

**Memory and place:  
A renovation proposal for the Armory Hall**

by

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## CHAPTER 1: INTRODUCTION

### Intention

The intention of this thesis is to explore how a place functions as a memory system in general and how the same issue is addressed in the adaptation of old buildings in particular. The result of the thesis research is applied to the search for a renovation plan for the Armory Hall at Iowa State University, which serves as a case study.

With the enthusiasm for a "meaningful" architecture after Nineteen-Sixties, more and more architects and theorists begin to work on the subject of environmental memory. Aldo Rossi, Robert Venturi, Charles Moore, and Kent Bloomer are several among them. However, the exploration of the issue is still in its preliminary state. On one hand, people have been taking different approaches to attack the issue without enough consciousness of the others; on the other hand, their approaches are not yet mature. While many architectural projects have some dream-like or other-world looking and remain on paper forever, many theoretical writings lack a logical and systematic approach to the issue. Thus, there is a need to review the exploration of the issue and to conduct an in-depth research.



The adaptation of old buildings to new uses challenges the architects in unique ways. Not only must they solve the usual problems under an entirely different set of constraints given by the existing structures, but also they must address such issues as history, memory, or culture brought out by the combination of the old and new.

The adaptive reuse of old buildings is the highlight and characteristic content of the current movement of historic preservation. Together with Pop Art, Post-Modernism, and many other cultural phenomenon, the current movement of historic preservation begins in 1960s, as one phase of the radical social changes taking place at that time. Thus, a study of the current historic preservation as constructed by the various economic, political, and ideological forces since the Nineteen-Sixties

helps us understand what the post-Sixties culture will bring to us and how we can do in response to it.

Personally speaking, remodeled buildings have long been very charming for me. For a long time I could not find out what builds up the breath-taking charm until one day I accidentally put the two issues, adaptation of old buildings and environmental memory, together as the subject matter of my thesis. At that moment I realized that the charm of a piece of rusticated wall, framed by a large area of glass, came from an invisible dimension of time and a sub-consciousness of memory. The reading of the wall and glass bring us beyond these things in themselves and on the way to a limitless tour. It is a much deepened experience of time and space which gives us lasting feeling of beauty. This insight on the intersection and collision between the old and new, the limit and limitless, and the physical and metaphysical, is the point of departure of my thesis.

### **Problem Statement**

The purpose of the case study is to find a way to rehabilitate the Armory Hall and to have the new Armory become a memory system, which honors the legends of Iowa State University and the building itself, houses activities that will generate future memories through time, and enlightens the consciousness of the flow of time through the abstract expression of memory.

The Armory Hall was built to facilitate and mark a tradition of Iowa State University, the ROTC (Reserve Officer's Training Camp). Going far beyond its original intention, it has been providing space for many other university activities. Over the years since it was finished in 1921, the Armory has witnessed the national stock shows, the Nite Shows in Veishea, basketball games, concerts, Christmas celebrations, etc. In particular, thousands of Iowa Staters both began (in freshman convocation) and ended (in graduation exercises) their days at Iowa State University in the Armory. The Armory Hall is therefore a place of lots of memories. It should be protected from its aging, and the memories echoed from it should be preserved and honored. To preserve and honor the memories of the building and the university is the first way through which I will define the memory system of the Armory Hall.

It is surprising to learn that the current Master Plan of Iowa State University plans to demolish it. The decision neglects the current passion for historic preservation on one hand, and the limitless potentials suggested by the huge space of the building

on the other.

The contrast between the excellency of the modernist architecture itself and its social failure in many cases is educational. Today, people are more willing to believe that the success of a built environment is dependent on people's interaction with it through time. The new value is especially true when the built environment is every-day-based. Not only should a place be visually comfortable, it must program the daily lives sensitively. The experiences in a place with such virtues deserve remembering. Thus, every successful place, from the new point of view, should be able to accommodate positive memories over time and become a memory system. The quality of the memories happened in a place becomes one of the criteria for its success. To search for some new uses for the Armory that will generate memorable daily lives is the second way through which the memory system is defined.

The form of the Armory Hall, together with its memorable history, gives the building a memorial nature which invites me to enhance it in the remodeling plan. The strategy I choose to achieve this, in response to the theme of my thesis, is the abstract expression of memory, which is the third way to define the memory system for which I am struggling.

## **Methodology**

The research of the thesis takes two steps: the literature review on related issues and documentation of the information related to the problem.

The thesis accepts the theories and attitudes of the current movement of historical preservation. Thus, the first component of the literature review is on this movement.

The second component of the literature review is on the nature of memory on which the issue "environmental memory" will be based.

The third component is the writings and works on environmental memory on which my own theoretical position is built.

The documentation begins with the history of the Armory Hall as composed from sources at the Iowa State Student (now the Iowa State Daily), the drawing file at the Physical Plant, and the University Archives.

The architectural condition of the Armory Hall is documented and analyzed through direct observation and measuring. This includes: the analysis of the site, structure, daylight and lighting, material and color, massing, and sequence.

In order to map the memory system of the whole university, some of the major memorable places and artifacts in town and the memories related to them are documented.

As another component of the documentation, some similar projects are studied for better understanding of the conditions of the project.

Finally, the fire codes are referred to. In 1922, the one-year-old Armory was almost completely destroyed by a fire. Today's Armory is the exact copy of the original one (Figure 1).

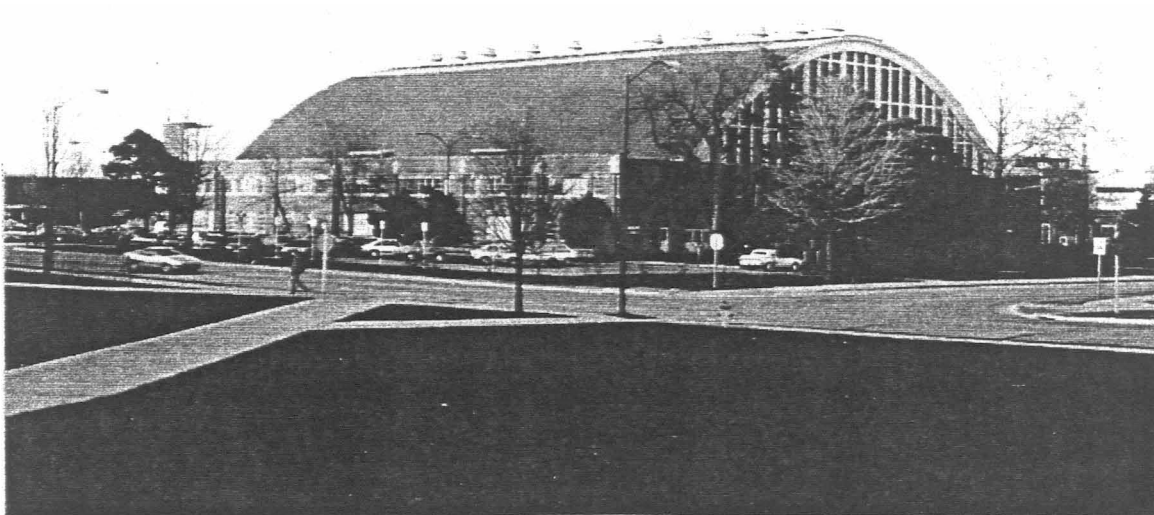


Figure 1. The Armory Hall

## CHAPTER 2: BACKGROUND

Since the thesis will address both the issue of "memory and space" and the adaptive reuse of old buildings, the background is divided into two parts. The first part is an analysis of the current movement of historic preservation, whose focus is on the adaptive reuse of old buildings. The analysis is developed through a list of characteristics of the movement, giving special attention to their cultural construct. The second part is the review of theories on the issue "memory and place", which is, in turn, divided into two parts, in response to the two perspectives of the issue.

### **The Current Movement of Historic Preservation**

This year, the two top awards issued by Iowa State's American Institute of Architecture were given to two firms for their renovation projects: RDG Bussard Dikis of Des Moines for its renovation of the Principal Financial Group auditorium, 711 High St., and Thorson Brom Broshar Snyder Architects of Waterloo for its renovation of Seerley Hall on the campus of the University of Northern Iowa in Cedar Falls.

From restoration/renovation to historically sensitive additions to contextual new construction, most of 1993's award winners acknowledge Iowa's architectural past. As noted by an article entitled "Building On The Past": "building on Iowa's past - in one way or another - emerged as something of a theme among this year's American Institute of Architecture state award winners (Des Moines Register, November 6, 1993, p1, section T)."

Building on the past is also a theme in the whole nation. There is a national interest these days in reusing, re-configuring, reinventing, and re-engineering old buildings. From 1976 to 1988, \$12 billion was spent on 18,000 rehabilitation projects. Instead of restoration of a historic building to its exact condition at some selected point in time, adaptation of a building's form and structure to serve either a modification or a complete change of use becomes the focus of the current historic preserva-



tion. People no longer emphasize on building apart from past in order to store heritage, but building on the past in order to live with memory . This is the new philosophy of historical preservation which is fundamentally different from the old one.

The departure of the new from the old takes place in nineteen-sixties, as a particular case of the radical social change in the Sixties. The year 1966 remarks the departure with The National Historic Preservation Act.

The new movement defines itself with three characteristics:

The First regards with what is to be preserved. In his essay "Discovering Old Cultures in the New World", Antoinette J. Lee summarizes the difference of destinations of historic preservation project between the pre-1966 era and the new era:

In that earlier period, the destinations emphasized to historic aspects of the American past that affected the nation as a whole or pointed to historic resources of interest to a national audience. The most valued buildings and artifacts of that period were houses associated with national leaders and the best examples of architecture from the colonial or federal periods. By 1986, many new destinations had been added. They now include buildings and places of state, region and local importance and interest, as well as those of national significance. The scope of the preservation movement expanded to embrace, among others, engineering structures; buildings of the Great Depression, World War II and postwar era; and sites of no particular architectural distinction but with close ties to ethnic groups . . . Presently, the preservation moment is working to identify features of the built environment most directly and meaningfully associated with individual cultural groups (Lee, 1987, p1).

Thus, historic preservation begins to touch common buildings and artifacts, and becomes an everyday based activity.

In his essay "The Necessity For Ruins", J. B. Jackson defines the current targets of historical preservation as the "mementos of a bygone daily existence". He observes that currently people admire associations that are "with a kind of vernacular past", instead of with "our politically historical past".

What people choose to preserve is what people need from history. Thus it reflects people's ideology on the meaning of history and the relationship between history, today, and future. In "The Necessity For Ruins", Jackson explains the change in the concept of monument and historical preservation through the change in people's concept of history:

The Latin version - the one we used to prefer - sees the past as highly structured, highly political in the real meaning of that word. Past and present are linked by a contract, a covenant between the people and their leaders, and this covenant is given visible form in monuments and a temporal form in a series scheduled holidays and days of commemoration. The present is the continuation, the re-enactment of the past, modified of course by intervening events, but the community is constantly reminded of its original identity and its ancient pledges. The emphasis is on the continuity of history. On the other hand the contemporary American celebration suggests that the past is a remote, ill-defined period or environment when a kind of golden age prevailed, when society had an innocence and a simplicity that we have since lost; a period usually referred to as The Old Days . . . a time without significant events, and a landscape without monuments (Jackson, 1980, p98).

The reasons for the radical change in the concept of history are complicated. One of them may lie in the fact that the political orientation of this nation has been so firmly established that it ceases to count on life on an everyday base. What counts is the common life with which people bring to themselves material or psychological well-being. Therefore, the "innocence and simplicity" of the common life in the past echoed from the old artifacts are charming and valuable for people.

Another reason lies in the cultural pluralism and the new spirit of tolerance developed during the last 20 years resulted by the larger society. Among the new social realities are the Civil Right Movement, the new immigrant streams into the country from Asia, Central and South America, and the coming of age of a younger generation.

The 1966 National Historic Preservation Act which is perceived as the turning point of the preservation movement stirringly articulates the new understanding of the place of preservation in American life:

It (preservation) must go beyond saving occasional historic houses and opening museums. It must be more than a cult of antiquarians. It must do more than revere a few precious national shrines. It must attempt to give a sense of orientation to our society, using structures and objects of the past to establish values of time and place . . . In sum, if we wish to have a future with greater meaning, we must concern ourselves not only with the historic highlights, but we must be concerned with the total heritage of the nation and all that is worth preserving from our past as a living part of the present (National Historic Preservation Act, 1966, p6).

It is a vision and a call to action that is to dominate preservation for the next generation.

The second characteristic with which the new preservation movement defines itself is how things might be preserved. By the time Modern Movement began to be widely questioned in the nineteen-sixties, an opposite of purity and a recognition of complexity and ambiguity began to be pursued by the various approaches that comprise the so-called post-modern movement. As one aspect of this radical change of attitude, preservation came to emphasize the adaptive use of old buildings in order to bring the past and the present together, instead of separating the old from the new and "pure" modern life.

We are in a time that the living memory of the humans past is very much cherished. The phenomenon is one of the products of the life style under post-industrial conditions. Due to the access to more leisure time, more information, and more education, people are more knowledgeable, they have more concerns than just the immediate benefit. People are more likely looking into such basic questions as "where we come from", "who are we", and "where are we going to". To keep the physical evidence of human heritage in everyday life is an endeavor responding to these concerns. Also, the post-industrial conditions cause people to feel more isolated, more oppressed, and more unstable. People need something with permanent value to communicate with and to belong to. Preserving the cultural heritage so as to picture the memory of the innocent past satisfies the desire for stability and continuity and helps the world to seem like home. The concerns and desire are so fundamental that people choose to "build on the past" in order to live with memory. Preservation enters everyday life.

The new attitude is officially accepted and greatly promoted by the 1966 Act, as noted by W. Brown Morton III in his "What Do We Preserve And Why":

Historic resources were viewed by then (before 1966) as things set apart, curiosities to go to look at, in short, yesterday in a bell jar. The preamble to the Preservation Act of 1966 presents the refreshing argument that historic and cultural resources are dynamic, not static, but woven into the fabric of our daily lives and not separate from it (Morton III, 1987, p28).

How to preserve is also determined by what we think should be preserved. The

scope of the new preservation is greatly enlarged, numerous buildings and sites that are neglected by older preservation movements now call for preservation. They just cannot be separated, leaving everyday life nowhere. Also, these new targets are common buildings on which everyday life has been inscribed. People cherish them in the sense that they are one part of their life. Thus they will lose their value if they are put aside.

The third characteristic of the new preservation is its economic power. While the old preservation is purely a cultural endeavor and invested by the Federal government, the new preservation is aided by its economic reward. Unlike its predecessor, the new preservation is mostly conducted in the private sector whose financial muscle is so much limited that any major effort without economic benefits will not be accepted.

Mildred F. Schmertz summarizes the remodeled buildings' money-saving strength in the preface of her book New Life For Old Buildings:

Then there was the energy crisis. It became clear to many people that more energy was used to tear down and build anew than to fix. Furthermore, owners and architects discovered what occupants of older buildings knew all along—such thick walled, cross-ventilated, attic covered old structures were often naturally cooler in summer and warmer in winter than new buildings.

Finally, inflation has increased all the costs of new construction, especially the cost of borrowing money. Since recycling uses less of everything, it is cheaper, and it appears to be here to stay (Schmertz, 1990, pvi).

Perhaps more important than these old buildings' inherent economic features are the tax acts issued in response to the 1966 Act. As noted by Schmertz:

The movement . . . has been aided by the passage of subsequent legislation such Section 2124 of the Tax Reform Act of 1976. This law encourages owners of historic property to use it for income or the conduct of business by allowing them to deduct or depreciate remodeling or restoration costs. It discourages such owners from destroying their historic structures by disallowing both the deduction of demolition expense and the accelerated depreciation of new structure built on the site. In addition, there are various local preservation laws. New York City's J-51 program, for example, offers a deduction and an exemption to developers

who convert old, not necessarily historic buildings such as industrial lofts into housing (Schmertz, 1990, pvi).

As a consequence, private owners and developers are involved in the new preservation, they become preservationists themselves. In this sense, the new preservation is different from the old which is a demanding and scholarly pursuit restricted in buildings of major historic or esthetic value and owned by specialists. The private sector where the new preservation takes place is its fourth characteristic.

As a postscript of this part, I would like to mention the popularity of the adaptation of old buildings in American colleges. As American colleges mature, and their buildings age, many of them become unable to satisfy the modern requirements, and some become unsafe. Certain collegiate functions disappear - a chapel or a student inn is no longer used. At the same time, more and more universities and colleges do not wish to sacrifice buildings of memory, charm, sentiment, or structural soundness. Iowa state University has the tradition to preserve old campus buildings and adapt them to new uses. The renovation of Alumni Hall, Farmhouse, Old Botany, and the extension of the library are some of the examples.

### **Theories On Memory and Place**

Before the review of theories on memory and place, I would like to introduce Edmund Blair Bolles' theory on the nature of memory which I largely accept.

Bolles' theory is introduced in his book Remembering and Forgetting. In the Introduction of the book, he summarized his understanding of the thoughts about memory through history:

For several thousand years people have believed that remembering retrieves information stored somewhere in the mind. The metaphors of memory have always been metaphors of storage: We preserve images on wax; we carve them in stone; we write memories as with a pencil on paper; we file memories away; we have photographic memories; we retain facts so firmly they seem held in a steel trap. Each of these images proposes a memory warehouse where the past lies preserved like childhood souvenirs in an attic (Bolles, 1988, pxi).

Plato is quoted as an example of this classical thought on memory:

Imagine . . . that our minds contain a block of wax . . . Let us call it the gift of the Muses' mother, Memory, and say that whenever we wish to remember something . . . we hold this wax under the perceptions or ideas and imprint on them as we might stamp the impression of a seal ring (Plato, 368 B.C. pxi).

Denying the storehouse of information about past anywhere in our brain, Bolles defines remembering as a creative, constructive process:

Memory copes this way: our emotions (desires mainly) lead to attention; after paying attention and gaining experience with something, we experience a moment of insight followed by a new understanding; this understanding makes it easy to remember and use the details of experience for they have become part of us. The principles of memory are linked together like pieces of a chain: we remember what we understand; we understand only what we pay attention to; we pay attention to what we want. This chain gives us memory. When memory fails, the problem lies in some inability to move along the chain (Bolles, 1988, p23).

He is saying we keep in mind our understanding of how details in our previous experience are programmed, and re-construct the experience out of some of those details and the understanding of the program, the result of the re-constructing process is the memory of the experience.

The nature of memory is an unsolved challenge. According to Colin Blakemore, theories about the nature of memory have still not really progressed beyond the stage of description through analogy. "Analogy has often been a valuable step in the discussion of biological problems, but it is, of its nature, constrained by the technological development of the time or level of scientific knowledge in other fields . . . In any case, most the theories of memory, whether couched in terms of mere analogy, or event in terms of the storage of information in networks of real nerve cells, concentrate on the manner in which events can cause changes in physical structures. In other words, they are concerned with the machinery of memory, not the code - the symbolic form in which the events are registered . . . Most theories of memory are, as it were, concerned with the question of ink and paper and not with the much more fundamental issue of grammar of remembrance". In Bolles' theory, we begin to see the concern with the issue of the grammar of remembrance.

The discussion of memory and place is taken from two points of view, with opposite destinations. While the first perspective aims at improving memory through the medium place, being based on the understanding that place can be an aid of memory, the second aims at constructing the value of a place with memory, being based on the fact that a place can fuse in it particular memories. While the first perspective dominates before the age of printing, the second goes through history and is highlighted today when environmental meaning is widely pursued.

Before the age of printing, a disciplined, well-trained, and constantly practiced memory was vitally important. According to Bolles' introduction, they called this disciplined memory "artificial memory" and distinguished it from the inborn "natural memory". They understood how special this memory was and taught its development as a standard part of education. The artificial methods with which the performance of natural memory is improved is called the "Art of Memory". Using place as an aid of memory is the central point of the art of memory.

Three classical description of this art of memory have come down to us: Cicero's *De Oratore*, first century A. D., the anonymous *Ad Herennium*, 82-86 A. D., and Quintilian's *Institutio Oratoria*, first century A. D. All the three sources are Latin treatises on rhetoric, and the emphasis of all of the three was on a technique by which a rhetorician could improve his memory, enabling him to deliver long speeches from memory without error. The technique is recalling facts by arranging scenes in an imaginary space. It is called Mnemonics. Among modern writers, Frances A. Yates is the first to systematically introduce the sources of art of memory through history.

In his *De Oratore*, Cicero tells the story of how Simonides of Ceos had trained his memory by place images which enabled him to recall who was where at a banquet which ended in tragedy: after Simonides had departed, the roof fell in and crushed all the guests.

In *Ad Herennium*, and Quintilian's *Institutio Oratoria*., the technique is introduced in detail. Frances Yates has summed up the technique as it appears in Quintilian in her The Art Of Memory in the following way:

In order to form a series of places in memory, he says, a building is to be remembered, as spacious and varied a one as possible, the forecourt, the living room, bedrooms, and parlors, not omitting statues and other ornaments with which the rooms are decorated. The images

by which the speech is to be remembered - as an example of these Quintilian says one may use an anchor or a weapon - are then placed in imagination on the places which have been memorized in the building. This done, as soon as the memory of the facts requires to be revived, all these places are visited in turn and the various deposits demanded of their custodians. We have to think of the ancient orator as moving in imagination through his memory building whilst he is making his speech, drawing from the memorized places the images he has placed on them. The method ensures that the points are remembered in the right order, since the order is fixed by the sequence of places in the building (Yates, 1966, p46).

Although the anchor and the weapon in Quintilian's examples are probably associated with naval matters and military operations (Yates), the imaginary space and images placed in it are largely free of particular meaning. They are the vehicle of whatever ideas in the speakers' mind. Different speakers' can use the same space and images to remind them their different speeches. The space and the images will work as far as they have clear order and striking features. Here, the second perspective on the issue of memory and place differs from the first. In the second perspective, a place carries particular memories.

Quintilian is attention-calling for both of the two perspectives. In his *Institutio Oratoria*, before he introduces Cicero's memory system through the aid of place, he points out vividly the fact that a place can carry particular memories:

For when we return to a place after a considerable absence, we not merely recognize the place itself, but remember things that we did there, and recall the persons whom we met and even the unuttered thoughts which passed through our minds when we were there before (Quintilian, First Century A. D., p6).

Occasionally, the memories fused in a place are celebrated as the virtue of the place. The French philosopher and art critic Diderot in the mid-eighteenth century speaks of the aesthetic experience as being dependent on a wealth of association, analogy, and associative memory. With this, he is against with the belief that aesthetic experience is based on exact reasoning which dates back to Plato and acts as the spirit of much part of the works of modernism.

Beginning in nineteen-sixties, formulistic approach to architecture was called into



question. People became tired of the pure visual or functional game of the constructional elements and look forward to an architecture with meaning. Post-modern architecture appeared as an effort to have architecture refer to tradition, context, and memory. In architectural criticism, architecture is more often analyzed through its interaction with people than the interaction between architectural elements. As Kent Bloomer pointed out in the Preface of his book *Body, Memory, and Architecture*: “From the mid-1960s to the present we have attempted to introduce architecture from the standpoint of how buildings are experienced, before worrying about how they are built.”

In *Body, Memory, and Architecture*, Kent C. Bloomer argues that to experience architecture is to assign to the built environment the body values which are formed in earlier experiences and accumulated in memory, and to make places is “a matter of extending the inner landscape of human beings into the world in ways that are comprehensible, experiential, and inhabitable”. He believes that a place should be inner-directed, so as to center the body, and a place should have “meaning and memory”, so as to “react effectively to external stimuli”, and “provide alternatives to excessive and disorienting events in the environment”. What interests us particularly is his enthusiasm to the center of a place:

Although we cannot see the inside of our body, we do develop memories of an inside world that include a panorama of experiences taken from the environment and etched into the “feelings” of our identity over a lifetime of personal encounters with the world. We populate our inside world with the people, places, and events that we “felt” at one time in the outside world, and we associate those events with the feelings themselves. The centerplace of the house, like the body, accumulates memories that may have the characteristics of “feelings” rather than data. Rituals over time leave their impression on the walls and forms of the interior and endow the rooms with artifacts which give us access to previous experiences. These centerplaces in the house are the regions where the memories of the self can be ritualized and new memories belonging to family can be accumulated and re-experienced away from the distractions which must occur along the outer boundaries of the house. Like the sanctuaries of ecclesiastical architecture, center places in houses embody a reference to a communal human identity transformed architecturally to magnify and add meaning to the rituals and improvisations of the household. In addition to serving social rituals the centerplace often recalls and celebrates the basic life-supporting elements (Bloomer, 1977, p45-46).

Bloomer is asking for places that really work. These places will then be able to invite activities and accumulate memory through daily life. Thus, his places can be called the vehicle of memories which come from people's interaction with the places.

