A MUSEUM OF EASTERN ART

THESIS SUBMITTED TO THE GRADUATE FACULTY
OF
THE VIRGINIA POLYTECHNIC INSTITUTE
IN CANDIDACY FOR
THE DEGREE OF MASTER OF ARCHITECTURE

BY

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JANUARY 1961 BLACKSBURG, VIRGINIA

ACKNOWLEDGMENT

The author wishes to acknowledge the invaluable guidance received from Professor H. A. Elarth, Professor Charles S. Worley and Professor Leonard J. Currie as design critics. The author is also indebted to Professor J. F. Poulton and W. W. Payne for structural design criticism.

The author also wishes to express his deep appreciation to for her assistance in securing the research material.

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INTRODUCTION

INTRODUCTION

Rapid strides in the improvement of communications has reduced the size of our world and has given urgency to the programs of cultural exchange, economic aid and other manifestations of friendship between peoples of various nations. Instead of each nation continuing with its individual and sometimes discordant tune, we are impelled by the course of events to play in concert and thus create a world symphony of cultural expression.

A museum is a shelter and space for collections from space and time in the universe of life. It plays an important role for the above-mentioned purpose, especially today. Recently Le Corbusier designed a museum for the Western Art in Tokyo, Japan. The purpose of this was to establish a gallery where Japanese from all walks of life - high and low - would have the opportunity of seeing original work of the Western Art. For many years a great variety of Eastern Arts has been collected by individuals and communities in the United States. However, no specially designed museum exists for displaying these precious collections. It is the purpose of my thesis to design a Museum for Eastern Art.

This thesis proposes a museum for Eastern art in the United States. It is not only concerned with the American, but also with foreign people who come to this country to see or to do research in Eastern art. Therefore, the Capital,

Washington, D. C., is the ideal location. Fortunately, the Federal Government has projected redevelopment of the central area West and East of the Mall. Several temporary or old buildings are now being demolished. The site for this project is in this development district along the Mall, opposite the National Gallery and near another new museum project. There are also other museums such as the Freer Museum in the vicinity.

The climate is well suited for a wide variety of plant growth. Summers are warm and humid and winters mild. Generally pleasant weather prevails in the spring and autumn. The record high temperature of 105.6 F. occurred on July 20, 1930, and the record low temperature of 14.9 F. on February 11, 1898. The greatest recorded single snowfall was 28 inches over a two-day period in January 1922. The greatest rainfall over a 24-hour period was 7.31 inches on August 11 - 12, 1928. Thunder storms occasionally bring high winds, heavy rain, hail and lightning. In June 1929 a violent local thunder storm brought winds in gusts up to 100 miles an hour. The average length of the growing season is 200 days.

Throughout the year the average temperature is 56.5 F. and the extremes are a 103 F. high to a 1 F. low; the relative humidity is 75% in 1:00 a. m., 52% at 1:00 p. m. The wind is 9.9 m. p. h. for mean hourly speed.

Air pollution in Washington, D. C., is a less serious problem than in most urban centers because the area is not heavily industrialized.

In this project, the author intends to design a museum based on the following principles:

- A. Use of Eastern concepts; design criteria are to be based on Taoism, Zen and Confucianism.
- B. Use of the abstract essence of all elements in developing compositions.
- C. The museum is not to be conceived as the building only but as the totality of building and exhibitions.
- D. An effort will be made to create a unifying environment for the art objects and the observers.
- E. A simple structural system will be adoped.
- F. Illumination will be based on a combination of natural and artificial lighting.

INTRODUCTION TO EASTERN ART

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Eastern cultures stem from two main sources. One, the Chinese culture, was established in the Yellow River Valley more than 5,000 years ago, and exerted its influence on northeastern Asia, including Japan and Korea. The other source was Buddhism which originated along the Ganges in India and subsequently influenced the whole of Eastern Asia.

Before considering the process of Eastern art, it might be well to examine the progressive changes of Chinese art around which this chapter is developed. Art in China may be divided into three phases. The first phase covers the early era before Buddhism when art was independent. The second phase was the era of Buddhist art which came from India, then spread to Japan and Korea, and eventually became the dominant influence in Eastern art. The third phase was the Christian era. Western art came to Asia along with Christianity and established a direct relationship between each of the Eastern countries and the well-springs of Western art. In this development, the art of the Eastern countries lost much of their relationship to each other.

