2 (Nov. 1979) pp. 17-77

- Cobb's lecture topic, "Architecture and the University", used the GSD to illustrate what had become the dominant role of architectural institutions in the United States, "the preparation of students for professional competence". Cobb motions towards an architectural education that moves beyond the confines of the profession and into the university as a worthy move for both.


Croakie, Michael J. "Anyone Can Walk In Off the Street" Architecture 1987 August v. 76 no. 8 p. 30-35
- A review of the Boston Architectural Center, its physical setting, its policies and curriculum. Some student projects published.

- A collection of essays addressing the post-modern condition in architectural education. A powerful call for an architecture of resistance is made here. The relation to architecture education is quite clear - to find, more struggle with suitability in which the conception and practice of architectural education can be liberated.

Engelmann, Christine and Schadlich, Christian Die Bauhausbauten in Dessau 1991 Verlag fur Bauwesen, Berlin
- Good source of drawings and photographs of Bauhaus Dessau


- A meditation on relationships as understood through agreements and limits of situations. A germ of a book that with every reading, new levels of understanding can be reached as tested and compared with life experience.

- A collection of four essays on the position designing takes between people and things. "Sharing" is about societal relationships, "Designing" is dealing with the task and with limits, "Seeing" is somewhere between design, analysis, and synthesis, "Controlling" is a look at the relationship of people and things, things having the power of control.

- A summary of the events that led up to the completion of the Palais des Etudes. Photos and drawings of the main Ecole buildings.

Miller, Nory "Evaluation: No One is Neutral about Gund Hall" AIA Journal v. 68 no. 1 (January 1979) pp. 52-61

Muny, Jean "L'Ecole des Beaux-Arts" Architectural Design 1980 v. 50 no. 1-2 p. 32
- Muny, then current director at the Ecole gives a brief history of the famous academy as well as its current status.


Porter, William "Architectural Education in the University Context: "Dilemmas and Directions" Journal of Architectural Education Volume XXXII, No. 3 (February 1979) 3-7
- Porter examines the relationship of architecture school and the university, he points to the mismatch of the two missions and their structural differences. The questions that he raises address the aims of the architecture school in the larger societal context. For example, some sub-headings from the essay are, "Are the Departments Committed to Social Reform?", "What Is Public Purpose Served?" (by architecture schools). He also suggests directions to pursue, "modeling social diversity, disregarding the notion of 'design', and introducing specialization."


- A history of the transformation of the school of Architecture at M.I.T. Shillabeer quotes the various deans and instructors, describing their curriculum and policy changes and revealing their varied positions regarding the education of architects and their role in society. A quote out of the book regarding Dean Pietro Belluschi "He regarded architecture in its broad, universal context as 'creating the kind of environment where minds and talents may find stimulus, motivation, and a sense of direction.'"

Simaika, Sam Zaki An International Survey of Selected Schools of Architecture 1978 College Park, Md.
- Exactly what the title says it is. Good plans, sections, and photos. Limited access book

Thiel, Philip Visual Awareness and Design 1983 University of Washington Press, Seattle
- An introductory course book in basic visual design skills. Thiel puts forth a basic methodology for design - i.e. identification, specification, hypothesis, simulation, evaluation as a cyclical process. Thiel is adamant about the administration of the course on a non-competitive, cooperative basis, encouraging student "teaching". The instructor's opinion of the student work must be minimized in public while the students are asked to make explicit evaluations of their own work.

Weatherhead, Arthur Chaxon The History of Collegiate Education in Architecture in the United States 1941 A dissertation submitted to Columbia University 1941
- Documentation of the development of collegiate architecture educational from the first schools, M.I.T. of course the first, with an account of all the educators involved, their background and influences, and the continuity and change that evolved up to the end of 1930's. A very revealing text in allowing one to reflect upon the 'traditions' of architecture schools, to understand where these traditions have their roots and where they have really transformed or not.

Whitford, Frank Bauhaus 1988 Thames and Hudson, London
- Whitford traces the development of the Bauhaus, he exposes the questions that were raised at the time - about how art and craft should be taught, what constitutes good design, and what effects the building has on people. This book is a basic summation of the history of the Bauhaus filled with photographs of student and faculty work.
Education and Life in General
Berry, Wendell "The Loss of the University" in Home Economics 1987 North Point Press, Berkeley
• Berry points out the losses to humanity in our age of specialization. The university has lost its mission of producing well-rounded human beings to that of producing specialized "professionals", trained to do specific tasks. He ends with this: "...a university must be interested in the question of the truth of what it teaches, then, for the sake of the world's health, it must be interested in the fate of that truth and the uses made of it in the world..."

• A humble little book that talks about bread making and a basic life approach. "A Composite of Kitchen Necessities" from the beginning of the book says, "...to have compassion, to have respect for fresh foods, for broken bowls, for dirty napkins, and little bugs. To take care of leftovers, not saying, oh that's all right, we have plenty we can throw that away..." and it has the best whole wheat pancake recipe on the planet, of which we have modified and serve every weekend-yum!

• Zen teachings through cooking. No recipes here just an attitude about life in which cooking is part of

• This book is a transcribed dialogue between Freire and Faundez. Themes throughout the book are democracy, liberation, and dialogue as it relates to education. A poetic, thought provoking work.


• A revisit to the antinomy of taste, restated simply: a judgment of taste is based on concepts, a judgment of taste is not based on concepts. This is of course a judgment of the beautiful not necessarily about architecture, but the critique which explores the boundaries provides insights into a world where universal communicability may exists, where positing a judgment (a presupposition of a universal agreement, where in fact we know that not to be true) allows for disagreement, and an opening for dialogue.

• Kristeva discusses foreigners and foreignness as a way to reveal her insights on civilization. She focuses in on the personal - the self and the separation between one's deep sense of being and one's conscious idea of self, and the resultant "strangeness" within. This acknowledgment of one's strangeness is professed as the beginnings to a universality, a new cosmopolitan condition where the acknowledgment of difference is the fundamental element. Differences obviously implies uniqueness and this duality continues in the necessity for separation and union both.

Orr, David E. Ecological Literacy - Education and the Transition to a Postmodern World 1992 State University of New York Press, Albany
• Orr presents the dilemma of sustainability from the beginnings of the definition itself to strategies, economic, political, religious, and their underlying theories of mankind. Fantastic bibliography and reading list included.

• The I Ching is about change and transformation, it is about a dynamic interplay of the forces of nature - which include mankind.