For many others, a place is the abstract expression of memory. It brings with it the consciousness of memory and shows that to people. Post-modern architecture, with its historical references, is especially concerned with the representation of memory. Its major show - Venice Biennial of 1980- was titled The Presence Of The Past.

## CHAPTER 3: MEMORY AND PLACE

Unlike the ancient rhetoric instructors who are interested in place as an aid of memory, architects are interested in memory as a value-generator for a place. This chapter will discuss the ways through which memory can be used to enhance the significance of a place, particularly recycled buildings. There are three ways through which a place can act as a memory system: place as vehicle of memory, place as presentation of memory, and place as abstract expression of memory. The chapter is divided into three parts accordingly.

### Place As Vehicle of Memory

Every architectural student has such an experience: a piece of music that used to be played again and again in his or her studio will recall the drawings which he or she drew with the company of the music. Moreover, the pain or joy with which he or she drew the drawing and the milieu of the time in which the drawing was drawn will also be brought to mind. Music is a vehicle of people's memory, so is place, though often to a less extent.

According to Bolles, memory is a personal construct of previous experience. Remembering begins with our "emotion" associated with an experience. (I prefer to use feeling instead of emotion in order to be more inclusive. Emotion will exclude many neutral feelings, for example, the feeling with which we feel the organization of our steps when we walk.) Then, the feeling (emotion for Bolles) invites us to pay attention to things relevant to it. And then, we obtain an understanding of how elements involved in the experience - the things we pay attention to and the feeling - are connected into a wholeness in our mind. In other words, we understand the programming of the parts in the experience. Finally, the understanding provides us with remembering. We remember the programming that we somehow understand. Recalling, on the other hand, is a process of reconstruction. We reconstruct the pre-

vious experience with the present of a related thing and the programming that we remember, just as we make a sentence with a word at hand and the grammar we know.

The memory with a place as its vehicle is the memory of previous experience that takes the place as its setting. In our mind, the experience interacts with the place, the place provides the framework for the experience; they shape and support each other, and eventually become interdependent parts in the totality of the memory.

Taking account Bolles' theory, this kind of memory begins with the feelings with which people interact with the place. For instance, the harshness or excitement we encounter in our studio, or the warmth in our soul as well as in our skin we enjoy in front of the fireplace in our house. Instead of the feeling associated with the first impression of the physical aspects of the place, here I refer to the feeling with which people experience a place over time. We are living with places, thus what counts is their long-term impacts in our lives.

The short-term impression of a place will often fade away and adapt to the long-term impact it has on us. For example, every apartment of the Pammel Court facility at ISU has an old furnace. These appliances are made out of metal sheets and painted a solemn black, which only adds to their huge, rustic, and heavy presence. As an incidental by-stander, these devices can do no more than evoking negative feelings, conjuring up images of low-income life that are at once out-of-date, ugly, and intrusive. However, after moving into one of the dwellings, and actually being required to use such furnaces, most people would begin to find a sort of joy in manipulating its temperature with the heavy button, possibly while studying beside it at night. At this point, the furnace will have become a living creature that helps its owner -- providing subliminal dialogues, and in-general giving up a feeling of thankfulness, belonging and warmth. The apartment dweller no longer is taken aback by the device's weird and intrusive presence, but instead will forever remember the fond feelings with which it was associated.

Thus, such feelings highlight our experiences in the place and the place itself, and invite our attention to both of them. The warmth, safety, and the sense of belonging we feel in front of the fireplace invite us to delightfully pay attention to the decoration of the fireplace, the dog lie in front of it, the food we eat, the songs we sing, the friends we make around it.

The forcefulness of the feeling, therefore, is the first determinant of how vivid the memory is. The stronger the feeling, the more attention we pay to the place and our experience there which are relevant to the feeling, thus the more possible that we can keep them in memory. One of the reasons why music usually fuses memory with it more remarkably than place is that music is usually more emotion-evoking than place.

After feelings lead attention to things, the feeling, the experience, and the place begin to react with each other in our mind and are finally fused into a wholeness. Just as we suddenly know how to organize our body movement in order to ride a bicycle after many times of failure, we may obtain a sense of how things we notice and feel are put together in the wholeness. Bolles calls the sense insight, or understanding. When we reach this point, we can remember.

We may all have such an ability: after we listen to a music CD long enough, we are able to sense what is the next song by the void between two songs, even though we cannot do this when the first song is played. It is in that void that we feel the connection of the two songs and obtain a sense, or an insight in Bolus' word, of how the two songs are matched, and particularly, how the void in between is shaped by the two songs. In short, we understand the grammar connecting the two songs that is informed in that void. The moment recall the grammar, with the grammar and the present of the moment, we bring into mind the next song.

In order to accelerate the insight, the physical aspects of the place need to be remarkable. The significance of the place itself is the second determinant of the vividness of the memory it carries. Another reason why music is usually a better vehicle for memory is that music is usually more striking.

The process of the recall of memory with place as its vehicle, based on Bolles' theory, begins with the presence of the place when we go back to our old place. As the indispensable part of the wholeness in our mind, the place - the setting of previous experience and feeling - reminds us themselves. Thus, the presence gives us the memory for the absence. I saw a movie about a prominent Ballet dancer. She died of a traffic accident on her way to participate in a performance. However, in deep grief, the performance went on. Everything was as usual: the music, the people dancing around her position on stage. Most striking of all, the light that previously circled her as she danced around on stage was still there, only now it was without its usual occupant. Thus, the dancer is memorized by the presence of setting of her

previous performance and the absence of herself.

In response to this kind of relationship between place and memory, two strategies can be used to make a place as the vehicle of memory:

The first is to have a place offer people positive long-term feelings. It is an issue which calls for the full range of knowledge of environmental design and the full force of one's imagination. To touch on this issue, I will discuss, through examples, two feelings that are particularly associated with remodeling projects.

One feeling I would like to mention is the feeling associated with the meditation on the pass of time that might be offered by remodeling projects. A remodeling project creates new space next to, around, over, or within old spaces. When we stay in a remodeled space, we are facing both the new and the old. Instead of concentrating on any one of them, we are looking into the connection between the two. As a result, we see a dimension of time in the space: we perceive the existence of the past and the pass of the time. The concept of time is so abstract, so limitless, so intangible, that when our mind is attached to it, we may feel overwhelmed, or liberated from the burden of everyday routine. Our mind is pushed forward, with a direction, but without a destination. It is a healthy tour, our mind is refreshed through an enjoyable experience.

Red Lion Row (Figure 2) is a project undertaken by George Washington University. The project encompasses more than half of a city block along Pennsylvania Avenue between the White House and historic Georgetown in Washington, D. C. The project combines the preservation of a row of old houses that existed on the site with a major new office building. Although the new office building itself is intensely criticized for its overwhelming the historic row, the space that links the new major building with the row of old houses is celebrated. The space is a skylighted galleria of retail stores, galleries, and restaurants. One side of the space is the rear elevations of the historic townhouses, the other side is the first three floors of the new office building. The juxtaposition of old and new acts as a statement of time. People there might be plunged into the seriousness of meditation of past, present, and future.

Another possible feeling is generated by the richness of culture in a remodeling project. Framed by the new parts, the old parts in a remodeling project display the material, technology, and aesthetics of the past, and thus bring in another culture that may act as the complement of the major current culture. Also, we may feel that

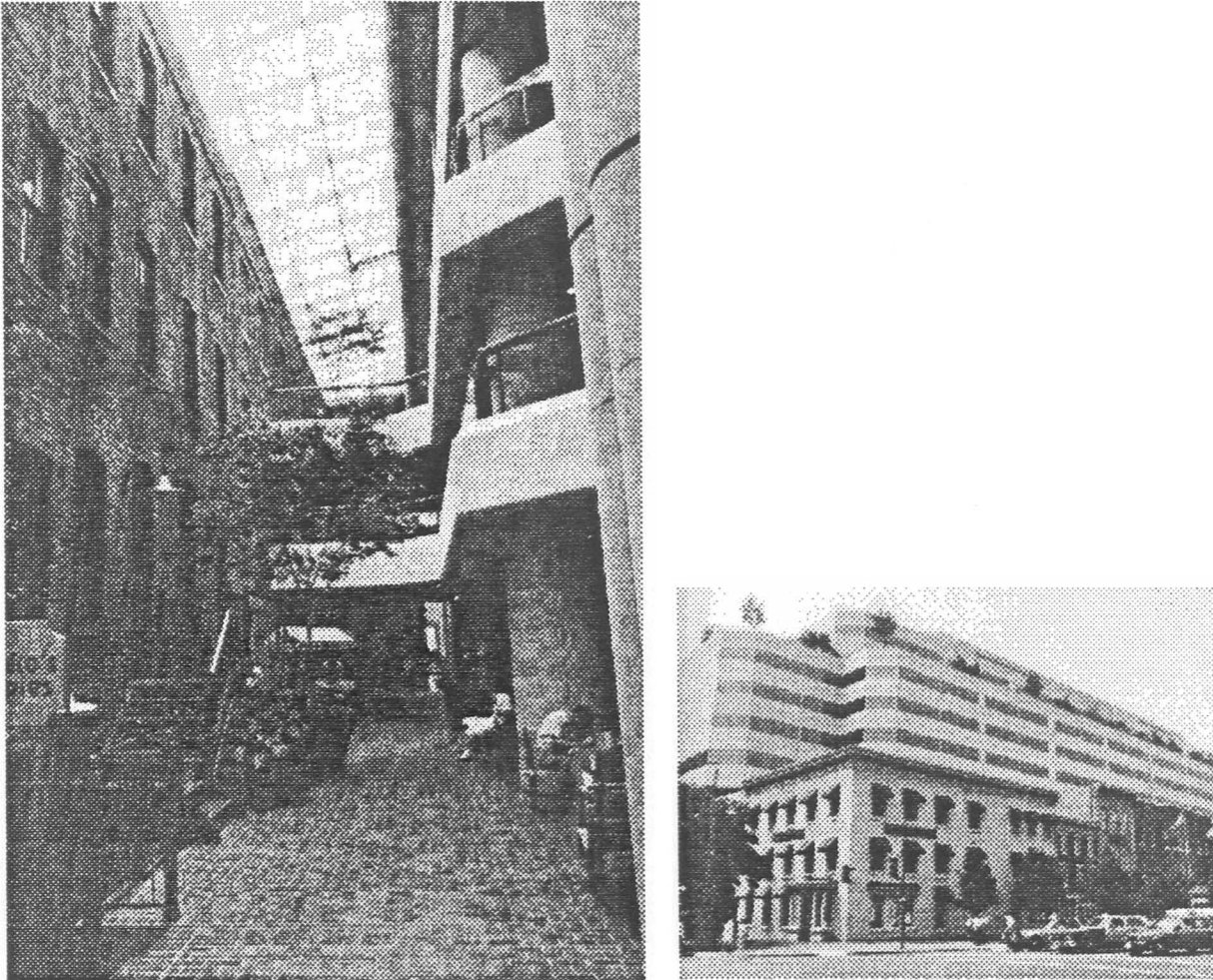


Figure 2. The Red Lion Row Project

(left) The space between the rear elevations of the historic townhouses and the new office building is a retail galleria

(right) The Red Lion Row Project. The new office building is designed to be visually separate from the historic structures. Unfortunately, it is too overwhelming

we are attached to a firm root and therefore out of the fear of the unpredictable changes in today's world.

### **Place As Presentation of Memory**

A place, or more often a part of it, can be devoted to particular memories with the information it carries. Usually, written words, signs and pictures are used in such a

place to present the data relevant to the memories. A memorial that honors a person or an event is such a place.

The particularity of the memory limits its significance. While it works well for those who are deeply attached to the memory, for others it is a reminder which does not have inward or immediate sense. Thus, the power of a memorial often lies in the symbolic meaning expressed by the totality of the place, other than the information it offers.

Each name in the Vietnam Memorial is the memory for a soldier, the fifty thousand name as a whole is the memory of a miserable war and a depressing decade (Figure 3). Since so much is attached to the memory, the memorial is of great power. What's added to this is the power coming from the memorial's strong symbolic quality: the gigantic V engraved on the earth is a shocking reminder of violence, victim, or Vietnam; the extension of the low wall is a resonance of the depression and sorrow associated with the war.

### **Place As Abstract Expression of Memory**

In his book *Environmental Memory*, Malcolm Quantrill points out: "architectural form and detail not only embody memories of some event, myth, or article of faith, but are intrinsically memorable themselves . . . The understanding of architecture and the city allows us to perceive not only their passive roles as memories of cultural history but also to accord them a significant function in our consciousness of passing through time and space".

To express memory is to inform such concepts as time, change, trace, clarity and ambiguity, etc. After nineteen-sixties, many architects have been contributing to this theme, as they endeavor to make architecture more meaningful. The abstract expression of memory is such a major theme of post-modern architecture that its most important show - Venice Biennale 1980 - is titled *The Presence Of The Past*.

Among the many attempts to remark memory with architecture, two are particularly symptomatic: the rationalistic "typology" of Aldo Rossi and regionalist "complexity" of Robert Venturi.

As the very heart of the Neo-Rationalist movement, Aldo Rossi searches for the "eternal truth" through geometric abstraction that is given form by the typical and "primary" fragments. These fragments suggest the fundamental elements of culture that date back to the remote past, thus endow his work a strong sense of memory.



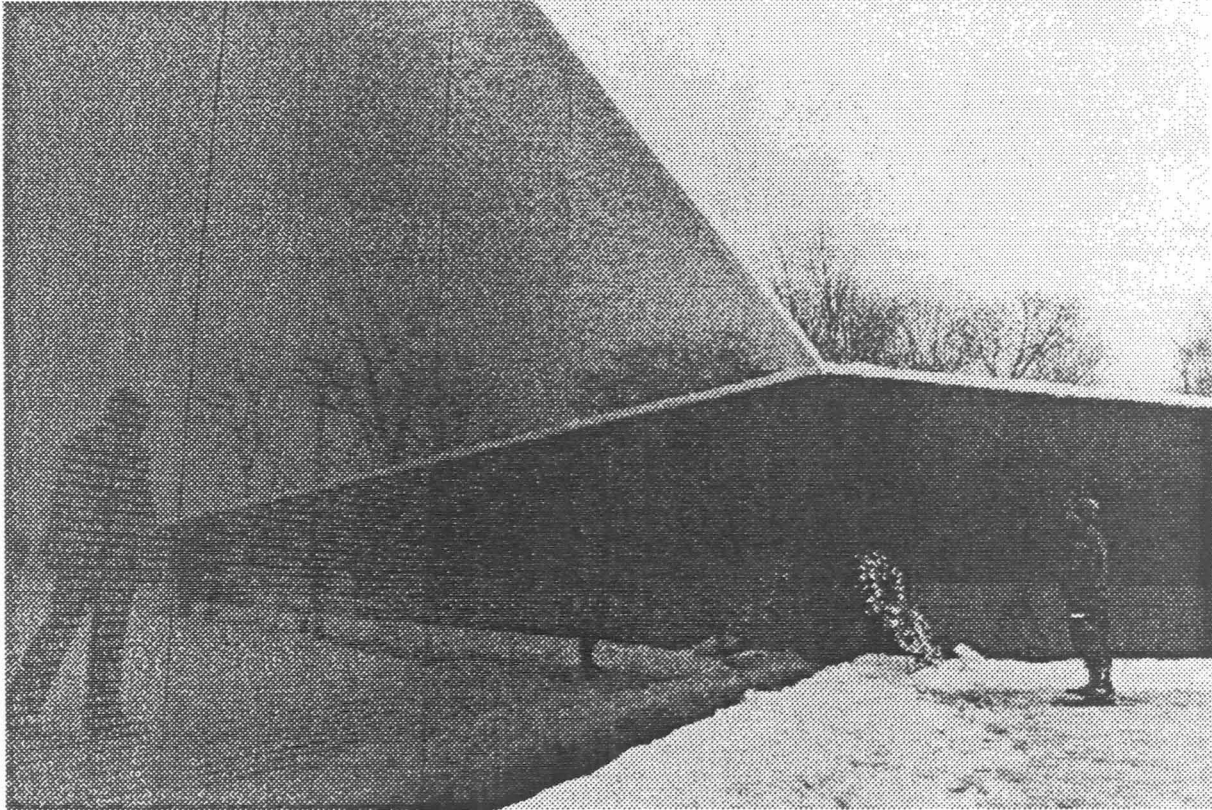


Figure 3. Vietnam Memorial, Washington, D.C., Maya Ying Lin. 1981-1983

One of the few realized projects of Aldo Rossi is the monument to the Resistance in Segrate, a small town in the vicinity of Milan (Figure 4). The monument is put together from several basic geometric forms: a rectangular block, a cylinder, and a prism. The whole thing ensemble is also highly geometric, and fit very well Le Cobusier's definition of architecture as the "correct and magnificent interplay of forms played upon by the rays of light". However, the design does not entirely depend on those forms for its effect; it is also fraught with meaningful contents. As the significance of geometric forms goes beyond pure abstraction, Rossi's work goes beyond modernism.

On a second look at the Segrate monument, meanings come to light to evoke memories through associations. The prismatic structure is seen as a shed roof, the

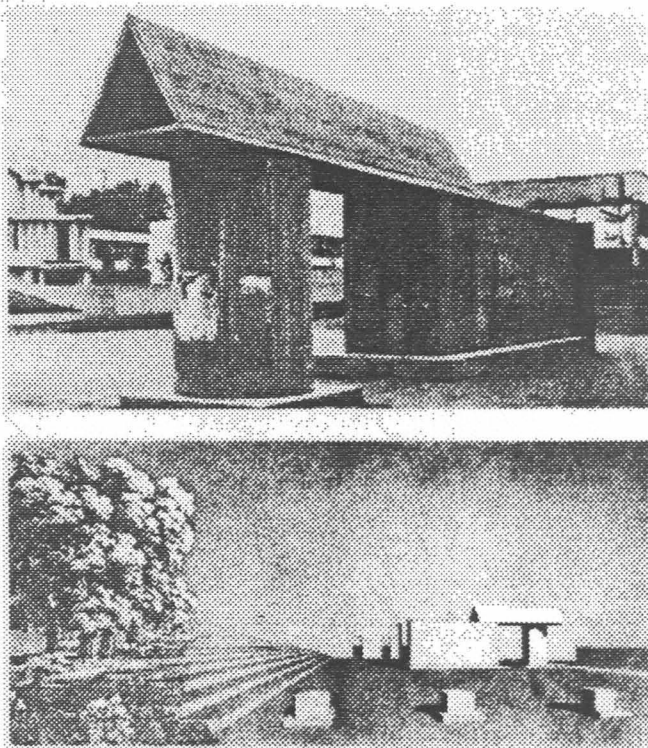


Figure 4. Monument to the Resistance. Segrate, Italy. Aldo Rossi. 1965  
 (Top) Monument to the Resistance  
 (Bottom) Perspective drawing

rectangular block as a wall, and the cylinder as a metaphor for all load-bearing supports. The cylinder's standing on a plinth awakens memories of historical architecture. An early plan for the monument called for several more cylinders, standing in row like stumps of columns. The shapes of the elements and pieces now become intelligible. They are not put together merely for an interesting visual effect; rather, they are organized to form an image of vast background of historical meaning and strong sense of memory.

Unlike Rossi, who works in an ideal world where everyday experience does not count, Robert Venturi uncovers contents that are implicit in what we have in real situation. His art is made out of those familiar things with slight surprise. This "realist"

approach is shown even in his most abstract design, Franklin Court.

Franklin Court was erected in 1972 for the occasion of US. bicentennial (Figure 5). Above the excavated site of Benjamin Franklin's house rises a steel framework that delineates against the sky the outlines of the old house, with its gable roof and its three chimneys. The building structure seems an dim impression drenched in memory and time; It pictures remoteness, intangibleness, and ambiguity. In the mean time, it serves as a framework challenging people to "fill in" their personal imagination. Thus, the fictional environment adds the poetry of imagination to the facts of reality.

Though we can analyze the referential meaning of each of the pieces in a work like Rossi's, we cannot explain how the general impression comes to us. It is the metaphysical force of art that is based on direct intuition instead of logical reasoning. Quantrill suggests in Environmental Memory:

In visiting a place we sometimes become aware of an extraordinary atmosphere that we find difficult or impossible to describe in rational language: we are simply conscious of that place adding up to more than the sum of its parts and having an additional, inexplicable dimension. Indeed, when we find a place to be "memorable", it is usually the result of our having remarked that extra something. Architecture serves as a memory system for ideas about human origins, a means of recording understanding of order and relationships in the world, and an attempt to grasp the concept of eternal cosmos which has no fixed dimensions, with neither beginning nor end (Quantrill, 1987, p16).

## Summary

Places can function as memory systems in three ways: as a vehicle which invites activities and accommodates memories with its positive feelings over time; as a means of the presentation of particular memories with the data it carries; and as the abstract expression of the theme "memory".

There is no absolute difference between these three. A single identity of a place may show more than one of the three ways through which it relates to memory. The building structure of Franklin Court is a presentation of a particular memory as well as a expression of memory itself. The square on which Rossi's Monument to Resistance is sited is surrounded by conventional apartment blocks, and people

often hang out there a lot. The fountain itself is plastered with announcements for the latest rock concert or the stars of local politics. Children play on the steps and platform. It is an intimate collector of memory as well as a severe expression of memory.

Also, a place can take more than one of the ways to serve as a memory system. Looking down into the excavated site upon the old hearth in Franklin court, one can read on the tiles on which one stands quotations from Franklin's diary, engraved in metal for eternity. The tension between the reality below and the fictional signs

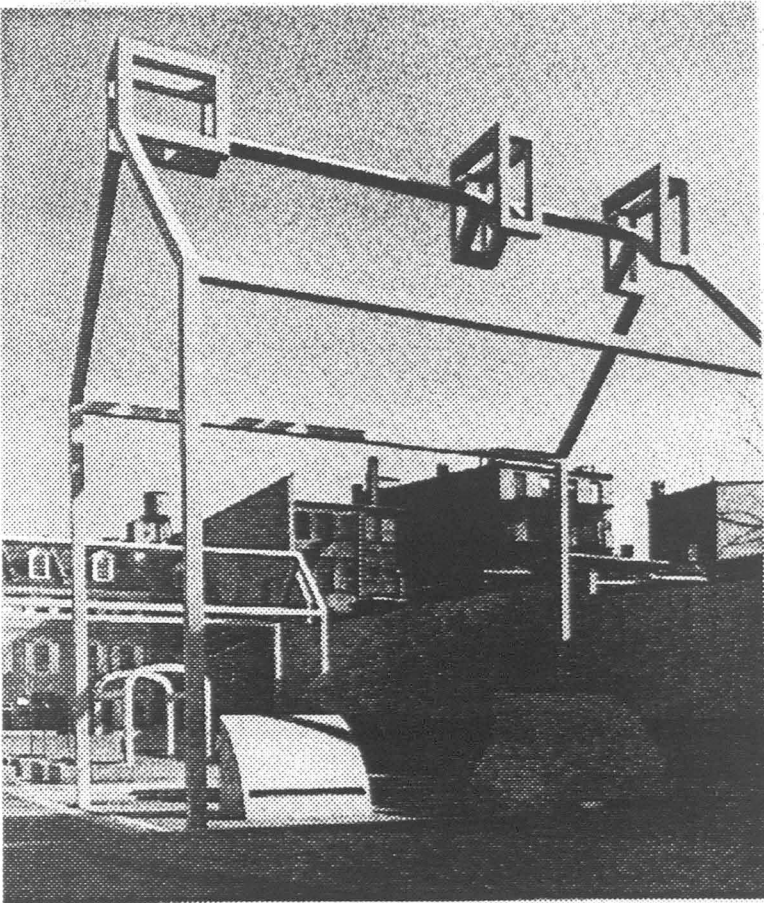


Figure 5. Franklin Court. Philadelphia. Venturi, Rauch, and Scott Brown. 1972

above creates a stimulating and poetic atmosphere.

Adaptively reused buildings have unique ways to bring memory to their places: they can function as the vehicle of memory with the unique feelings they provide when people experience the unusualness of the combination of old and new; as the presentation of memory with the old part of the building; as the abstract expression of memory with the dimension of time suggested by the co-existence of the old and new.

## CHAPTER 4: THE HISTORY OF THE ARMORY HALL

This chapter goes through the history of the Armory Hall, which focused on the history of the construction of the building and the history of its social life. Based on the discussion of chapter three, one part of the memory that people might experience in the new Armory will come from the building's history. Thus, a study of the building's history is necessary.

### **Birth**

The birth of the Armory Hall occurred through great difficulties. Perhaps this is the price for its glorious life.

The earliest reference to the Armory is found in the May 1871 Minutes of the Board of Trustees, when a motion was carried asking for the erection of an armory. The year 1871 is one half century before the completion of the Armory in 1922. Fifteen years later, an armory became one of the "pressing needs of the College", by which the Biennial Report for 1886-87 was entitled. In this report, the use, material, and nature of the building were for the first time expressed: "An armory, to be used also as a gymnasium, and on commencements, junior exhibitions and similar occasions as an assembly room. . . A building, 60x100 feet, of brick, with self-supporting roof and asphalt or cement floor. . ."

Thus, the concept of the Armory was formed thirty-five years before its being finished in 1921. Unfortunately, the next three decades saw nothing but similar requests repeated in each subsequent Biennial Report. The need of other buildings on campus was deemed more urgent, as explained by Iowa State Student on March 10, 1917.

It was not until 1917, that progress toward obtaining a building was actually undertaken. In that year, it became a requirement for all male students to spend six

hours per week in military training. The decision was a response to the First World War and the government requirements. On March 8, 1917, General Lincoln of Iowa State and Captain Mumma of the State University were called to the military committee at the State Capital in Des Moines to make a personal appeal for the erection of an armory. The conference unanimously recommended an appropriation of \$125,000 to each of the two largest state schools, ISC and SUI, for the immediate erection of armories.

At this time the plan for the Armory was described in Iowa State Student on March 10, 1917: "It will be 200x400 feet in size, over three times as large as the gym which is approximately 85x300 feet. It will have a single floor of almost two acres area without a post in it. The location now contemplated for the armory, if the appropriation is made, is just east of the gym (running south and north)."

On April 9, 1917, an action was brought against the appropriation in the House. Driven by the unexpected opposition, General J. R. Lincoln and President R. A. Pearson of Ames, and President W. A. Jessup and Captain M. C. Mumma of Iowa City left hurriedly for Des Moines to confer with authorities for reconsideration of the action. Very dramatically, the house reconsidered the action and passed the Armory bill by a vote of 85 to 14 in the following morning.

In June, Mr. Proudfoot, the Board Architect, was asked to prepare plans for the armories at Iowa State and at the State University, requesting "the buildings to be alike and the dimensions of each to be 150 ft. by 300 ft."

In September, with the war prices causing the cost of steel trusses to rise, the appropriation was greatly exceeded. The Building and Business Committee authorized Mr. Proudfoot to use lattice wood trusses instead of the proposed steel trusses. Mr. Proudfoot, however, insisted that structural steel, rather than wood, must be used in the construction of the two armories. As a result, an indefinite postponement was proclaimed on September 15, 1917.

It was 1919 before further steps were taken to build the Armory. On July 23 the Board Minutes show that the Building and Business Committee asked the architect to prepare plans for an armory at the I.S.C., and said:

(Armory) to consist of a drill shed and steel arches of which are to be built after the most economical design for a clear span of 150 feet, the length of the drill shed to depend upon

the money available (\$125,000), which amount shall include the cost of space for offices, shooting galleries, recitation rooms, storage space, etc., and care for all heating, plumbing, lighting and tunnels necessary to complete the building for use (Minutes, July 23, 1919. p1).

Bids for the steel trusses were taken and a contract was awarded on September 19, 1919 to McClintic Marshall Co. of Pittsburgh.

On October 9, 1919, members of the Board of Education building committee conferred with President Pearson and Lient. Col J.K. Boles upon the location of the building<sub>1</sub>. The following were suggested as proper sites for the Armory, as noted by Minutes December 2, 1919:

(a) With long axis north and south and coincident with the axis of Engineering Drive, front line of building between the front and back lines of the Chemistry Building.

(b) With long axis east and west, north of the street car track and opposite the Gymnasium and bearing approximately the same relation to the library as the Gymnasium bears to Central Building.

(c) With long axis north and south, east of the Gymnasium and south of Engineering Shops.

(d) With long axis north and south, east of Chemistry Building and Central Avenue.

No one favored the last two locations. After discussion, location (a) was accepted, with the understanding that the south front line of the building should be adjusted by the architect and the college authorities.

Thomas Sloss, the Superintendent, was appointed to take charge of the construction and to receive bids for and purchase all necessary materials. Excavation began in early February of 1920.

The architectural plan had been subject to change through the process of the construction. The construction was guided by a rough concept of a trussed and arched roof, along with the limit of the appropriation. The Minutes April 13, 1920 shows the principle of the construction: "...keeping in mind that the appropriation of \$125,000 must not be exceeded and that that portion of the structure completed within this sum shall be left in such condition that the Dept. of Military Science may function properly and efficiently therein."



A series of decisions and changes had been made after the beginning of the construction. For example:

Minutes April 13, 1920 show the Architect began work on the proper locations of exits for the Armory.

At the meeting of the State Board of Education that was held on August 18, 1920, the Building and business committee was authorized to make all necessary and advisable changes in the location of the Armory's walls. Supt. Sloss estimated two extensions could be provided within the \$125,000 appropriation of. The first extension would be two stories high, nine bays wide, with 25 foot joists, on the north end of the Armory, for vehicle storage. The another extension would be two stories high, running the full length of the east side of the Armory, and with 22 foot joists, could be provided . He was authorized to make the extensions, with the understanding, however, that if such extensions could not be completed within the amount of the appropriation, then one or a part of one of the extensions was to be omitted<sub>2</sub> .

Minutes November 3-4, 1920 shows that Supt. Sloss was instructed to change the composition for the roof to tile, and change the brick for inside lining to tile.

Minutes June 8-9, 1921 shows that ventilators would substitute for the proposed skylights in the Armory.

The construction of the Armory Hall was at last accomplished in the fall of 1921 (Figure 6).

The Armory was then used by about 1,300 men. They were divided to classes or sections and reported at all hours during the day for military instruction. In addition to this, the building was the headquarters of the State Corn Show. The greatest corn show in the United State had been held there annually. Also, the building was used by the Little International Live Stock Show.

On December 16th, 1922, the one-year old Armory was destroyed by a fire (Figure 7). A little after eleven o'clock in that day's night, the fire was discovered in the northeast corner of the Armory. Everything possible was done to control the fire, but it made a big start and it was fanned by a strong north wind which enabled the flames to spread throughout the whole building. All of the woodwork and all of the contents of the building were destroyed. The steel frame was seriously twisted. The expansion of the steel and the heat from the flames produced many cracks in the brick walls and caused some of them to bulge badly. In addition to the building loss

more than \$150,000 of army equipment was destroyed by the fire.

The college authorities made a thorough inquiry to ascertain the cause of the fire, but it is still a mystery.

The loss of the Armory, which was conceived as one of the four finest buildings of its kind in the world, was serious to the College. In his letter to the Governor of Iowa,

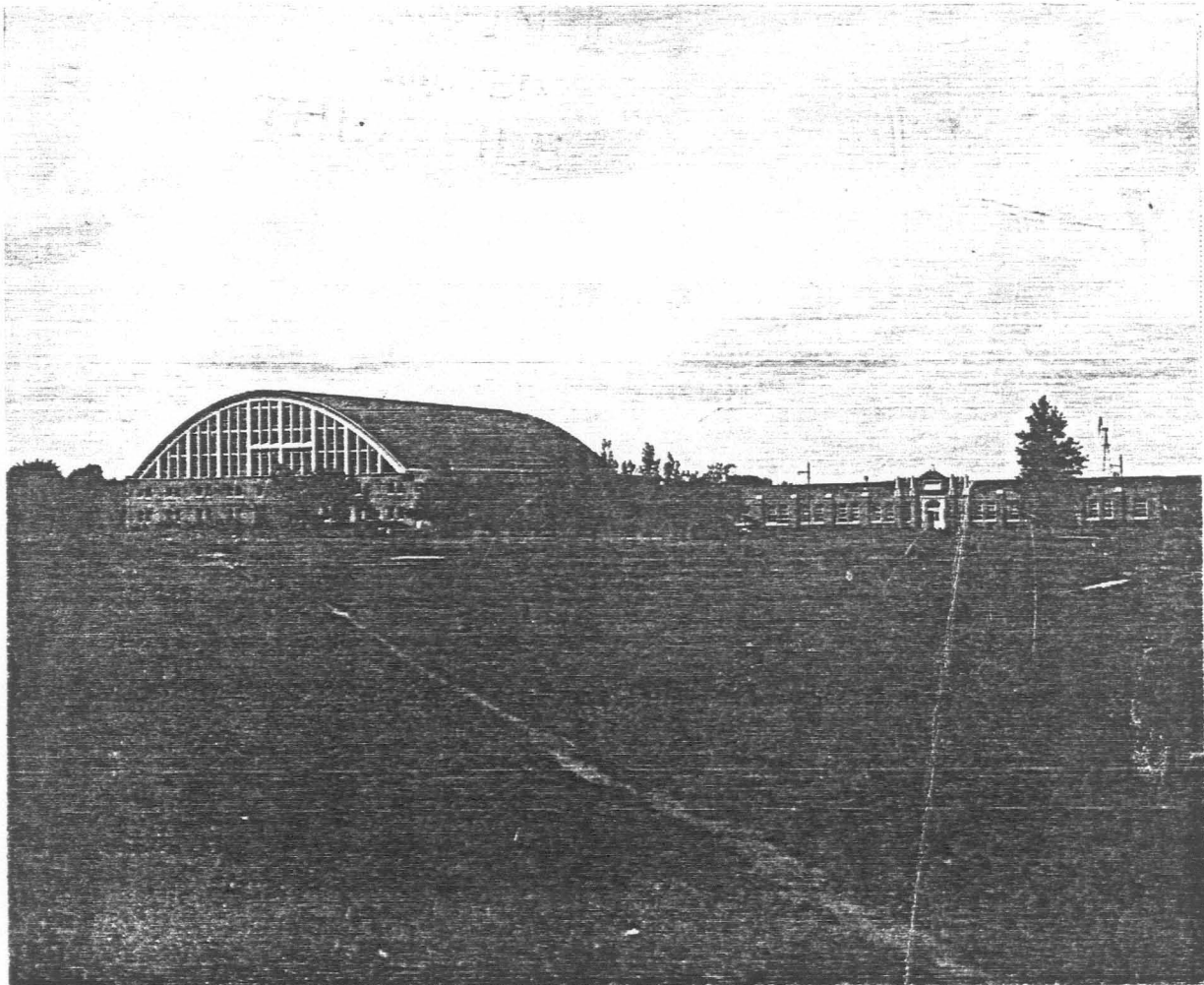


Figure 6. The first Armory Hall. 1921

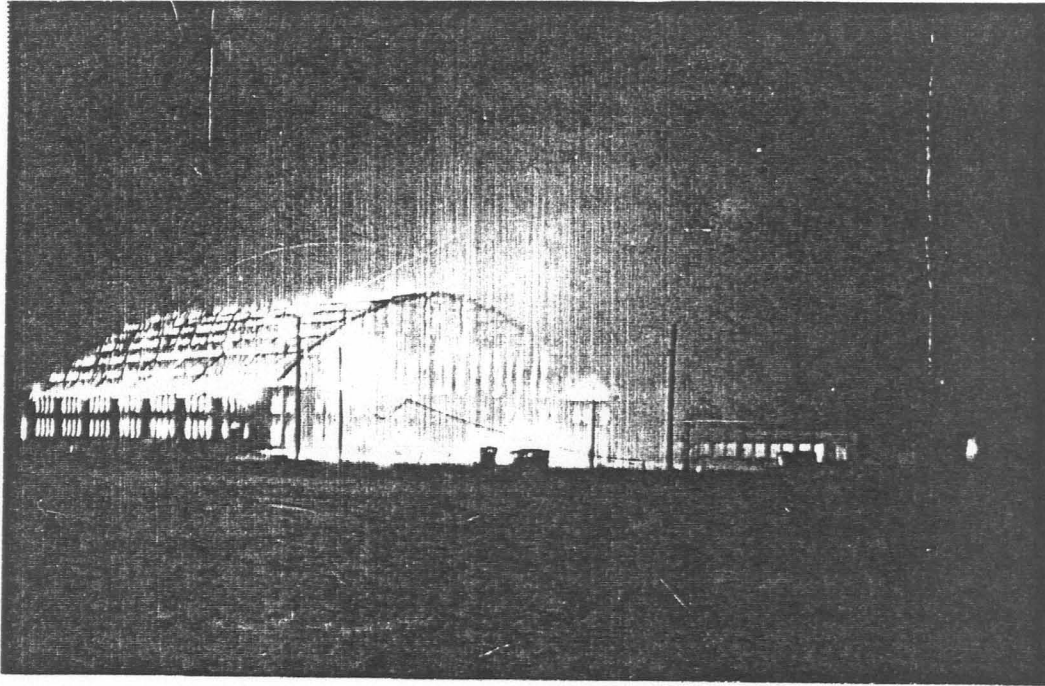


Figure 7. The Armory was on fire on December 16th, 1922

Secretary W H. Gemmill said that few buildings on the campus of Iowa State College could be destroyed and cause greater inconvenience and loss to the work of that institution.

The decision to rebuild the Armory was made in no time. Different firms are hired to supply materials and labor. Rebuilding started as soon as spring weather conditions permitted. The work was completed in the spring of 1924. The new Armory was built exactly in the same place, an exact copy, except with fireproof materials.

### **Life**

Both the Armory Hall itself and the role played by it have experienced remarkable series of changes since the building was at last finished in 1924.

The asymmetry of the building was uncomfortable. The extension at the south

and west side of the building was considered as soon as the decision for the extension to the east and north was made in 1920. The consideration came into nothing due to the limit of the appropriation.

Soon after the building's completion, the consideration was resumed. Between 1925 and 1930 several schemes were proposed for the west side addition to balance the extension on the east, but none of those suggestions materialized until 1941, when, with funds from the Works Progress Administration, an addition was constructed along the full west side of the building. The addition provided four more classrooms for the Armory.

In the decades when ROTC was required for the freshmen and sophomore men, thousands went to the Armory for their military training, which involved mastery of horse-drawn artillery, equestrian skills, and the old French 75's. The Armory had been resounding to the "1, 2, 3, 4" of a worried non-com.

The military training was described in a 1924 article: "military training puts callouses on the shoulders of infantrymen, blisters on the hands of engineers, and grease and raw spots on the artillery men. It ruins the sophomores' disposition and causes many a senior anxiety. It develops more cripples among the manhood of Iowa State than the automobile traffic does in the city of Chicago (Iowa State Student, August 1, p1)."

In addition to being the location of military training, the Armory was used for freshmen convocation, graduation (Figure 8), the military circus, dances, horse shows, concerts and plays, and Christmas Celebration (Figure 9).

The Value of the Armory to the school started to increase in the 1940s. Home basketball games outgrew the "old men's gymnasium" and were moved to the Armory in 1946. In respond to this, fifteen hundred seats were added the following season to raise the capacity to 7,500, and a new hardwood floor was installed in the fall of 1948.

The remodeling project in 1956 provided a new concrete floor, larger dressing rooms, and the north-south steel bleacher system which increased the seating capacity to 85,000. The work also improved the main and subsidiary exits and the ventilating system. On June 10, when the remodeling project was still going on, the Honorable John Foster Dulles delivered the 1956 commencement address to more than 8,500 people in the building. Most commencements were held in the Armory in

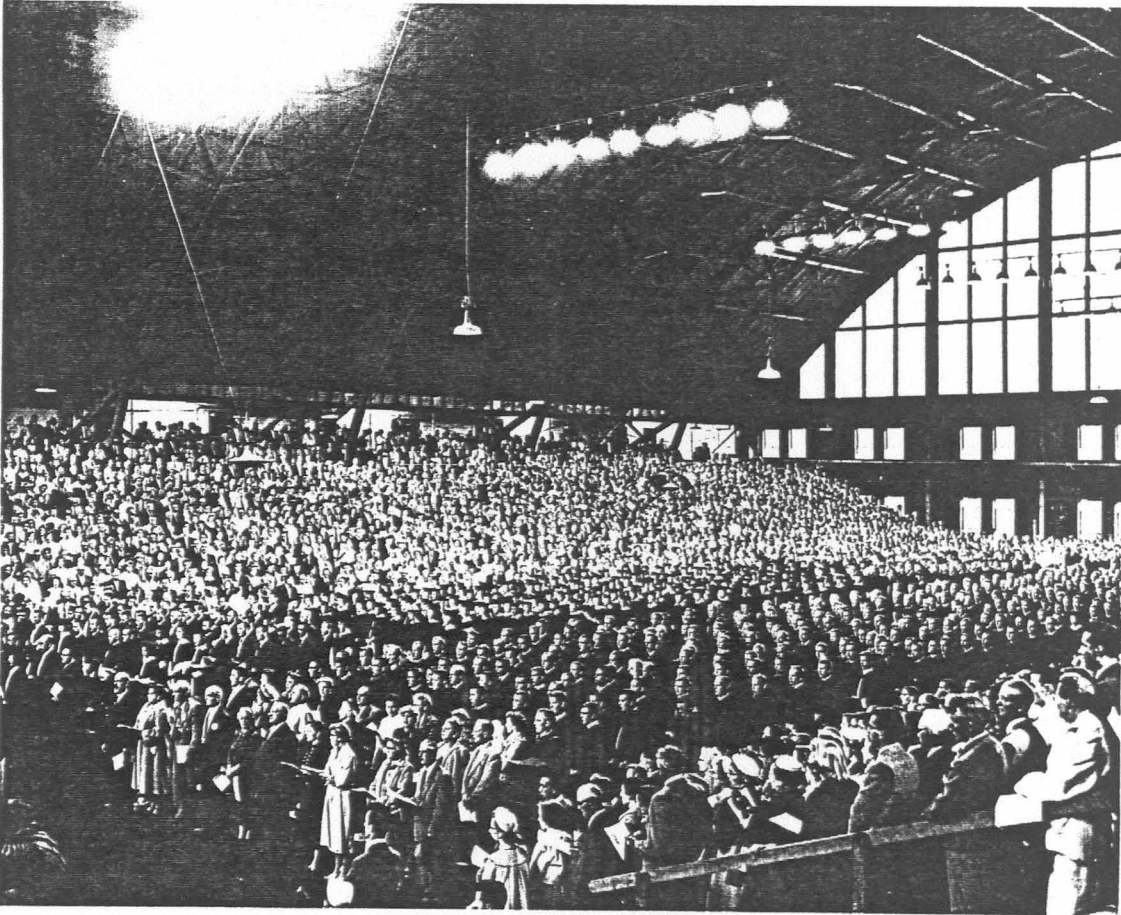


Figure 8. John Foster Dulles delivered the 1956 commencement address to more than 8,500 people in the Armory

1960s, before the erection of the Iowa State Center.

After the erection of the Iowa State Center in 1971, the Armory was converted into a general recreation area to accommodate tennis, basketball, badminton, volleyball, and related activities for both men and women. It became something of a field house atmosphere.

On July 1, 1990, the Armory Hall saw the beginning of the last remodeling project

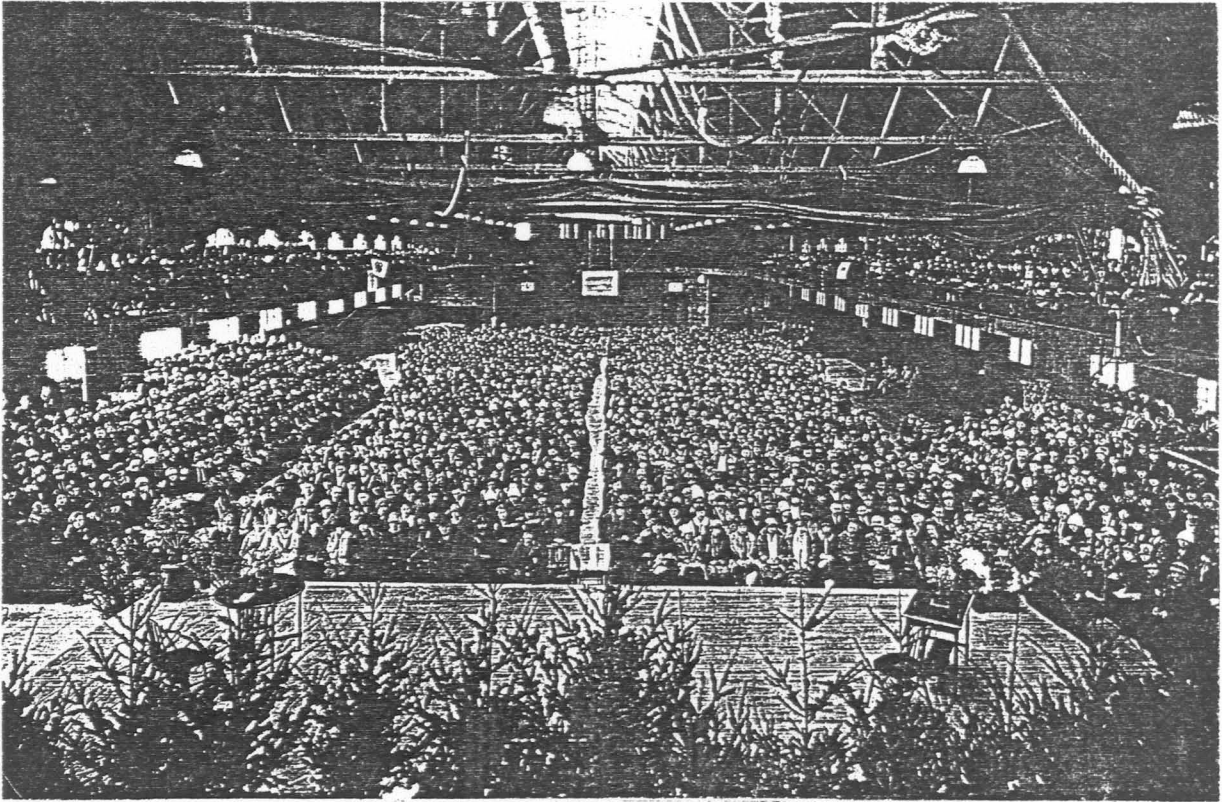


Figure 9. The Christmas Celebration

which converted the main floor of the building into design studios. Twelve 1,000 square foot design studios, a jury room, and four offices were built to accommodate the increasing number of design students at Iowa State. On October 2, a day with mixed feelings, design students moved in the building (Figure 10), and the ROTC which had been supported by the Armory for seventy eight years left for state Gym. While design students were happy that the extra space allowed them to enter the design program, ROTC members suffered from disgruntlement and a loss of pride. Military Science Professor Lt. Colonel Kent Long said that the building was built as an Armory and should stay an Armory (Figure 11).

Very sadly, the Armory Hall, which had long been a place relevant to the whole University and every Iowa Stater, is taken away from much part the campus life. It



Figure 10. Space in the Armory previously used by ROTC members is now occupied by studios for students in the Design College

drops from the level of the University to the level of department. It is no longer a grant memorial for Iowa State, it is now an expedient and temporary place for some mixed uses - design studios, ISU traffic and security offices, and ROTC offices, none of which is fully satisfied. Its only sense to every one in the University is that every one goes there to pay for the parking ticket.

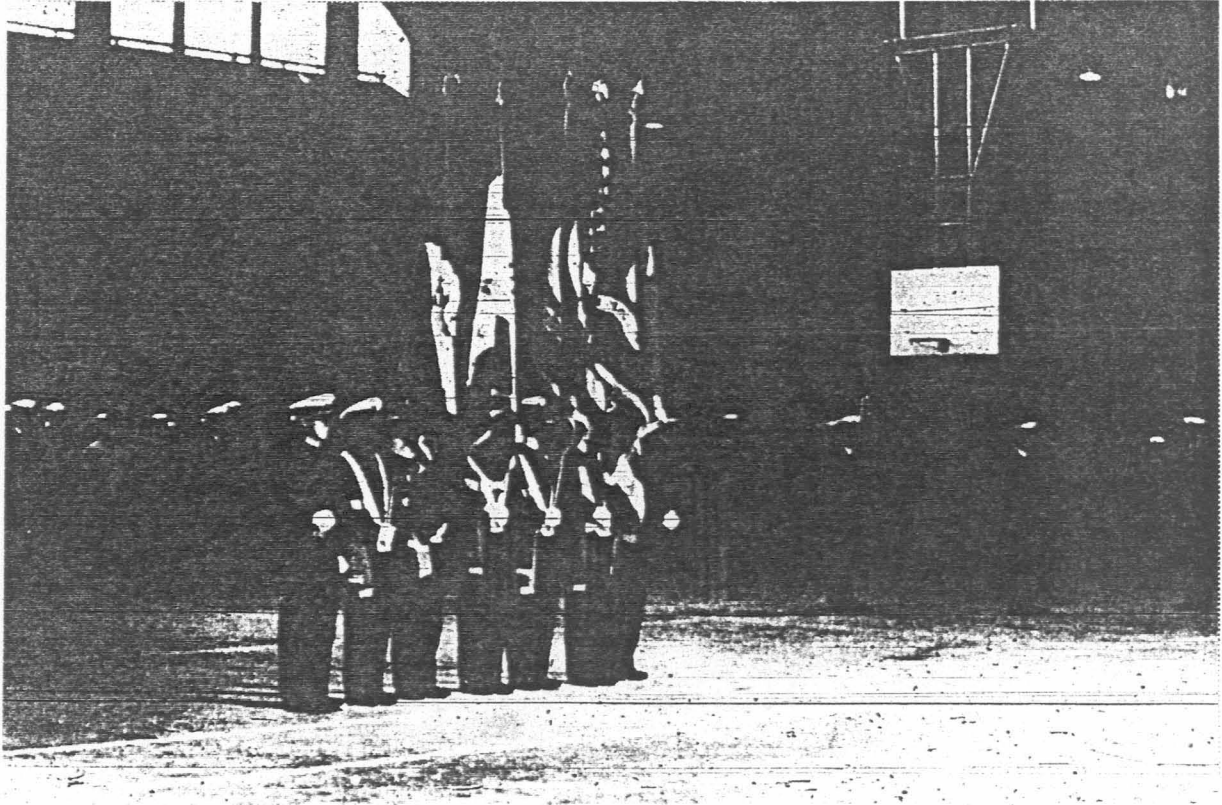


Figure 11. The Armory and the ROTC



## **CHAPTER 5: AN ARCHITECTURAL ANALYSIS OF THE ARMORY HALL**

The purpose of the analysis is to investigate the formal and spatial characteristics of the Armory Hall as one of the determinants for the future remodeling proposal. To accomplish this, seven issues which are particularly crucial to the architectural value of the Armory are selected. The issues for the analysis are: site, structure, daylight and artificial lighting, sound, material and color, massing, and sequence.

### **Site**

When the Armory Hall was just built, it was on the north-west corner of the campus, giving the College a remarkable end (Figure 12). Its being marginal on Campus also spatially separates the building from the normal academic activities of the school and the atmosphere set up by them. Students needed to take some walk to come here. The distance helped them to withdraw from their books and prepare themselves for the drilling. The specialty of its site helped to define the specialty of its program.

The specialty of the building's site was lost when the erection of the Town Hall and Design Center pushed the Campus westward (Figure 13). Fortunately, the loss of the specialty of its program balances that of the specialty of its site.

### **Structure**

The most remarkable feature of the Armory Hall is the structure of the arched roof (Figure 14). In order to give freedom to the floor space for drilling, the roof is supported by an array of self-supporting steel trusses which span the entire width of the drilling space - one hundred and sixty feet. The steel trusses are of the hinge type, resting on concrete bases along each side. The depth of the trusses vary from three and a half feet on the most top and twelve feet on the sides. There are eight of

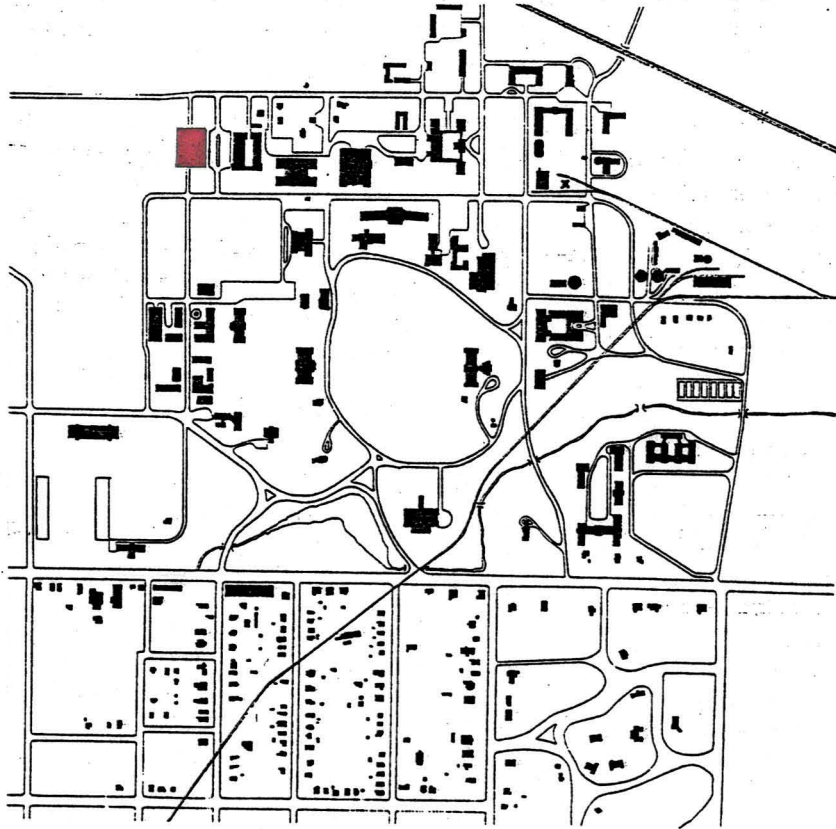


Figure 12. The context plan of the Armory in 1930

them, with thirty feet as the spacing.

While the part of the trusses right below the arched roof is frankly exposed, the other part which is attached to the two-floored additions on west and east side of the building is immersed in layers of additional constructions (Figure 15). As the most important visual element of the interior space, the steel trusses are not fully revealed. A loss of unity is the result from this failure of structural expression.

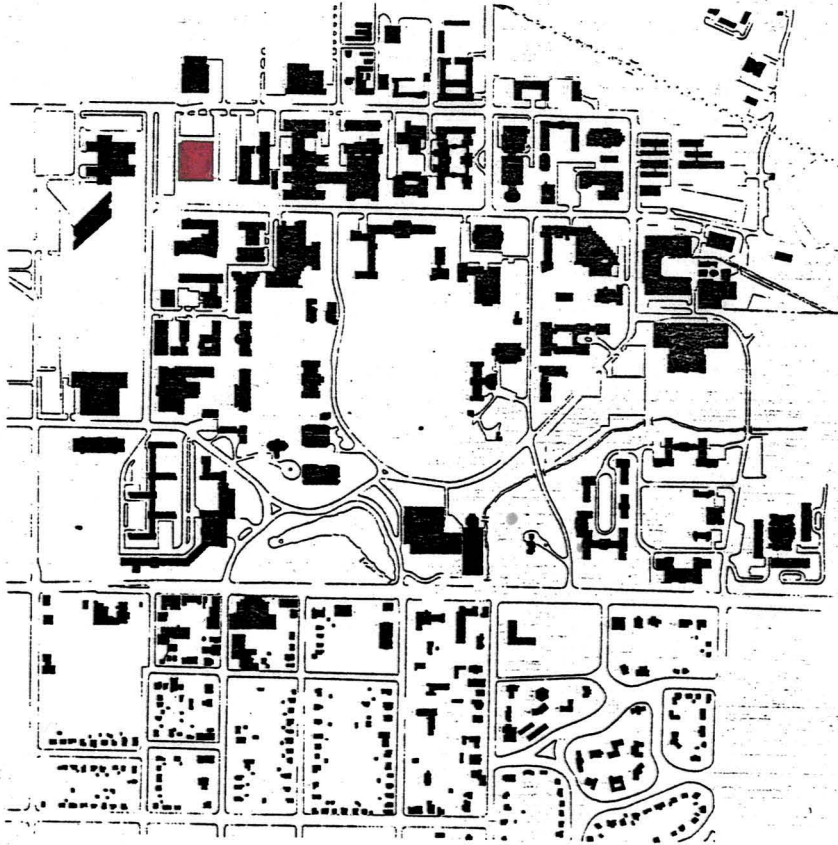


Figure 13. The context plan of the Armory in 1989

### **Daylight and Lighting**

The daylight enters the drilling space through the two openings at the two ends of the arched roof (Figure 16). while other openings are formed through punching the walls, the two huge openings are formed by the split between two structural entities - the arched roof and the walls on which the arched roof sits visually. Therefore, the two openings and the daylight going through them enforce the perception of the arched roof and the massing of the drilling space defined by the roof.

The balconies on the south and north ends of the drilling space built in 1956 block much part of the two major openings, and thus eliminate the amount of the daylight entering the drilling space. Also, the daylight through the two huge openings

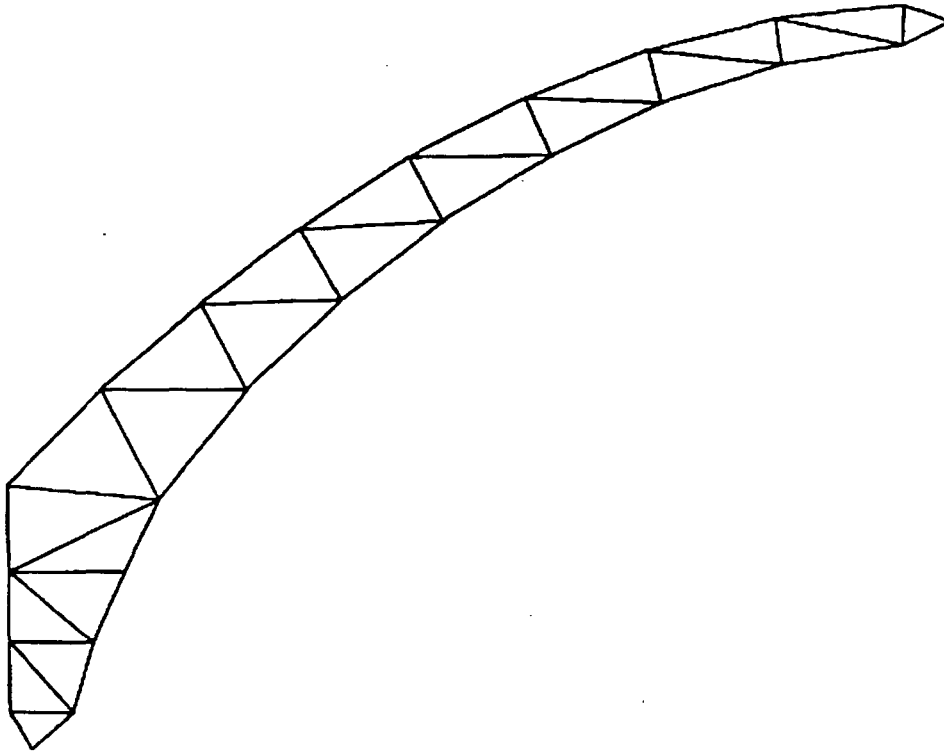


Figure 14. The line diagram of the arch in the Armory

fades away rapidly on its way that is full of materials of old and dark colors. Therefore, a necessary level of illumination for the activities in the Hall is maintained by artificial lighting.

Consistent with the direction of the span of the arched roof, and therefore with the perception of the geometrical nature of the space defined by the arched roof, four steel trusses are arrayed to carry incandescent lamps. These lamps, perceptually, create a more intimate space within the drilling space with the light from them and themselves. The invisible space protects people from the loss of the sense of scale and encourages people to concentrate on their activities within the spacious hall. As their shortcoming, the lamps cause glare.

Since 1990, the central space has been used as architectural studio. The partitions in the studio are painted white to maximize the reflection of light. However, the

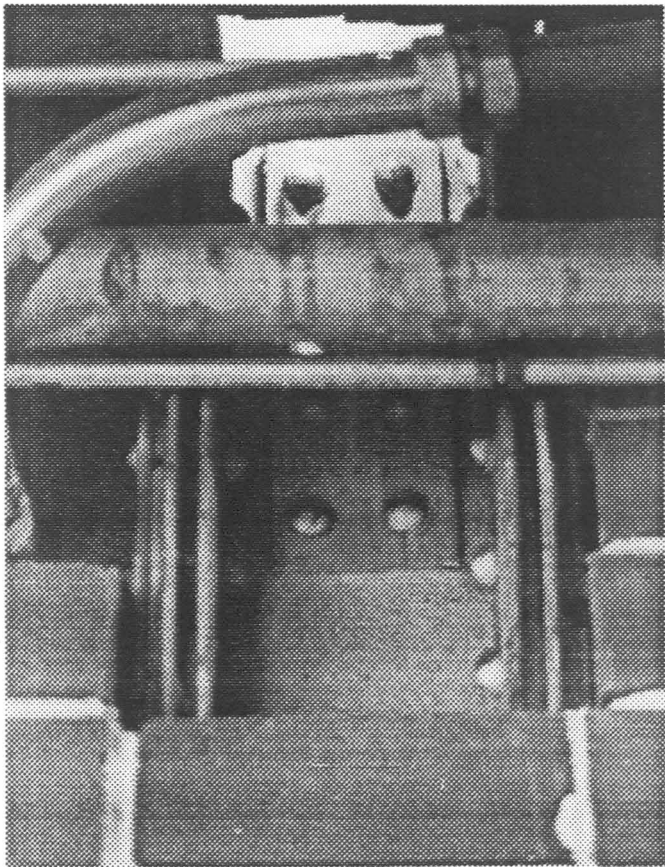
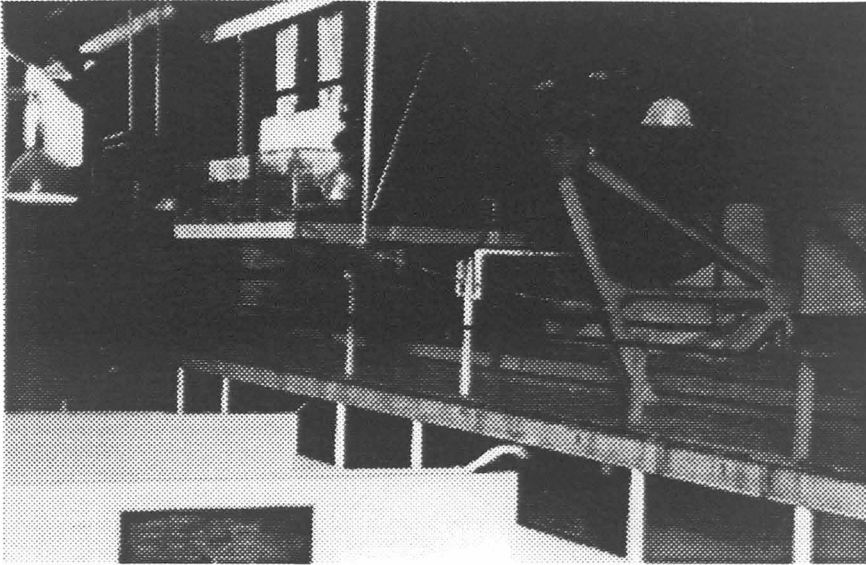


Figure 15. The columns of in the drilling space are buried in layers of additional constructions

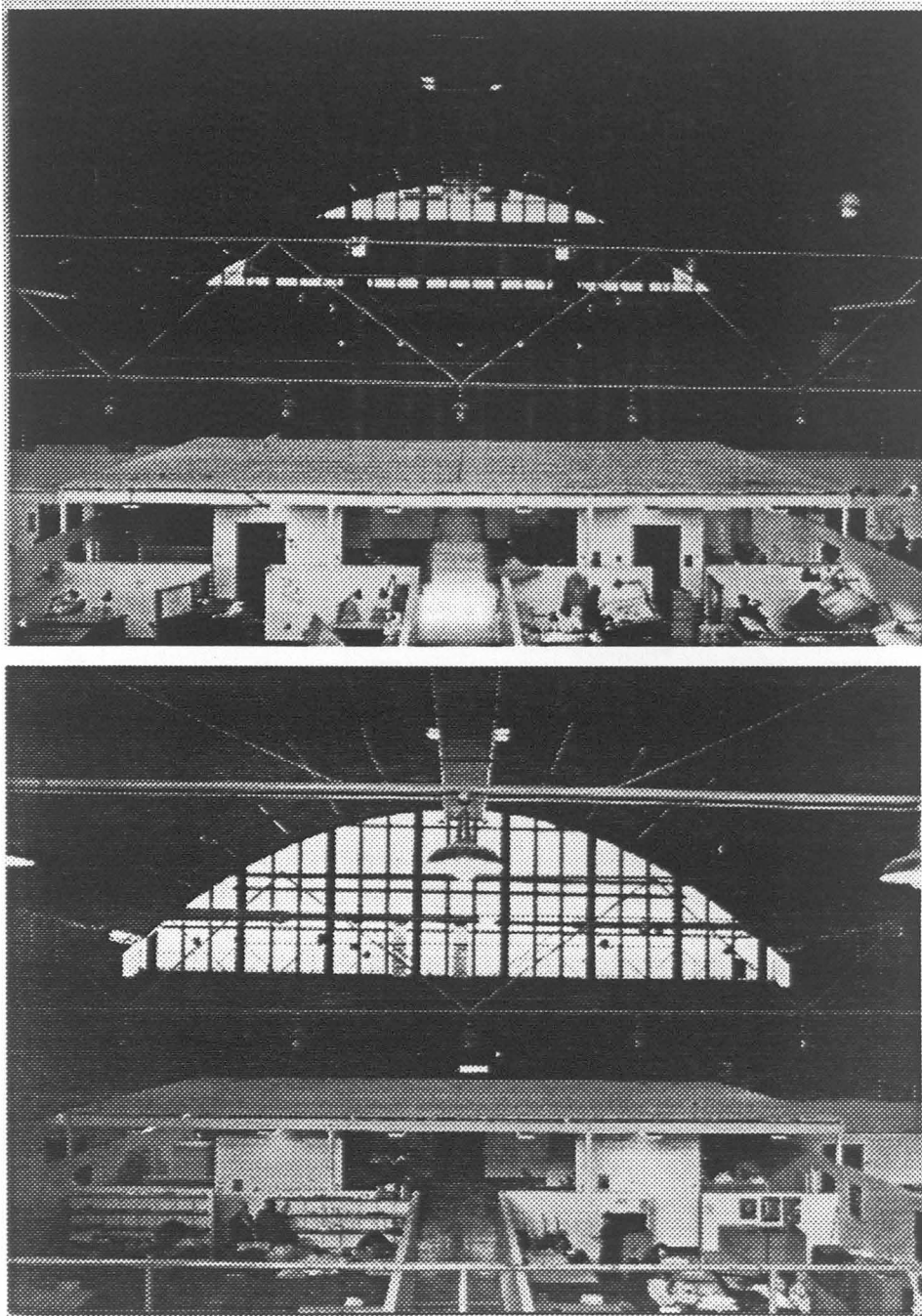


Figure 16. The daylight coming into the central hall of the Armory  
(Top) Much part of the daylight coming through the southern opening is blocked by the balcony  
(Bottom) The north-facing opening of the building

level of light on the drafting is still low. Students have to set up their own desk lamps to draw.

### **Sound**

The arched roof reflects the sounds from the drilling space back to its central floor. If the space does not have other sound, a small tape recorder in the central floor will produce a greatly enlarged and sophisticated sound impact. When the space is full of activities, the space will be heavily loaded by oppressive noises.

### **Material and Color**

The exterior walls are made up of brick, and the arched roof is covered by Imperial tile. The walls and the roof are both red in color, with slight difference. Doors and window frames are made up of steel and painted white. The color of the trims and horizontal bands are through the material - cement, they are thus light gray, or almost white.

While the red dominates the western and eastern facades, there are rich patterns of white shimmering inside the red. The whole things are rich color entities of strong unity (Figure 17). The color effect of the southern facade, however, is weak (Figure 18). Carefully designed ornaments on the wall on the southern facade proposed by the original plan were canceled due to the budget constraint (Figure 19), leaving the wall as a whole piece of red with some unorganized white within the red. The frames of the arched window on top of the brick wall are painted white. While the intense white seems to approach forwards, the darkness of the opening seems to recede from the eye. Thus, the arched window becomes a block of white. The block of white simply sit on top of the block of red, without any dialog with the red. The color elements on the southern facade are not relevant to each other, the result is the loss of unity.

The interior space has a garage appearance: many materials, colors, constructional methods, and design concepts are employed; except for the brick walls surrounding the central space or enveloping the additional rooms, other materials are old and depressing in color, the cement of the arched ceiling is even rusticated. It is the darkness of the space, the wash of lamps, and the common belief that the building is aging, that put every thing in the drill space together. The dominant material is

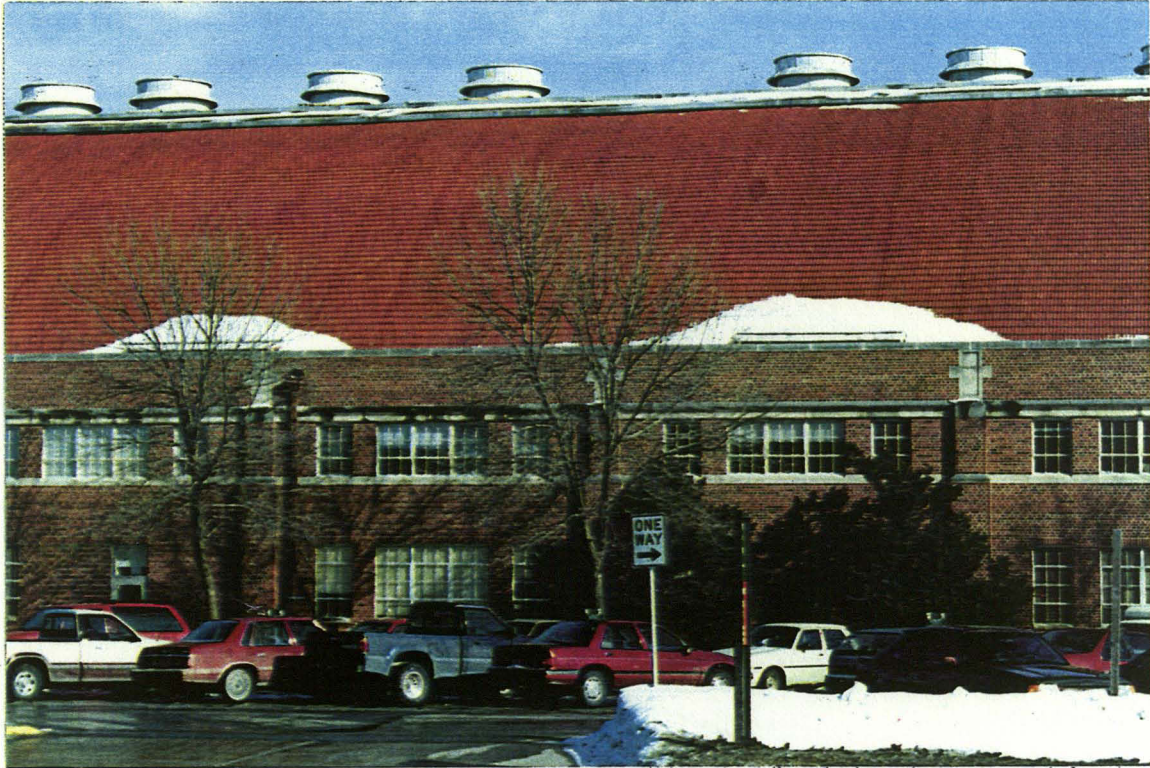


Figure 17. The west facade of the Armory



Figure 18. The south facade



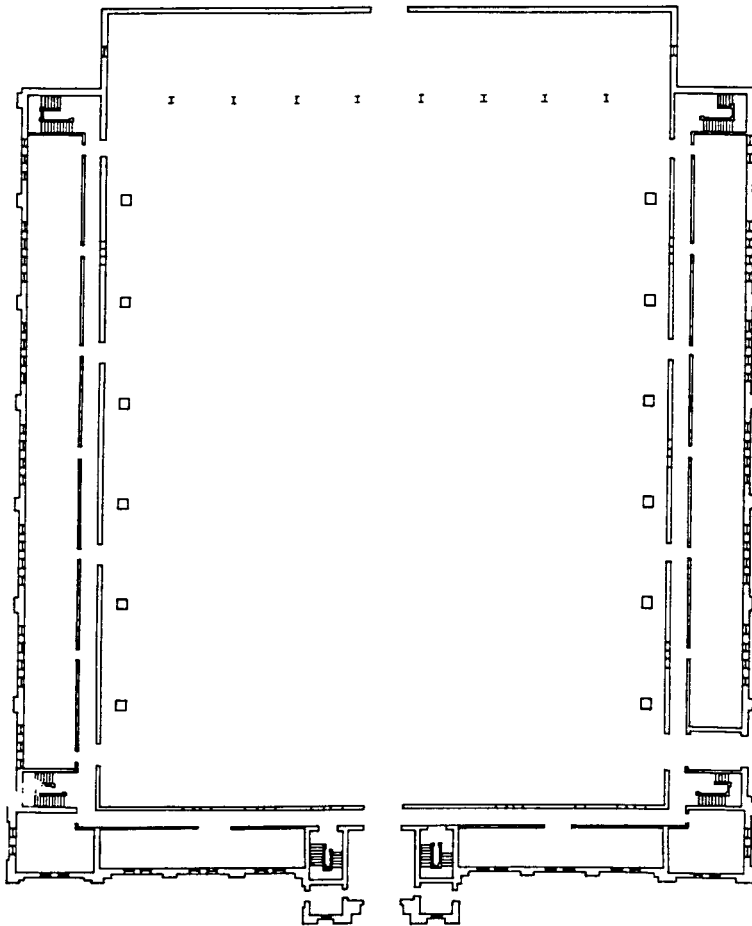
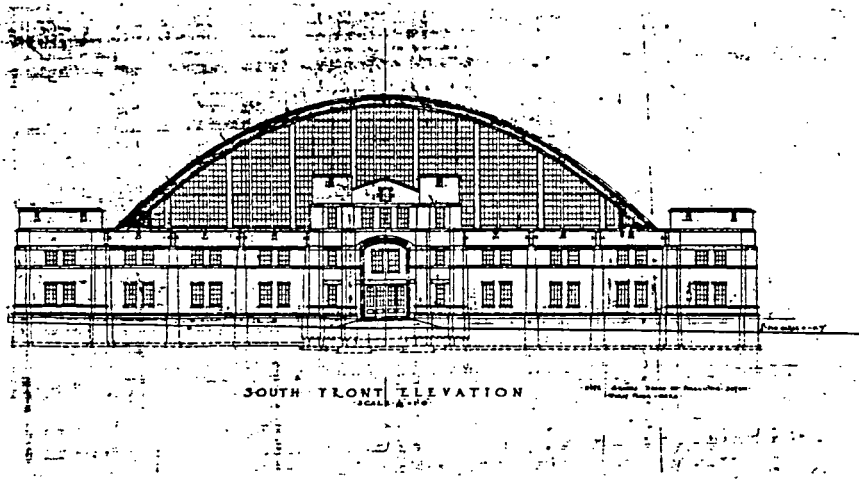


Figure 19. The original plan made in 1920, with its carefully worked out formal sequence and elevation

steel. Most steel is in form of line: the steel trusses supporting the arched roof, the steel trusses suspending the lamps, columns and beams, railing, and the huge air-conditioning pipes going through the trusses and along the windows.

### **Massing**

The exterior composition of the Armory Hall contains two masses: the rectangular box and the vault on top of the box. Their composition shows a different measure of visual success or failure from different points of view .

From the south of the building, a viewer will be disappointed by the visual separateness and conflict between the two masses. Existing next to each other, the vault and the rectangular box have very little in common in terms of shape, detail, material, color, function, and structure. They are telling different stories. Nothing on the brick wall suggest the existence of the vault which is in white, and nothing on the vault suggest the existence of the rectangular brick mass. The vault is intended to dominate the composition, but it fails. Though it is higher than the brick box and on top of the box, it is not detailed. In contrast, the brick box is lower but much more detailed. The two masses are of equal power and fight with each other. Thus, the visual effect fails to be a harmonious entity in which all the elements are relevant and serve each other (Figure 18).

However, if a viewer is approaching the building from the west or east, the composition is satisfying. The color satisfaction of the composition from this perspective has already been discussed under "material and color." Adding to it, there is a formal unity built up by the vault and the brick box. While the brick wall is carefully detailed, the vault is succinct. Coupled by the consistence of the two masses in terms of the direction of their extension, it forms the clear relationship between the dominant and the secondary in the composition (Figure 17).

### **Sequence**

The original plan of the Armory Hall in 1920 was marked by an well worked out formal sequence. The two protruding staircase towers along the formal axis narrowed down the way to the main entrance on the south side of the building, so as to generate an expectation of something bigger (Figure 19). The huge drilling space behind the entrance satisfied this expectation, acting as the climax of the sequence.

Although the sequence was simple, it was complete and efficient, with clear defined beginning, a logical progress, and a well prepared end. In this way, a harmonious spatial experience was to be offered.

Unfortunately, the towers and the ornaments in the front were put aside in the construction of both the Armory of 1921 and 1924. The drilling space was entered directly from the entrance door built in the piece of thin wall (Figure 20). So little preparation existed that the drilling space appeared cheap and less important. Accordingly, the building offered an less aesthetic spatial experience.

The remodeling of 1956 changed the story. The additional balcony on the south

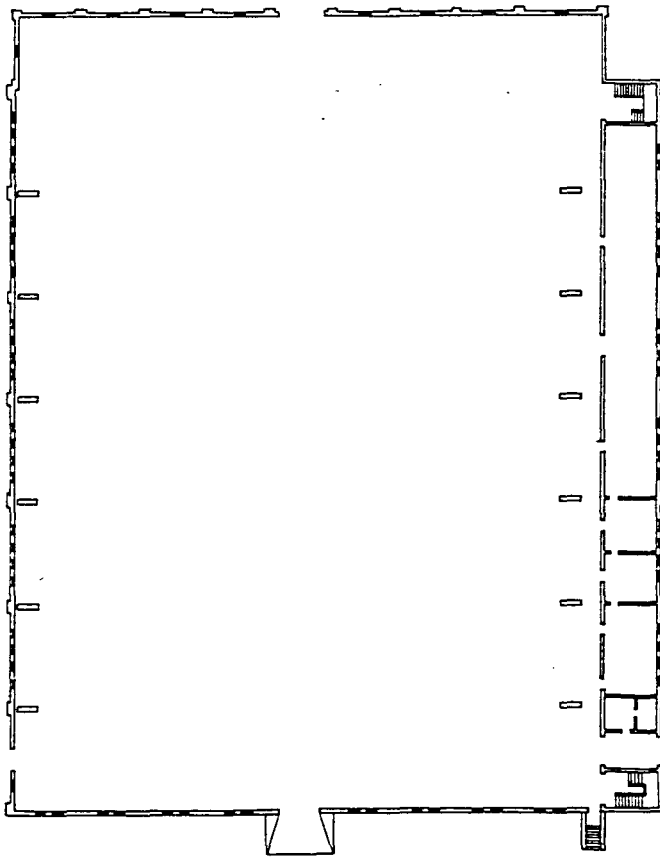


Figure 20. The actual first-floor plan of the first Armory Hall in 1921

side of the building formed a pass-way between the main entrance and the drilling space which efficiently prepared people for the appearance of the drilling space.

Today, the end of the pass-way from the main entrance to drilling space is blocked. People take the two exits on the east and west side of the southern facade to approach the drilling space. This gives the new sequence an informal nature which makes the building of formal composition much more interesting and intimate (Figure 21).

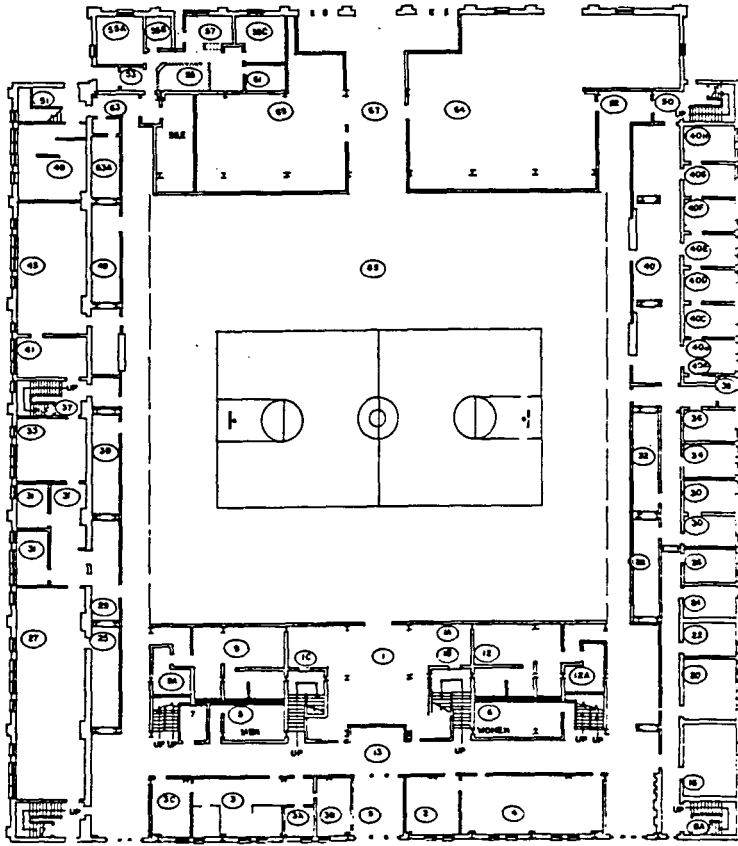


Figure 21. The first-floor plan of the Armory Hall after 1956's remodeling work

## CHAPTER 6: CAMPUS MEMORIES

I would like to devote this chapter to some of the collective memories of Iowa State in relation with places or artifacts. These places and artifacts are the highlights of daily campus lives that Iowa Staters' have been widely experiencing. They build up the culture of the university and dwell in Iowa Staters' mind as collective memory.

### **The Campanile and It's Bells**

Every year Iowa State coeds are introduced to one of the loveliest traditions of Iowa State - kissed at midnight under the Campanile on central campus. The myth was: if a coed hasn't been "Campaniled" before she graduates, she'd live to be an "Old Maid."

The original purpose of the Campanile was not kissing, but to house the 10 bells known as the "Margaret chimes," donated by Professor Edgar W. Stanton in memory of his wife Margaret, Iowa State's first dean of women.

Cast by John Taylor and Company of Loughborough, England, the bells were the first scientifically tuned chimes to be placed anywhere in the world.

In deciding to make this gift to the college, Stanton said, "I would have our college chimes such that they will turn the thought of students and teachers, for the moment, from daily care to holier thinking and become a continuously enabling influence in college life."

These bells have been known as the "Bells of Iowa State." They have played their harmonic music for decades while students journey to and from class. Built in 1898, the Campanile has been a renowned symbol of Iowa State University (Figure 22), giving alumni fond memories of their alma mater:

Green hills for the throne, and for crown a golden melody,  
 Ringing in the hearts to all who bring thee love and loyalty;

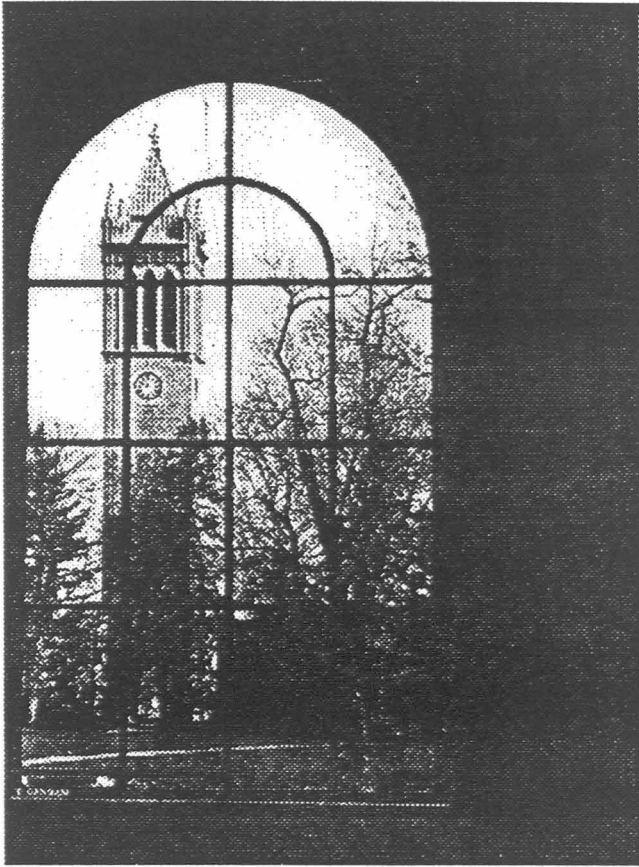


Figure 22. The Campanile at Iowa State University

Dear alma mater, make our spirits great,  
True and valiant like the bells of Iowa State.

### **The Memorial Union**

The Memorial Union is called the living room of Iowa State University by an article in BOMB 1975. The same article indicates that 10,000 people pass through the east door of the Union each day and they are on their way to one of over 50 events going on in the Union on an average day. In her book *Iowa State's Memorial Union: An Architectural and Social Evaluation of a Campus Treasure*, Jamie Horwitz describes the tremendous popularity of the Union from another point of view:

Despite increasing alternatives, the Memorial Union continues to be a social and service

center at Iowa State that is visited at least a few times a month by 95% of undergraduate students! . . . This use pattern remains constant regardless of where a student lives, or where their academic activity is located on campus (Horwitz, 1989, p19).

The Union is a something-for-everyone-place with places to eat, drink, study, shop, bowl, sleep, watch TV and Movie, and listen to lectures. With its enjoyable programs, its culturally identical users, and its pre-modern nature of the architecture, furniture, and works of art, the Union makes people feel warm, safe, and belong. These positive feelings, coupled with the numerous events happening there, makes the Union a "touchstone of memory." As noted by Jamie Horwitz:

"It is the most representational building on campus." said one alumnus. Moreover, each new generation of students seems to become keenly aware of the traditions they enter and the legacy they leave. For both alumni and students the Memorial Union represents continuity at Iowa State. . . For many alumni the entire building is a "landmark and a majestic structure". Even details - oak doors, hardware, and marble floors - are remembered with fondness. When asked what areas of the Memorial Union are "sacred" and should never be altered, the most consistent alumni responses refer to areas in original building. They include (1) the fountain, entry, and Gold Star Hall; (2) the Great Hall; (3) the Hotel desk, and (4) the Commons and its furniture. Some places in the newer additions have gained significance as well. They are (5) the Sunroom, and (6) the Maintenance Shop (Horwitz, 1989, p32).

The dignity of the "Fountain of the Four Seasons," located north of the Memorial Union, has remained a source of beauty, mediation, and memory for most Iowa Staters (Figure 23). Running from Veishea to Homecoming, the 11,000 gallon fountain was donated in 1941 by the Veishea Central Committee. Most important, however, is the inspiration symbolized in this work of art by Christian Petersen, the well-known sculptor at Iowa State.

The artist's inspiration for the fountain blossomed from an ancient chant of the Osage Indians. Four Indian women are seated in the midst of a high spurting column of water. These maidens, representing the four seasons of the year, tell the story of Corn and the influence it had on the development of civilization.

One of them holds an ear of corn in one hand and places a single kernel in the ground with the other. The next figure carefully shelters a tender new sprout. The



Figure 23. The north entrance of the Memorial Union and the sculpture Fountain for the Four Seasons

third holds an abundant harvest, while the last holds a newborn babe in her arms.

The four Indian women in sequence, chant:

Lo, I come to the sacred planting -

Lo, the tender sheets break through the ground -

Lo, I reap the bountiful harvest -

Lo, there is joy in my house.

A quiet complete life cycle - tenderness, godliness, work and reward - are here.

There is a holy peace and quiet over these four figures.

One of the loveliest features of Iowa State University , Gold Star Hall in in Memorial Union is a shrine dedicated to the memory of the 117 Iowa State students



who died in W.W.I and W.W.II (Figure 24). Their names are there permanently, carved in stone. The stain glass windows, although in the architect's plans, were not installed until 1943, fifteen years after the building was complete.

The twelve beautiful windows were designed by Harold W. Cummings, '18. Each of them depicts a different quality of greatness, religious and worldly. They are named Learning, Virility, Courage, Patriotism, Justice, Faith, Determination, Love, Obedience, Loyalty, Integrity, and Tolerance.

The sign of the Zodiac in Gold Star Hall was put there by W.T. Proudfoot so "modern generations wouldn't forget the Zodiac." Ever since the bronze figures have been installed in the floor of the North entrance to the Memorial Union (Figure 25), students have refused to walk on them. As the story goes, those who walk over the zodiac will flunk their next exam .

The curse of the Zodiac may be broken in one of the two ways, but they will both cost something. A penny may be thrown either into the fountain in front of the Union or off the bridge at the bottom of Union Hill to break the curse.

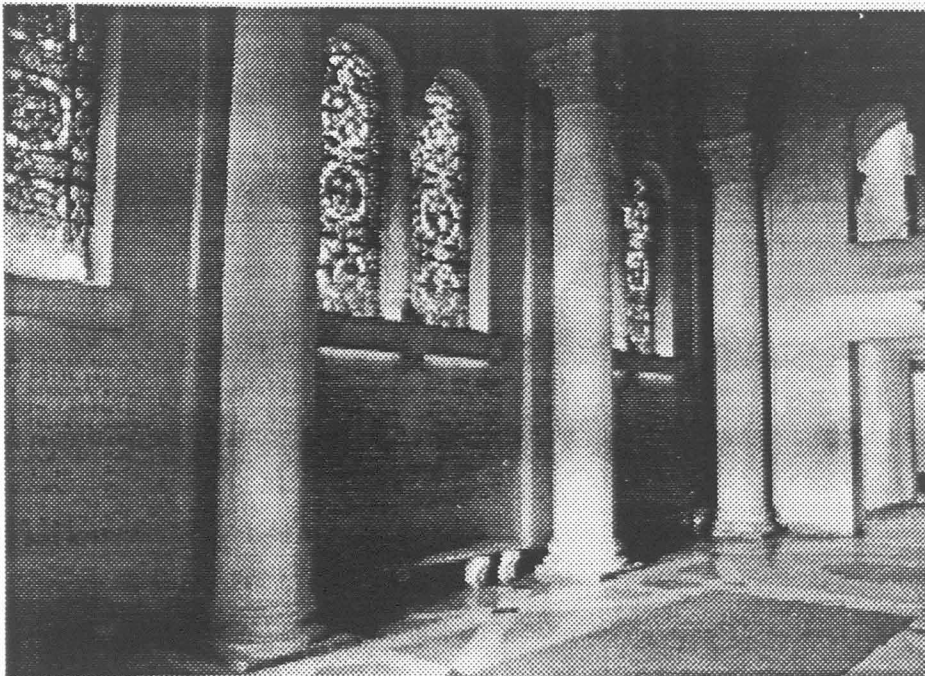


Figure 24. The Gold Star Hall in the Memorial Union

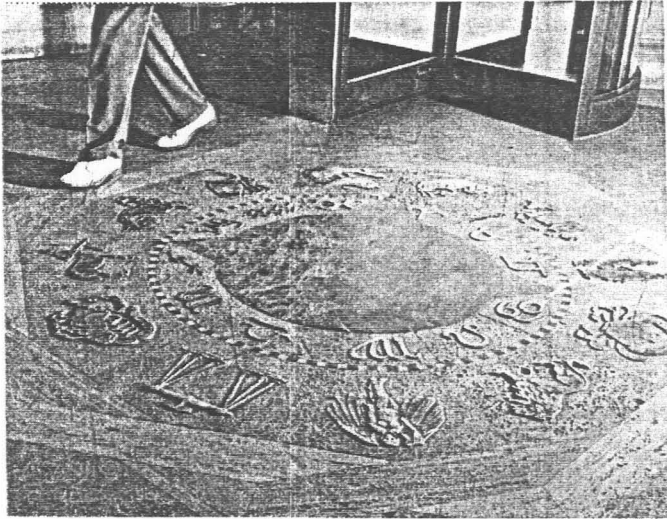


Figure 25. The Zodiac in Memorial Union

Since it opened its doors in 1972, the Maintenance Shop in the Union has become a campus institution. Formerly a real maintenance shop, it was converted into a bar, restaurant and intimate performance space where on seat is more than 20 feet from the stage.

The Shop features theater, lectures and films. But it has gained its fame with music. An impressive variety of blues, jazz, folk and rock performers have taken the stage in front of the Shop's distinctive stained glass windows. Artists such as Muddy Waters, Willie Dixon, Buddy Guy, John Lee Hooker and Hound Dog Taylor are just a few of the top names that have played at the M-Shop in the past.

### **Lancelot and Elaine**

Lake Laverne, a delightful spot on campus, is memorable for Iowa State students as the scene of winter skating, Veishea Canoe races, strolling couples, myths, and graceful swans especially.

The year is 1935. It is the beginning of the VEISHEA festival. At the climax of the festival program, a huge swan float glides out of a smoke screen at the west end of Lake Laverne. Four beautiful coeds, dressed in white and carrying flowers, ride between the folded wings of the swan. As the float drifts to the center of the lake,

four live swans, presents from the VEISHEA central committee, are release. Thus began one of the most noticeable and graceful traditions of Iowa State University - Sir Lancelot and Lady Elaine on the placid waters of Lake Laverne.

It is not known how long the first Elaine lived, but Lancelot I lived until April 9, 1943. Since that time many pairs of swans have spent spring, summer and fall months on Lake Laverne. The couple make their nest along the west bank of the lake and are fed from feeders along the south bank. Their names are never changed (Figure 26).

Lake Laverne was restored in 1948 and myths have been born, such as: Sweethearts who walked around the lake hand in hand three times, will get married; Kissing on the shores meant love, fornicating on the shores meant a \$100 fine; And falling into Lake Laverne meant certain death from either tetanus or piranhas; Several students have released many different species of pet fish into the lake to grow into giants.

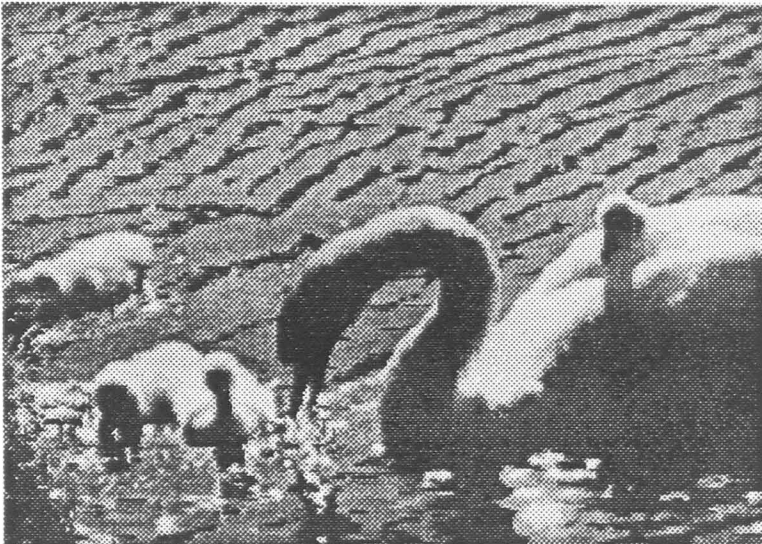


Figure 26. Lancelot and Elaine on the Lake Laverne

## Dugan's Deli

Being an off-campus bar, Dugan's Deli is for sure one part of the campus life. For more than 20 years, it has been a comfortable haven for students, faculty, radicals and working people. Every evening, people from campus or the town gather at there, drinking, dancing, talking, and enjoying each other. After every exam or jury, in time of every event, it is usually the first place coming into mind. It is always full of people. The flashing lights, elegant furniture, walls painted red or brown, the huge painting that echoes the sense of motionlessness and timelessness (Figure 27), are always able to give people warmth, relaxation, and calmness. Very sadly, the end of 1993 see the demise of Dugan's Deli - the eminently funky bar falls victim to various market forces. With old songs and old friends, Dugan celebrates its last new year's eve on the last day of 1993. Hundreds of people came to the party, many had to wait before they can get access. People danced and singed into 1994, plunging them into ecstasy or tears. The party was truly emotional.

During Dugan's last month, its interior walls are covered by huge papers which invite people to write down their words. Some of them are quoted as the following, as better descriptions of the bar as a place of memory:

As I reflect on the good times in my life, one thing that always come to mind is Dugan. This place and all that I have experienced here is a woven part of my soul. My mind and life have been expanded because of this very place and the wonderful people I have met here. I will miss this meeting place and I am sad to know that one part of what I call home will be no more.

A place to laugh

A place to cry

A place to share times with friends

A place to show your true self

All things pass away

As will Dugan's

But just as spring follows winter

With good thoughts and prayers

it will be reborn

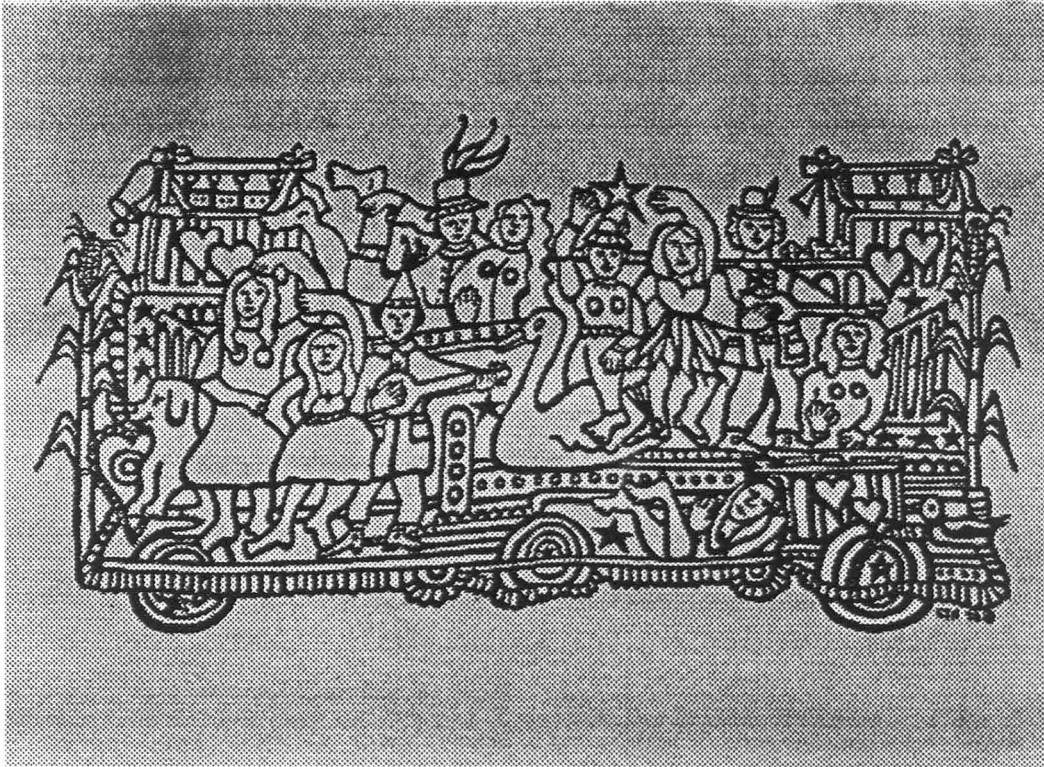


Figure 27. The painting on Dugan's wall

More vibrant and loving then ever  
Keep the faith

THANKS FOR THE MEMORY

LET JOY AND INNOCENCE PREVAIL

### **Veishea**

For most Iowa Staters, Veishea, the largest student-run festival in the nation, means a lot of memories. Memories perhaps of rushing to finish an open house display, or of putting last-minute touches on a float for the parade; of the brilliance and pageantry of the parade with its colorful floats, the marching bands and the queen of queens; memories of the Veishea torch, Veishea dances or cherry pies, the Stars

Over Veishea in Armory or Clyde Williams Field; and memories of violence. Memories of Veishea over the years have built a strong tradition. Veishea has become the symbol of Iowa State University, it is Iowa State on display at its best.

The name VEISHEA comes from the first Veishea program in 1922 whose purpose is "to develop the spirit of unity, unity between Iowa State College and Iowa People, unity between Ames and high school students, unity between the alumni and students, unity between the students of the five divisions". The name is formed from the first letters of the five academic divisions of the College by that time - Veterinary, Engineering, Industrial Science, Home Economics and Agriculture. It is so formed as to represent the general theme of that year's Veishea - All College.

It has been seventy-two years since the first Veishea and seventy-two times Veishea has been repeated - but with tremendous variation to suit the changing times and circumstances. While activities like the Nite Show and the parade remain popular over times, others like May Fete and VEISHEA Queen of Queens were subsequently dropped from the program and new activities keep coming in as the outlets of Iowa Staters' creativity, enthusiasm and initiative.

Not only the format, the mood of Veishea also keeps changing, as a response to the changes of national and campus life. From 1964, after the assassination of President John F. Kennedy, until the late Seventies, the Veishea parades reflected the turmoil, the sadness, the concern, the involvement of students in the Civil Right Movement, the Viet Nam era, the water-gate scandal, and other events. More recently, two riots took place in 1988 and 1992's Veishea respectively. The 1992's riot is conceived as a reaction to the Rodney King verdict in Los Angeles and the related waves of outrage all over the country. The spirit of unity is represented in a negative way.

## CHAPTER 7: PRECEDENTS

Several projects are studied as the references for the project of the thesis: Gae Aulenti's Musee d'Orsay, Han Hollein's Austrian Travel Bureau, Frank Gehry's Temporary Contemporary, and Oswald Mathias Ungers' German Museum of Architecture. All of the four are renovation projects, and they function as memory system with different measures. Particularly, the Musee d'Orsay is chosen for the building's spatial similarity with the Armory Hall, the Temporary Contemporary for its social and ideological significance as a conversion project, the Austrian Travel Bureau for its referential meanings, and the German Museum of Architecture for its unique strategy to bring the new and the old together with elegance and beauty.

### **Musee d'Orsay, 1986**

The Hotel d'Orsay and the Gare d'Orsay (railway station) were inaugurated in 1900, coinciding with the World Fair held in Paris that year. Both were the work of architect Victor Laloux. In 1978, the station was handed over to the direction de Musees de France to provide a home for a nineteenth-century French art and culture which, together with the Louvre and the Pompidou Center would form a trilogy covering the entire history of French art. That two of the trilogy are rehabilitated or extended old buildings suggests how much the Parisians are willing to attach cultural functions to historic buildings.

The building's dimensions are exceptional for Paris: the facade occupies 200 meters of the Avenue Anatole France; the great interior hall is 138 meters long by 40 meters wide by 32 meters high (Figure 28). It houses more than 4,000 works, including paintings, sculptures, drawings and furniture, as well as a collection of 3,000 photographs. There are also exhibition areas, an auditorium seating 350, a cafeteria, restaurant and a cultural service, which aims to encourage greater public interest in art.

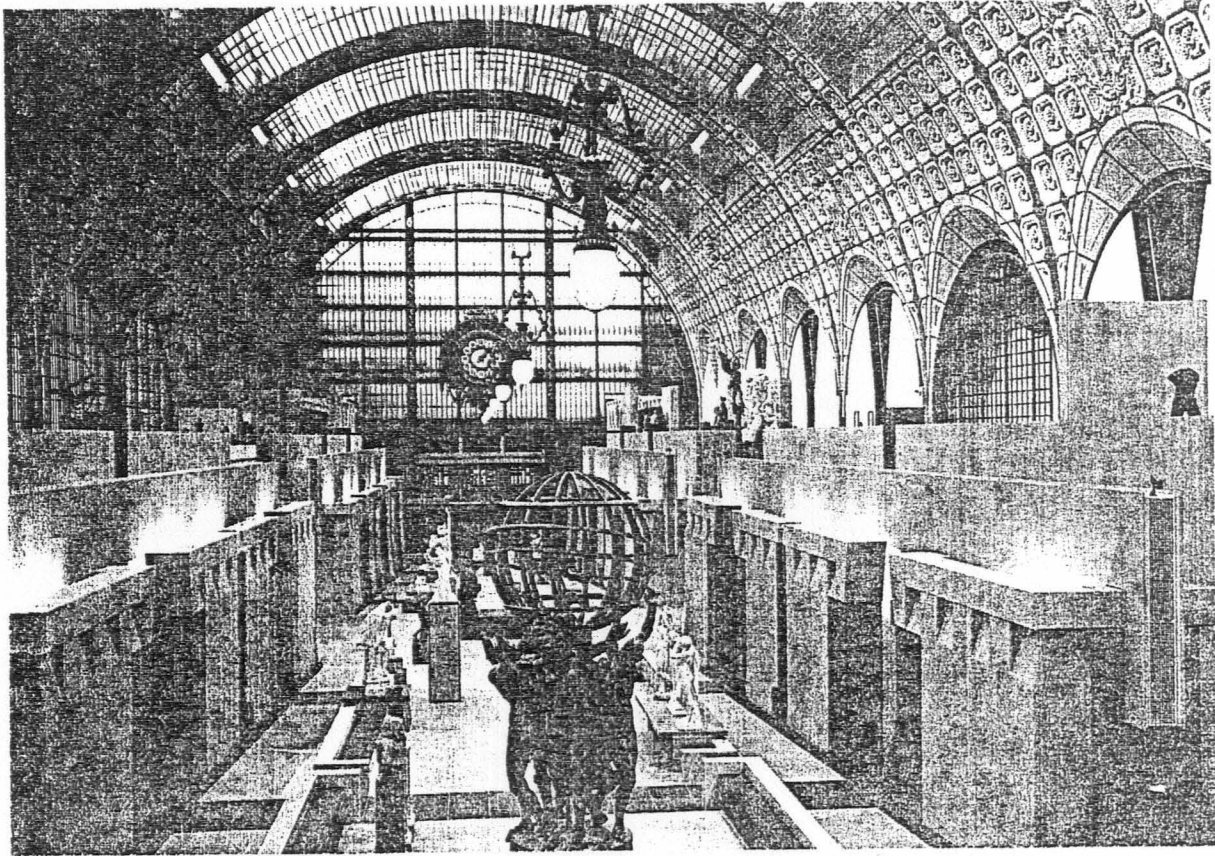


Figure 28. Musee d'Orsay, Gae Aulenti. 1986

The many uses of the building suggests the purpose of the museum architecture is to provide a place where visitors can share a collective experience, a place which serves as one part of the daily lives. Thus, the building acclaims an approach rather different to the traditional idea of the museum as somewhere where the solitary spectator acquires information in the silent, almost inhibited, atmosphere so beloved of academic culture. The many uses will be making the museum a container of future memories.

The overall organization of the spacious interior respects the spatial and structural features of the former station (Figure 29). High above the majestic march of the side arcades soars the long cast vault through which floods the light that bathes the whole scene. All this existed before, though it has been cleaned, repainted and





Figure 29. The previous railway station

reglazed. Along the longitudinal paths of the previous trains builds two rows of battered piers which provide routes ramping up towards a pair of tall towers that stand before the enormous glazed wall of the shed. The major exhibition area is where the platforms once were. By preserving the structures, details, and the massing of the space, the new museum preserves the original impression of the previous station.

The piers are the touchstone of the memory system of the building. On one hand, with their positions and volumes they evoke the particular memories - the memory of the trains that used to pass through the station, the memory of the activities that used to be in the space, and the memory of the atmosphere of the Nineteen Century; on the other hand, they echo a sense of memory with their forms that resemble the pylons of Egyptian temples (Figure 30). Most people will not have the knowledge that the designer resorts to the Egyptian temple for the imagery. But the imagery resonates with their unconscious memories of the feeling with which they interface with some historic artifacts in their previous experiences. Thus, the imagery recalls the previous feeling of history, time, and therefore, memory. The piers are both the presentation of particular memories and the abstract expression of the very theme memory.

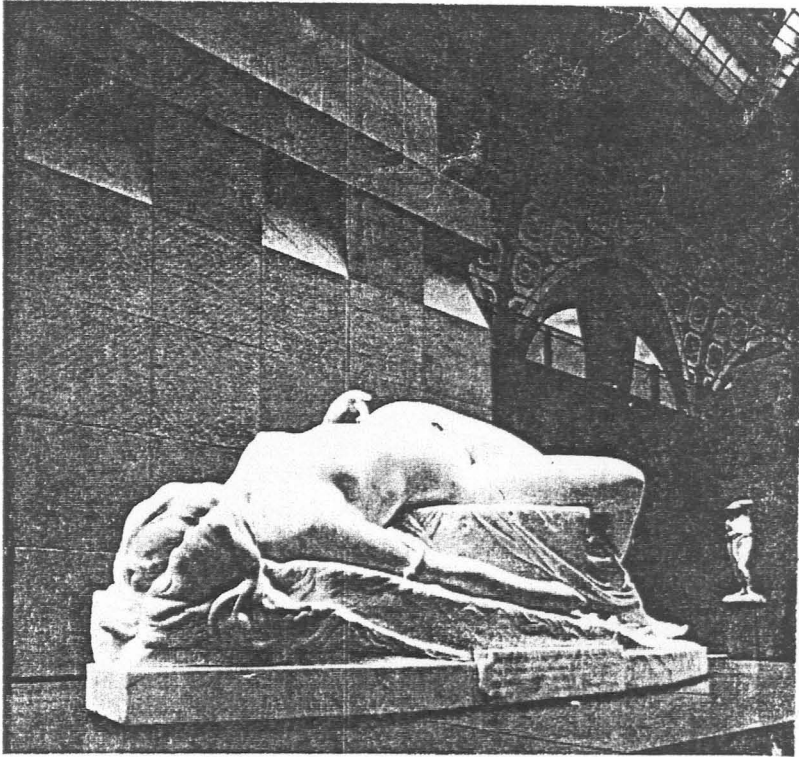


Figure 30. The Musee d'Orsay. Details

### **Austrian Travel Bureau, 1976-1977**

Han Hollein's most innovative contribution to contemporary architecture is his architectural landscapes in which separate buildings or entities, each with its own characters and associative content, spread out over the terrain to build up an environmental fiction.

Hollein's Austrian Travel Bureau is conceived as one of the most symptomatic work of Postmodern Architecture. Behind the nondescript front of an old building, under a glass roof, Hollein composed an environment that recounts tales of travels in many different ways and even prepares people for travel just as a stage prepares one for a play or an opera (Figure 31). Immediately after entering the travel bureau, one finds oneself before the brass stems of metal palm trees which evoke the images of distant and exotic countries. Against the wall, marble building stones rise in a pyramidal shape that extends beyond the room into infinity. Amid the palms stands the stump of a classical column, in which a shaft of stainless steel is imbed-

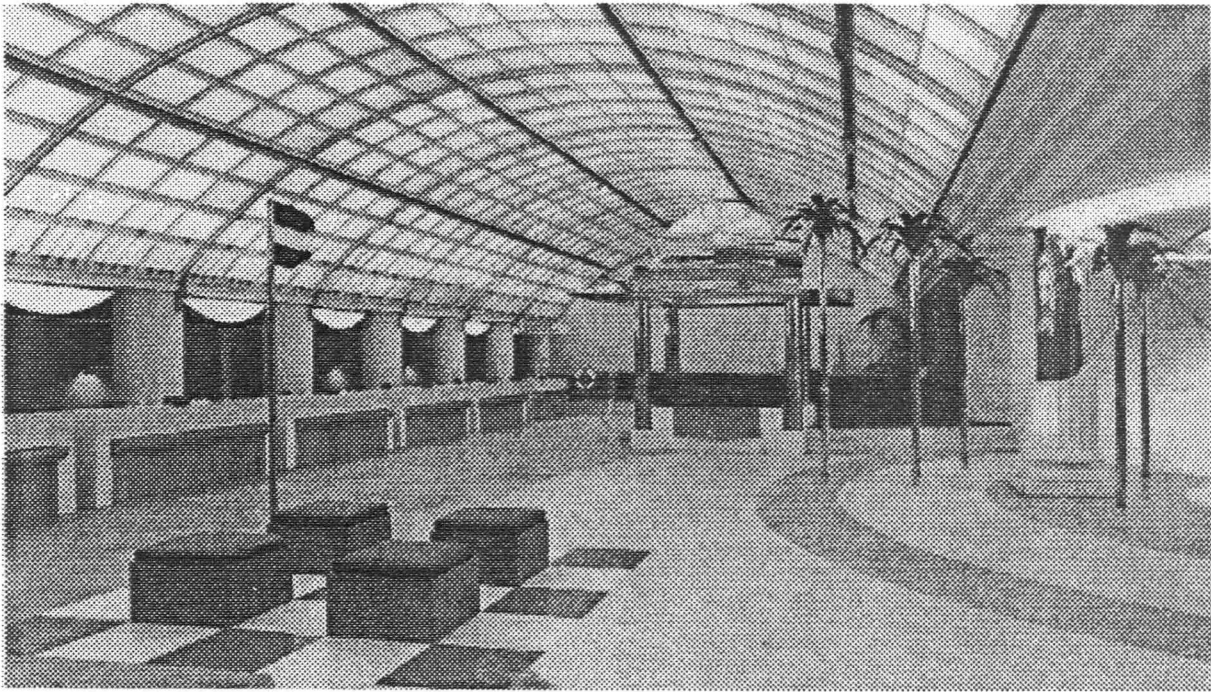


Figure 31. Austrian Travel Bureau. interior space

ded, generating the longing for the antiquity. A plastic Austrian flag appears to be ruffled by a stiff breeze. There is an actual proscenium, with a Serlio stage set - here one buys theater and opera tickets. On the opposite side, on the same axis, is a pavilion with a golden baldachin roof. At the far end of the hall, the plot of distant travel thickens. Two eagles soar against a pastel blue sky delicately veiled by clouds: Air travel (Figure 32). In front of the painted sky and behind the counter stands an easel with a piece of canvas representing the same pastel blue sky - a picture within a picture.

The travel bureau attunes the customer to his upcoming travels and creates an atmosphere consonant with the mood of departure. The space is the space of the theater stage, and a visitor moves in it as if playing a part in a fiction.

Allusion and association are possible only through something already known and experienced. Thus, it is memory that makes architecture a possible medium of communication. Symbolic architecture is by its nature a memory system.

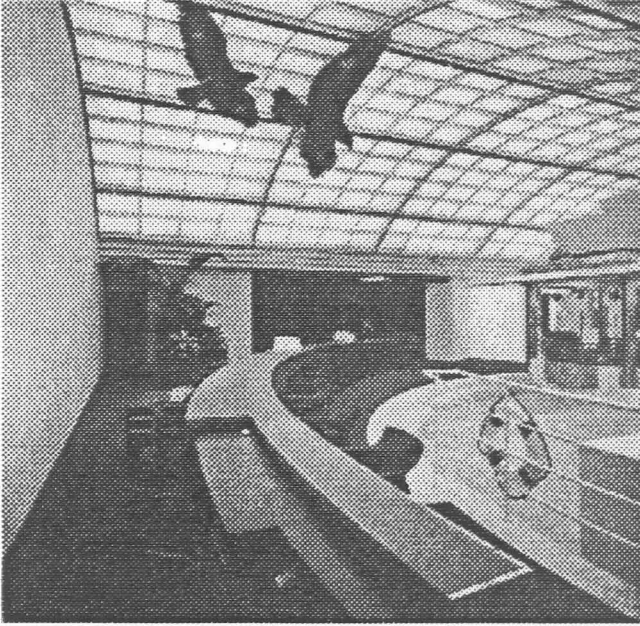


Figure 32. Austrian Travel Bureau. The two eagles

### **The Temporary Contemporary, 1983**

In 1979, a group of Los Angeles civic and cultural leaders began to work towards establishing a museum dedicated to contemporary art. When the museum's \$22 million future home (designed by Arata Isozaki as part of the Bunker Hill redevelopment plan) ran into unforeseen delays, it moved into a temporary home in two adjacent warehouses that were renovated by Frank O. Gehry & Associates for just \$1.3 million dollars (Figure 33).

The site of the Temporary Contemporary is near downtown in "Little Tokyo" on the edge of a warehouse district in which many area artists studios are located. Before conversion, one of the two warehouses stored hardware, the other a police garage (Figure 34).

Gehry's rehabilitation work is based on the conviction that the warehouse space itself was an appropriate setting for contemporary art. Thus, Gehry's work is essentially a clean-up effort, preserving the awareness of the previous spaces and the image of garages.

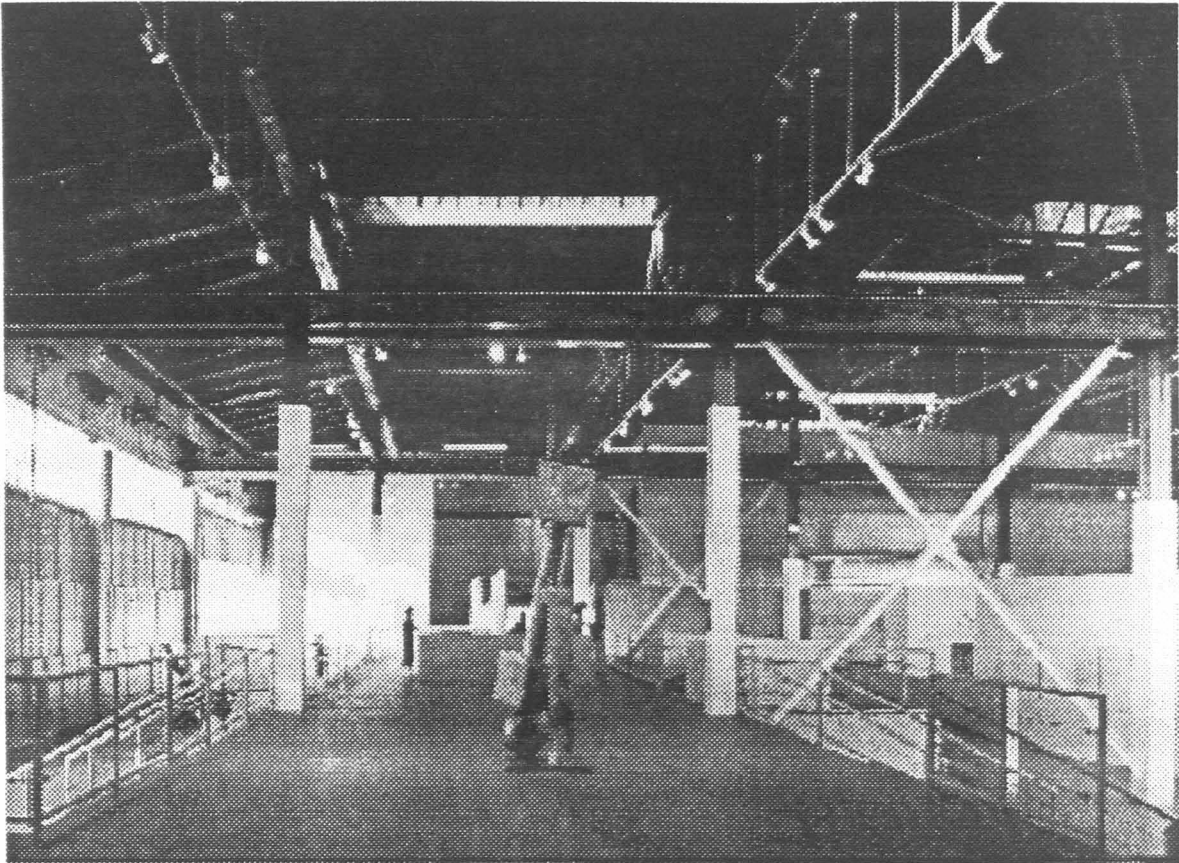


Figure 33. Temporary Contemporary. The exhibition hall

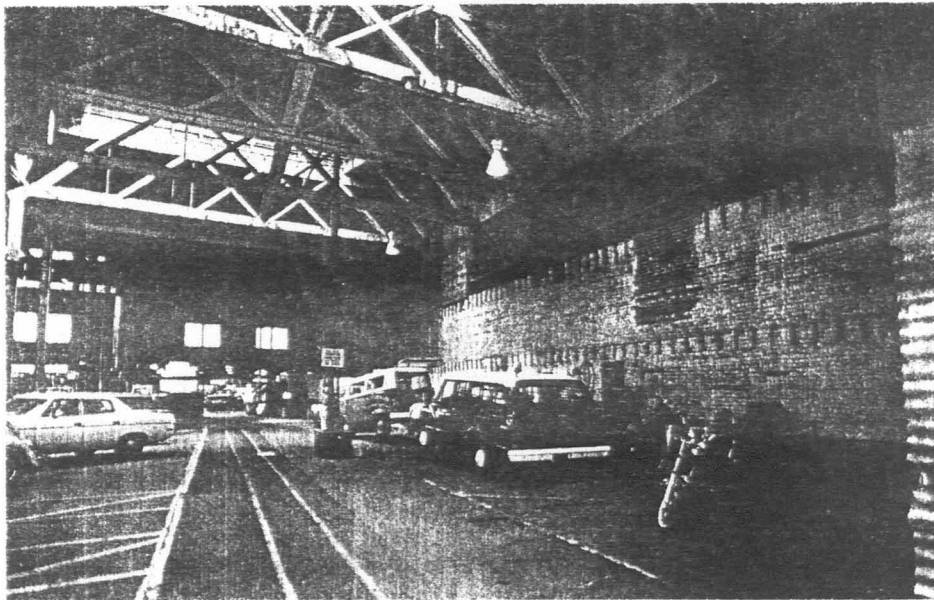


Figure 34. The temporary Contemporary. It was formerly a police-car garage

The existing steel trusses and wood joists are cleaned and reinforced. The lobby, which was formerly the larger building's loading dock, is given a series of concrete ramps to meet accessibility codes. The exhibition walls in the gallery space can be constructed and moved at will. The steel columns are partially enclosed by gypsum board to meet fire codes. Like Musée d'Orsay, the additions are attached to the ground of the vast space and thus leave the volumes of the spaces and the trussed ceilings which were the major form-giver of the previous spaces untouched. Also, the additions are painted white, in sharp contrast of the dark colors of the old parts of the buildings, so as to have both the old and new well acknowledged.

Central Avenue, the dead-end street on which the Temporary Contemporary is located, is closed to traffic in front of the museum to make room for a canopy of steel and chain link, designed by Gehry to create a pedestrian plaza. The canopy's columns are a deliberate extension of the colliding column grids of the two existing warehouse buildings that comprise the museum. Except for the new entrance doors, the buildings' facades are unaltered.

Two months after its opening, the Temporary Contemporary had welcomed 10,000 numbers. So successful is the project that more than a few people have wondered whether the temporary shouldn't become the permanent.

With its low cost, humble site, and garage-looking image, the museum gives the contemporary art an everyday basis. Thus, the museum is an excellent interpretation of the statement of its director, Richard Koshalek, that "contemporary art should be close to street (Viladas Pilar, "The Undecorated Shed", *Progressive Architecture*, March, 1984, p80)." To the same extent, it is an excellent interpretation of the social significance of the current movement of historic preservation of America.

### **The German Museum of Architecture**

This 1979-84 building houses the German Museum of Architecture. It shows in itself what a remodeling project can do.

The core of the development is an elegant 1901 villa that contrasts with the rusticated wall placed around the plot. The wall becomes a welcoming loggia on the front facade and grants a view through to the buildings in the rear part of the complex, where there are chestnut and ash trees in a row of small courtyards. The modern form and materials of the loggia acclaims the nature of the project - the combination of the old and the new (Figure 35).

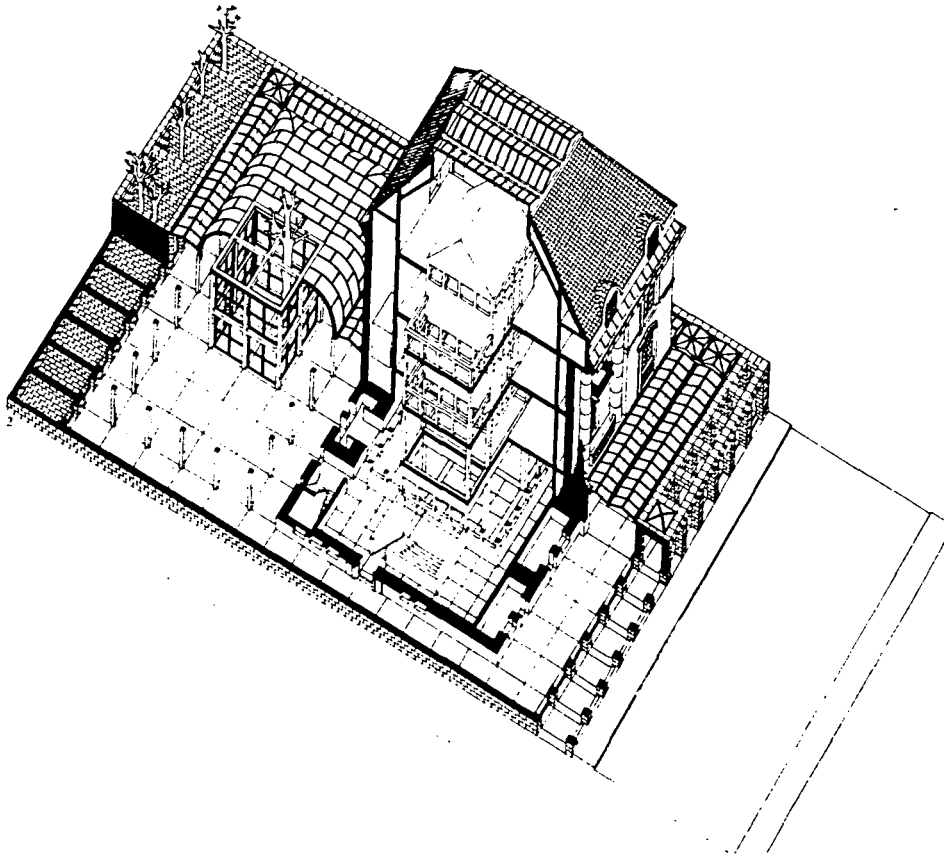


Figure 35 . The German Museum of Architecture. Isometric

The main courtyard is a cube with glass walls divided into squares. The upper, open face of the cube is also divided into four squares. Here the proportions and scale of the entire rear hall are concentrated into an easily apprehended form.

Inside, another house is rising up inside the villa. On the lower levels of the villa, however, one is at first only indirectly conscious of the nature of this inner core. In the basement are four freestanding supports, like an uncovered baldachin. This is framed by walls with openings in them, providing a shell for the “four-poster” space. Here the architect, Oswald Mathias Ungers, begins to articulate the theme.

Above, on the first floor, there is a room with six supports, creating the impression of a hall divided into nave, but there is a concentration at its center with an inner structure of four supports which is a condensed version of the four-poster space in the basement.

The four outer props mark the outer points at which the ceiling is pierced, since the inner structure - the four-poster - is carried on into the upper floors, but becomes more and more enclosed, becoming on the top floor a house with walls and square windows, the climax of the transformation (Figure 36). The house is an abstractive portrait of humans architectural culture. Thus it highlights the subject matter of the museum.

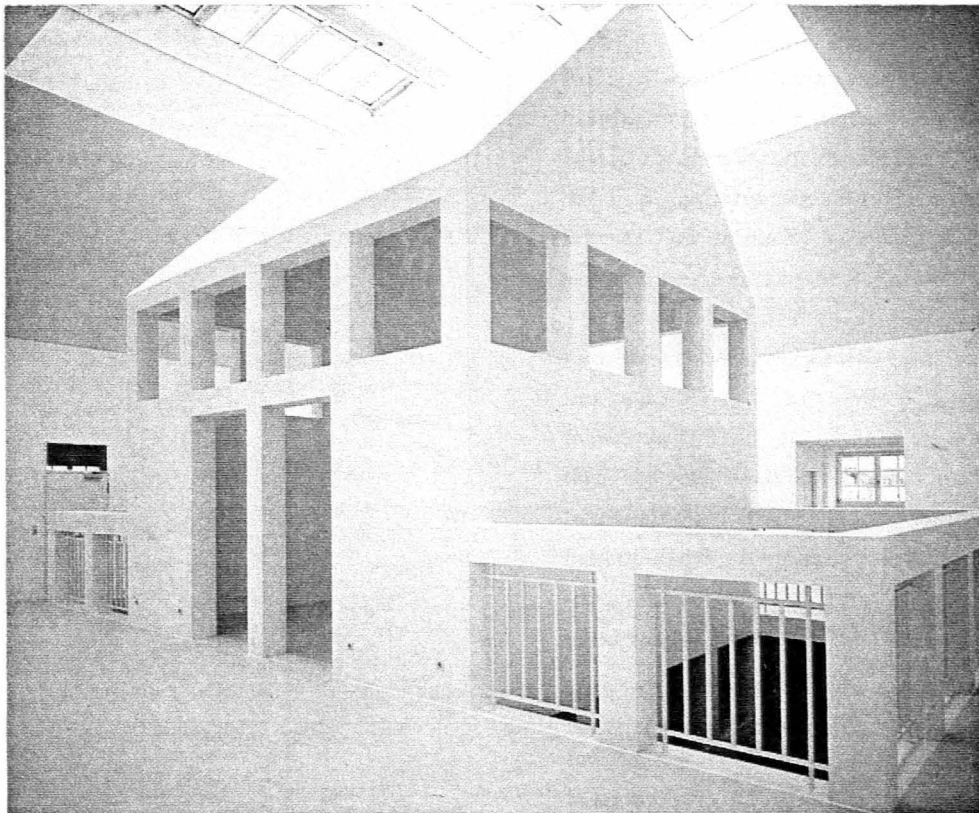


Figure 36. The German Museum of Architecture. The "house" inside the house



## CHAPTER 8: THE DESIGN PROPOSAL

### The Program

Through most part of its history, the Armory Hall serves as a social space for the whole university with its variety of programs. The magnificent interior space of the building both support and claim its social significance. Unfortunately, the building lost this significance when its main floor was converted into design studio in 1990. Now the building is occupied by several separated departments: the architectural department, university security department, and ROTC. Each of the programs serves only a special group and attracts no more people in the university. Thus, the social space of the building is turned into "specialized" spaces.

As the major current use of the Armory Hall, the architectural studio has many problems. The illumination level does not allow people to draw, and there is no provision for storage, a crucial facility for design students. Students are not allowed to set their structures because of the potential fire hazard. It is believed that the Armory Hall is no longer suited for proper educational instruction.

Being a special institution, the ROTC should have a special place that specifically houses it. The fact that the ROTC is driven out of the central Hall of the Armory but is given a spot in a corner of the building hurts the institution's prominence. It is the time for the ROTC to find a new home that belongs to itself. Its existence in the Armory Hall as memory is better than its current situation - an embarrassing literal existence.

A common problem of the currents uses of the Armory hall is that they cannot match the magnificence of the building. In order to take advantage of the grand space and rehabilitate the social significance and richness of the building, the thesis proposal removes the various current programs of the building and selects the following programs for the new Armory:

- (1) A social space. It will be on the main floor of the building. As it did before in

people's memory, it will provide space for gatherings and activities which need large spaces, such as dance, party, music performance, display, meeting, lecture, registration, etc. It has an area of 15,000 square feet, and it is able to accommodate up to 1,500 people.

(2) A campus museum. The current Master Plan of the University calls for a museum on campus. While the Brunier Museum is too far away from the campus core, the museum in the Memorial Union is too small. The museum in the Armory Hall is divided into three parts: the first part is given to the history of ROTC, as a memory for the major program of the building in the past; the second part is given to the artifacts of our university in order to memorize the legends of the university; the third part is given to temporary displaying. The museum has 5,000 square feet.

(3) A cafeteria. The academic core of the campus needs a cafeteria, since the restaurants in the Union or campus downtown are far away and the hub is too small. Like the Common in the Memorial Union, it is a place where people can eat, read, relax, discuss, and have fun; a place that will accommodate memories, personal or collective, over time. The cafeteria has 4,000 square feet, being able to serve 200 people.

(4) An experimental theatre. It provides space for informal performance of dance and music, presentations given by student organizations, and old movies. Like the existing condition, it is built as a bleachers where people can sit down to watch the activities happening on the main floor.

(5) A meeting area which can be divided into five meeting rooms. The area of each meeting room is 1,000 square feet, and the capacity of each of the meeting room is 30 people.

(6) A special library carrying university archives.

Through these programs, the new Armory will rehabilitate its previous daily significance for everybody at Iowa State. It will be a place where people go often and experience a lot. Thus, the new Armory will become, again, a vehicle of memory where people experience and remember. Later on, when people come back to the place, it will remind them their experiences and the feelings attached to them.

The artifacts displayed in the museum, the university archives, the old movies, the performance of old style music, etc, are by their nature related with memories. Through them, the new Armory Hall will act as presentations of memories.

I hate to lose the storage for boats that is currently located in the building. It is

connected with enjoyable memory. I have tried to preserve it in the new Armory, but later on I have to remove it because of the entire programming issue.

### **The Design (Figure 37-44)**

In the original plan of the Armory made in 1920, there is an extension to the interior space on the south side, serving as a transition between outside and inside. The extension has a carefully detailed facade, which is consistent in design with the other facades. Unfortunately, the extension was not built due to the budget constrict. As a result, the current building has a poorly done southern facade and a less satisfying sequence. In response to this, an addition is attached to the current southern facade in the position of the planned extension.

Like the original plan, the addition is symmetrical, being consistent and reinforcing the symmetrical composition of the whole building; also, the addition is marked by its horizontality, serving as a base for the vault above it. Unlike the original plan, the addition only has two major masses, the two glass-block towers on the corners. With this variation, the whole massing becomes more clear: the dominant mass - the vault - is supported by the horizontal base and reinforced by the corner towers. In the original plan, the central tower is so strong in itself that it lessens the dominance of the vault in the whole composition and confuses the clarity of the general massing. Without the central mass, the addition accents its center with a denser arrangement of the mullions.

The material of the addition is glass, framed by steel mullions. The mullions serve as a formal link between the addition and the vault. The pattern of the mullions brings the condition of the frames of the arched window to the glass addition.

With the new materials, new forms, and the old concept of massing and composition, the addition is an abstraction of the original plan of the building. In the same time, it recalls a popular type of building in the past: the type of building whose front is classical in style and whose back has engineering style. Thus, the addition reminds people the existence of past and time, and pictures the concept of memory. Here, the Armory Hall will function as an abstract expression of memory.

The addition is structurally independent. It is connected with the current facade with glass walls and glass ceiling. With the additions around it, the current southern facade becomes a interior wall. With the new lighting condition, new smell, new temperature, and new spatial feeling, the facade that we are so familiar with behaves

slightly different. The surprise coming from familiar things is always the major power of high-level art.

Framed by the brand new construction around it, the current southern facade will look like a piece of artifact from the past. For those who are familiar with this piece of wall, its existence will remind them their particular memories. For everyone else, it is a statement of the flow of time in general. People will enjoy the same feeling as they can do in the Red Lion Row discussed in chapter three.

With the small spaces on the way to the interior hall, the addition constructs a better sequence for the whole building. It builds up an expectation of something larger. Thus, people's spatial experience in the interior hall will be reinforced and the spatial experiences in the whole building will come together.

In order to balance the addition on the south side and to formally reinforce the vault, two staircases are added to the north-west and north-east corners of the building, serving as the exits of the building on the north side. The walls of the two staircases are made of glass, so as to contrast with the existing brick walls to which they are attached. It is another statement of the charm of the combination between the old and new.

The architectural studio on the main floor of the central hall will move out of the building, leaving the main floor an open space for big gatherings. Standing here, people can enjoy the magnificent space defined by the arched ceiling. As a vehicle of memory, the space will remind those people who used to be here their previous experience in relation with it.

The west and east extensions to the central hall that are now occupied by a series of small rooms will become open spaces, housing the meeting room, cafeteria, museum, and the special library. These space can be open to the central hall by opening the sliding doors leading to them. Thus, various activities can be spatially connected.

The second floor of the west and east side will be projected into the central hall with the balcony that is supported by the paired columns. The balcony and the columns define the circulation for the building and provide more space for people to hang on.

In order to rehabilitate the clarity of structural expression, the trussed columns that are now built into walls or small rooms will be revealed. However, they are not prominent enough to be totally exposed. Instead, they will be surrounded by glass

walls, so people can watch them just as they can watch artifacts framed by glass box in a museum. Again, the combination of the old and new will bring people the consciousness of the dimension of time.

On the north end of the central hall, an experimental theater will be built on bleachers; on the south end of the hall, the balcony on the second floor projects further towards the central hall than the balcony on the third floor. The purpose of these features is to acknowledge the current condition of the building.

The major material of the additions around the central hall is polished concrete, giving the additions a lighter color in contrast with the darker color of the old material. Thus, both the old and new will be clearly expressed. The same strategy is used in Musee d'Orsay in Paris.

Three strips of openings will be punched through the arched ceiling in order to bring in more daylight. Two of them are symmetrically arranged at the beginnings of the arched ceiling, the other at the top of the ceiling. While the daylight through the side openings goes into the smaller spaces on the west and east side of the central space, most daylight through the top opening is reflected by the curved boards right below the opening. Thus, the daylight through these new openings will not be strong enough to overwhelm the daylight coming from the two arched openings at the north and south end of the arched roof. In other words, people's impression of the effect of the daylight will not be changed too much.

The surface of the main floor of the central hall will be paved by mosaic. Like the main floor of the Molecular Biochemistry Building at Iowa State, the surface of the main floor is patterned into pictures. Through the arrangement of the color mosaic, five pictures that are related to the most important campus memories are engraved on the floor of the Armory Hall. The themes of the five pictures are: the landscape of the Central campus, the Zodiac and the Fountain of Four Seasons in the Memorial Union, the swans on the water of Lake Laverne, the painting on the wall of Dugan's Deli, and the scene of the Veishea parade. The five pictures are separated and framed by six strips which are stretching from the paired columns on one side of the central hall to the pairs on the other side. In contrast with the pictures in between, the six strips have dark and homogeneous color. Between the paired columns, the names and stories of some memorable Iowa Staters are engraved in metal. With these pictures and information, the Armory Hall presents the memories of Iowa Staters.

By leaving the central hall open and adding things on its sides, the general configuration of the space will be preserved, and People's impression of the volume of the space, the daylight, and sound impact, etc. will remain unchanged. To acknowledge the memory for the original building in such a way is an important strategy in remodeling projects, as we can see in the Temporary Contemporary and Musee d'Orsay.

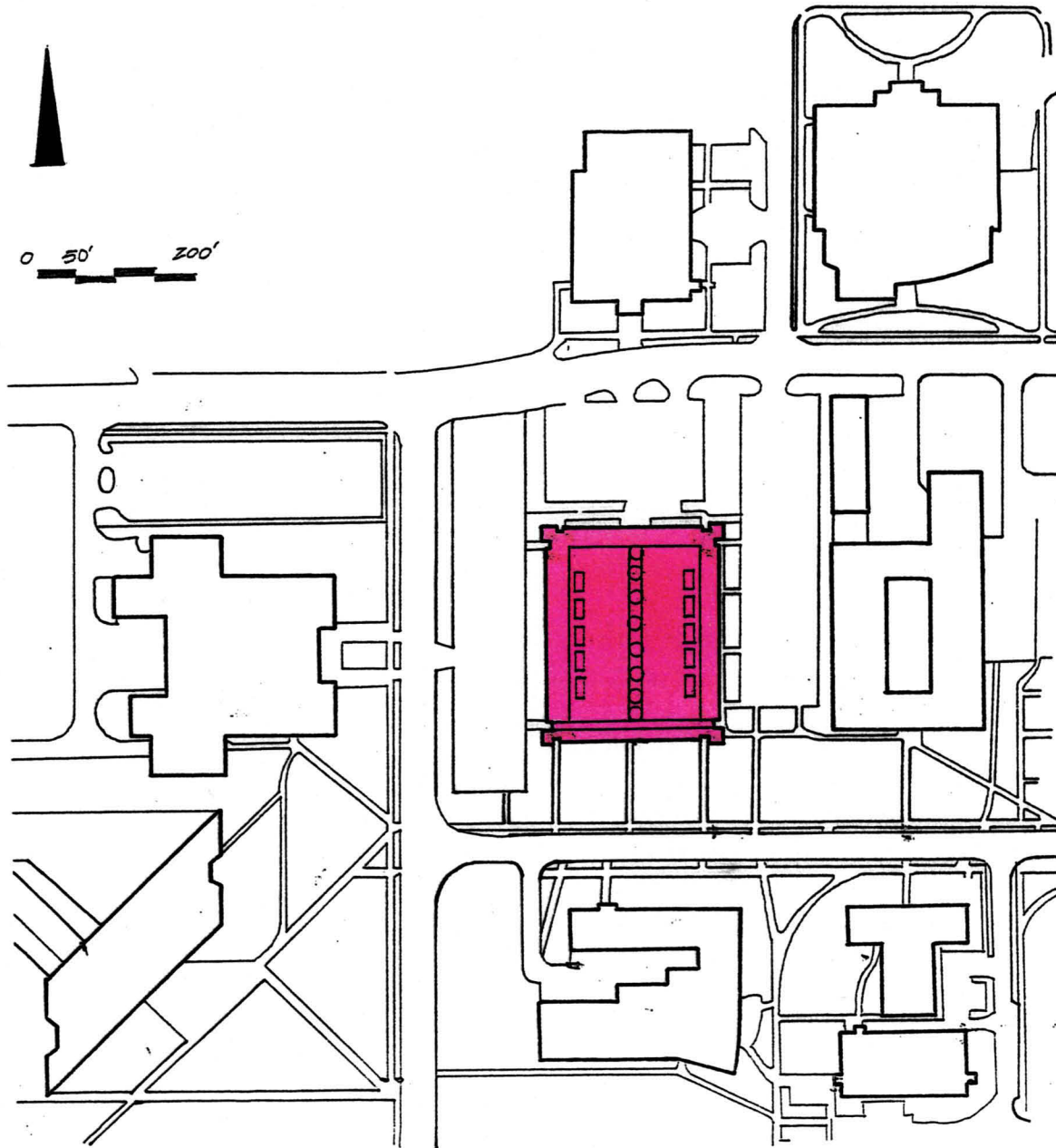


Figure 37. The site plan of the new Armory Hall

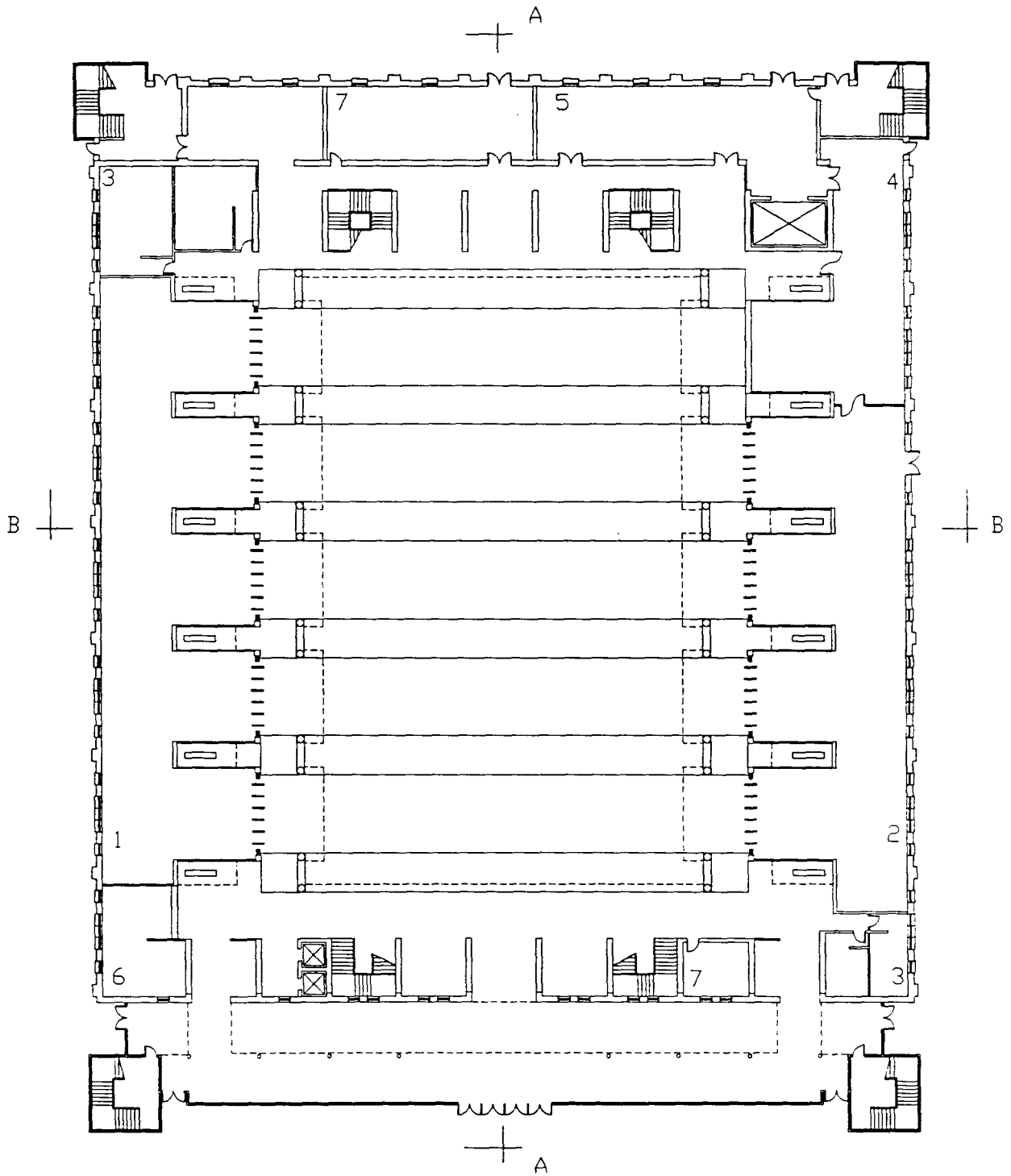


Figure 38. The first floor plan of the Armory Hall. 1"=40'  
 1. Meeting area. 2. Cafeteria. 3. Bathroom. 4. Kitchen.  
 5. Storage. 6. Coat room. 7. Service room



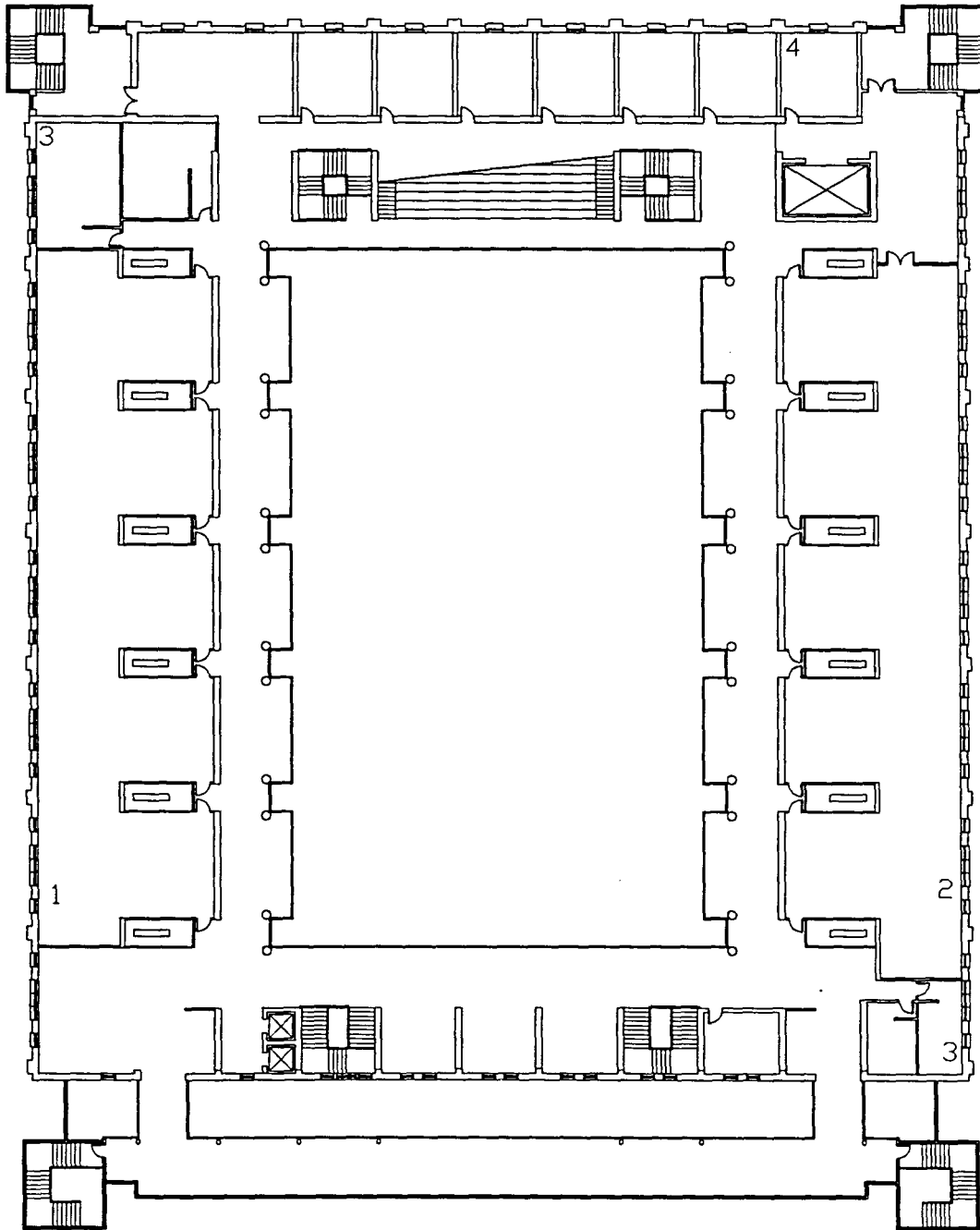


Figure 39. The second floor of the Armory Hall. 1"=40'  
1. Museum. 2. University Archive. 3. Bathroom. 4. Administration

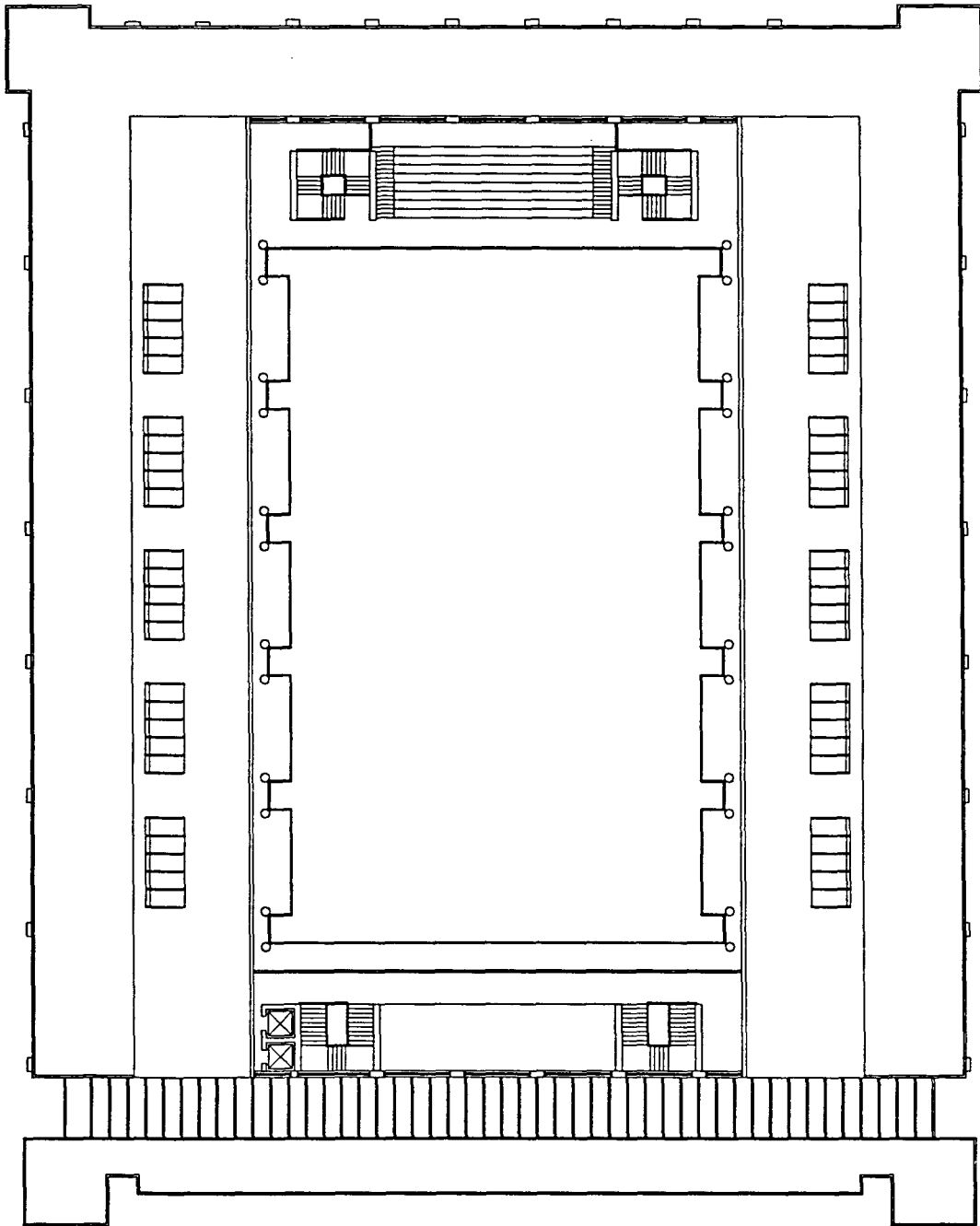


Figure 40. The third floor of the Armory Hall. 1"=40'

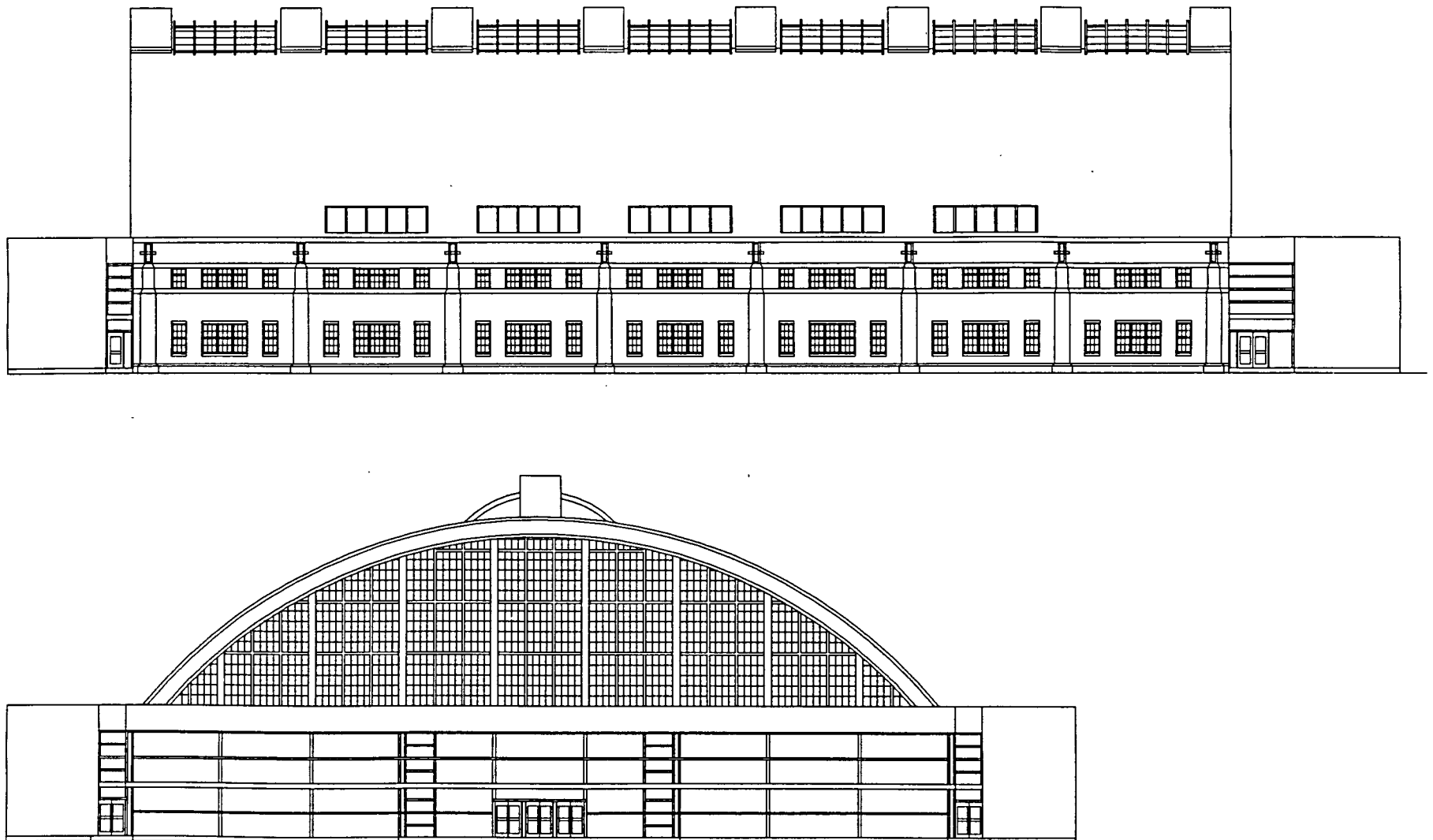


Figure 41. The elevations of the Armory Hall. 1"=30'  
(Top) The west elevation  
(Bottom) The south elevation

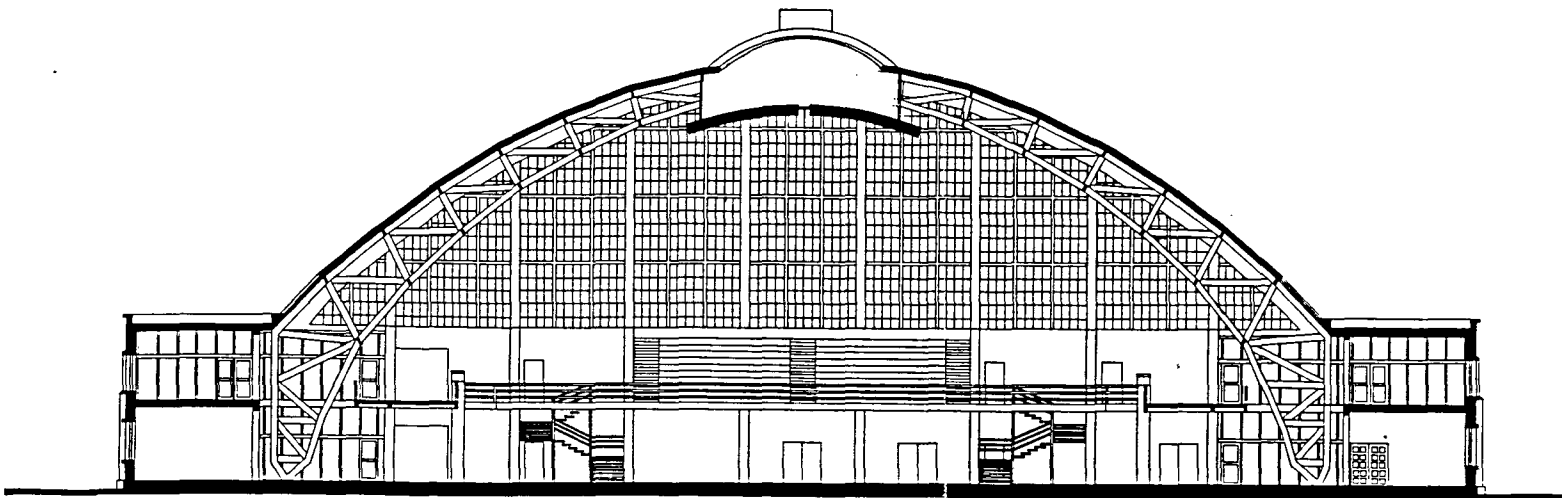
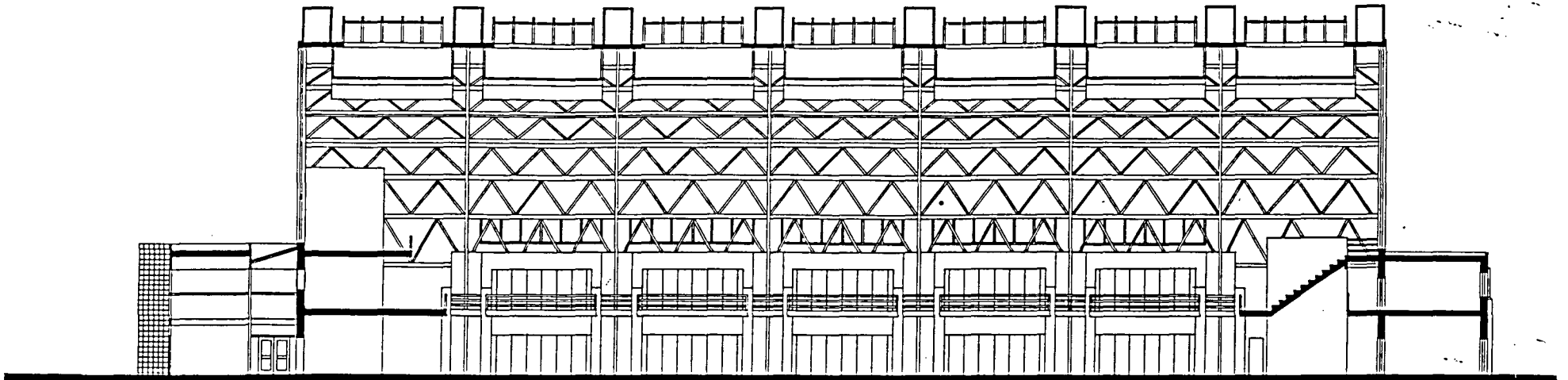


Figure 42. The sections of the Armory Hall. 1"=30'  
(Top) A-A section  
(Bottom) B-B section

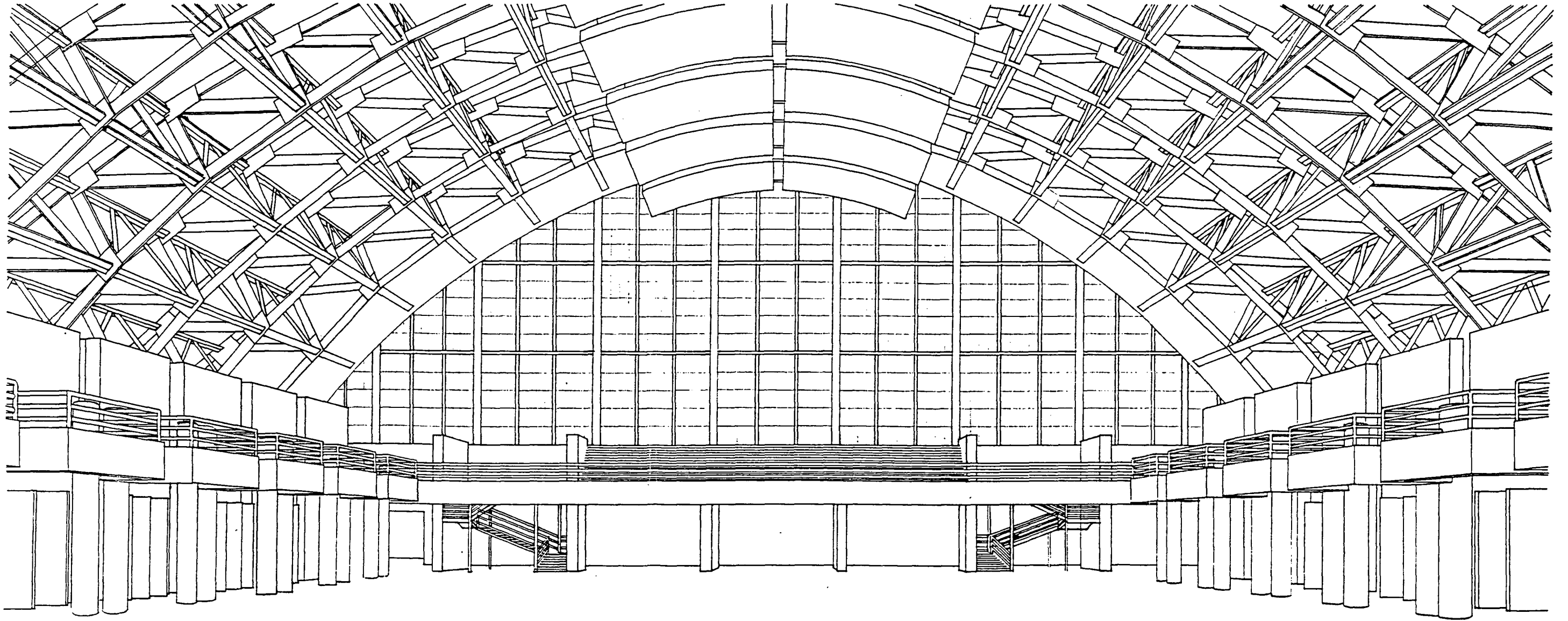


Figure 43. The interior perspective

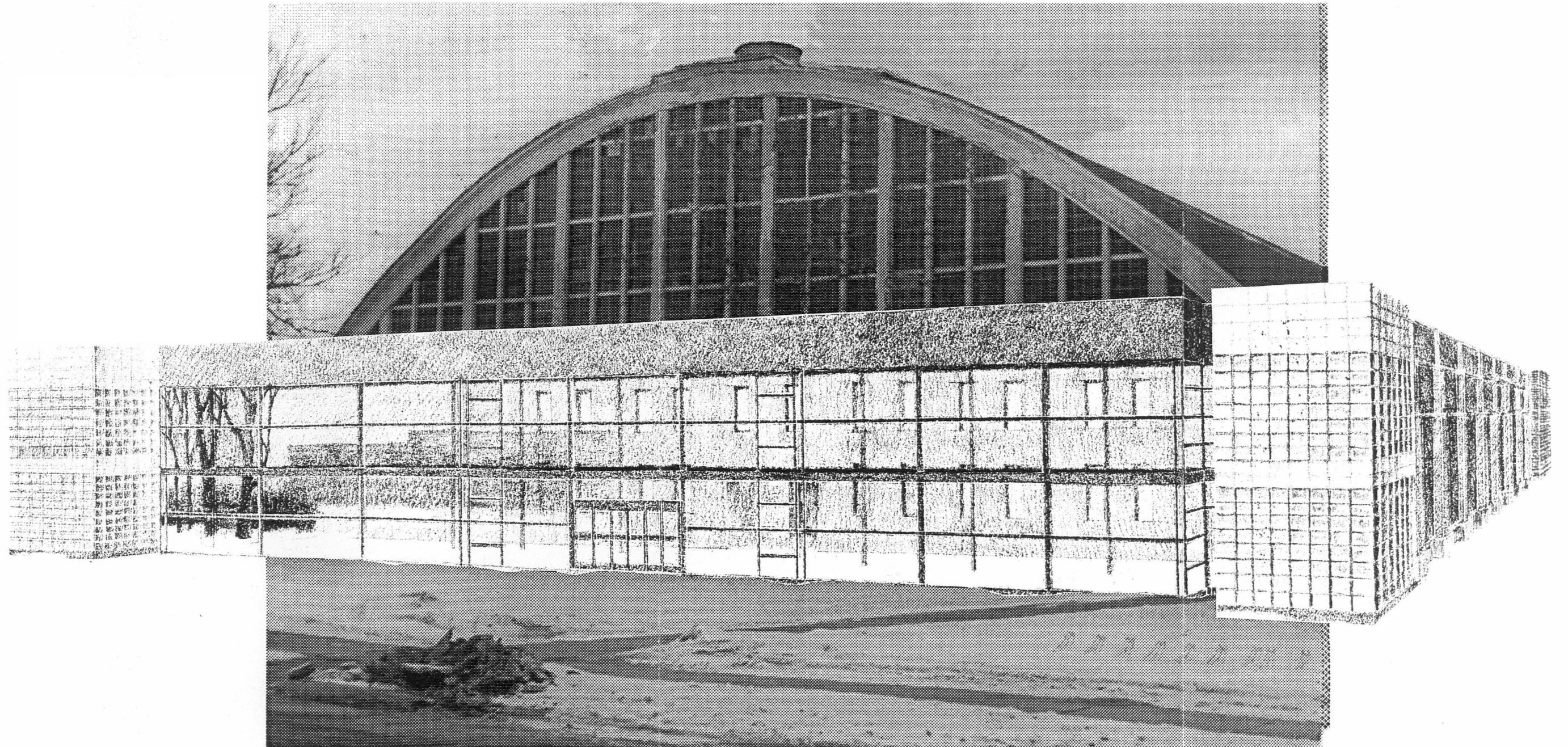


Figure 44. The addition to the south of the Armory Hall

## CHAPTER 9: REFLECTION

This thesis is involved in two distinct but related areas, the adaptive reuse of old buildings and the experience of memory in a place. One of the major reasons for the popularity of the adaptive reuse of old buildings is that people cherish the memories correlated with the old buildings.

Mainly based on three books, *The American Mosaic*, *New Construction for Older Buildings*, and *New Life for Old Buildings*, I have found that the adaptive reuse takes the place of classical preservation and becomes the focus of the current historic preservation. This preservation, in turn, has four characteristics: (1). instead of historically significant buildings, this movement deals with common buildings from the past; (2). instead of rehabilitating an old building to its exact condition of a particular time, this preservation deals with the adaptation of old conditions for today's use; (3). unlike the classical preservation which is a pure cultural endeavor, this preservation creates economic benefits and becomes a marketing activity; (4), while the classical preservation is dominated by preservation specialists, people involved in the current preservation are diversified, including the owners of buildings and building contractors.

The thesis reviews the various efforts to attack the issue of memory and place, and creates a framework for the future research on the issue. The thesis claims that a place offers people the experience of memory in three ways, as vehicle of memory, as presentation of memory, and as abstract expression of memory. With these findings, the thesis provides a clarity for the concept of memory whenever it is mentioned together with place.

For each of the three ways, the thesis interprets the meaning of the memory involved, identifies the people that will experience the memory, and analyze the process of the experiencing of the memory. More studies are needed to explore the architectural strategies to reinforce the memories involves in a place.

The difficulty in my study on the issue of memory and space is that there exists a huge body of related literature. My review of the research on the issue is only based on the literature that I have encountered, instead of a full perspective of the previous work on this issue.

Generally, I am pleased by the theoretical position I come up with on the issue of memory and place. But when the thesis is almost done, I begin to question myself how much value this theoretical position has. I realize that this thesis is only an organization of the current mass, a link between various thoughts, and an interpretation of the existing facts. It does not produce anything new except for the organization, link, and interpretation themselves: it describes a movement, but it doesn't bring in any new idea; it describes how a place works as a memory system, but it doesn't contribute anything to design strategy. It seems that I am a librarian who is taking care of all sorts of books but not an author of any of them.

In order to propose a plan for the adaptation of the Armory Hall, I have documented the history of the building, the current architectural conditions of the building, and the most influential campus memories. Also, I have studied several precedents which are similar or relevant to the project in one way or the other.

The design deals with memory through the three ways with which a place functions as a memory system, as vehicles of memories with its enjoyable programs, as presentation of memory with the information it carries, and as an abstract expression of memory through the combination between the old and new in the Armory Hall.

The interests of a remodeling project come from dense interactions between the old and new. The interaction should be every where, in any scale. The design shows some interactions of this kind, but they are not enough. More time and effort should be spent in making such interactions.

I have encountered lots of difficulties in the design of the elevation for the addition to the south of the current facade. For a long time, I had tried to represent the original plan for this part with the original form and modern variations. After I came with more than ten versions of unsuccessful elevations, I gave up at the end of the semester and chose to represent the original plan with its concept of massing, instead of its form.

The thesis year is intense, sometimes even painful. But more often it is enjoyable, when labor is turned into work, when order comes out of mass, and when stu-



dent and instructor become friends. It is an excellent learning process. What i have learned is not only research and design, but also the virtues of patience and concentration. It will be one of the most cherished memories in my life.

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