Traditional Eastern art can be classified as utilitarian or non-utilitarian. Poetry, painting, calligraphy and literature were considered as non-utilitarian, practiced by the upper classes in their leisure time. These arts were neither independent nor professional. In Eastern history, all of the prominent

poets, painters and calligraphists were famous scholars. Such arts are regarded as related to scholarship and knowledge; it has been stated that, "Poetry and painting express feelings or sentiments."

On the other hand, architecture, sculpture and drama belonged to utilitarianism, because these arts were independent,
professional and produced by an artisan's hand, but not by a
scholar's (or "artist" in the Eastern sense). Eastern scholars
were not concerned with architecture, sculpture and drama, so
these arts were held in low esteem. The difference between
artist and artisan was regarded as the difference between
creation and imitation. The artist was constantly creating
something new; the artisan was imitating the work of others.

One finds it difficult to classify Chinese traditional music because some pieces were played at times by people of the upper class and at other times by the commoners, or professional musicians. Yet, the latter could not be regarded as musicians because they were utilitarians, and hence artistic merit could be ascribed to them.

Pre-Buddhist -- from Shang-Yin and Chou Dynasty to late
Han Dynasty -- (B. C. 1766 - A. D. 221)

Sculpture: Some Chinese scholars who worked in the "National Central Research Council" made an excavation at An-Yang, a small town in Honan, China, in 1928 and discovered the palace of Shang-Yin. The Shang-Yin stone sculpture was

done in solid, compact mass, with well integrated form. The surfaces are engraved with complex linear designs, and occasionally the lines are accentuated by slight undercutting with part of the pattern in very low relief. Sculptures are frequently made on a small scale, and are blocked out in a more angular way without the smooth transitions from one to another. Art in this primitive society was always abstract, intuitive, such as children's art, including no significance nor moral ideas. There were also some bronze vessels found, and decorated in several layers of relief with pattern done in delicate, raised lines. These vessels are cast with such skill that it is necessary to assume that they were the result of a relatively long period of technical development.

Shang-Yin was destroyed by the Chou. Many elements of the most characteristic Shang style in sculpturing were carried on into the period of the Chou Dynasty. Sculpture became more and more robust and at times heavy. The centuries of the late Chou Dynasty were certainly one of the very great epochs of Chinese creative thought. Two of the systems advanced were destined to have a profound and lasting influence on Chinese culture. Confucius taught the value of social duty, respect for authority, government by the trained and superior man, and that good government was based on moral virtues. The Confucian school stressed learning, cultivation of the spirit in a broad sense, propriety and the social responsibilities of the individual. The school

of Lao-Tzu and Chuang-Tzu, on the other hand, stressed the importance of the individuality of man. They were deeply sceptical about directed effort and attempts to attain a man-made social order. They taught that everything should be left to the effortless and constant operation of nature, and Lao-Tzu was the first man to conceive of the negative in the universe. Taoist concepts influenced Chinese and Japanese painting.

The sculpture of the late Chou period was in many respects a luxury art with a sumptuous use of gold, silver, jade, and inlays of turquoise and semi-precious stones.

It is a curious fact that through the centuries the Chinese sculpture was successful in volume and three-dimensional form is generally on a small scale, while large and monumental sculpture consistently tends to become linear.

All the Han Dynasty sculpture that has survived is associated with burials and tomb construction. The tomb proper was an underground chamber or series of chambers constructed of wood, brick, tile, or stone. A road, known as the "Spirit Road" led some distance from the tomb, generally on the south side, and this was frequently lined with stone figures, such as the horse, lion, elephant and dragon, etc., all of life size.

We can say that Chinese sculpture of early eras was not influenced by Buddhism. Sculptured works were quite independent. Sculptors did not attempt to represent the "objectness" of objects, but rather the object as the motif of his design.

the point of departure for an object aspect conceived for a specific purpose.

Painting: As we have previously noted, people in the primitive society painted intuitively in abstract form, as exemplified by the abstract geometric forms painted on bronze vessels of the Shang Dynasty. But the paintings of the Chou Dynasty differ from the zoomorphic and geometric design of earlier times in that they show human figures in action.

Han Dynasty painting is distinguished by its decorated lacquers, designs engraved on stone funerary chambers, pressed pottery times, painted pottery, and a few painted tombs. Silk was used for painting as early as the fifth to the third century B. C. in China.

Architecture: Since wood was the principal building material in China, very little of the old architecture remains. The earliest authenticated wooden building in Asia goes back to the seventy century, -- early T'ang. In the earliest eras, Cinese settled along Yellow River Valley, digging caves for dwellings. From the excavations at An-Yang we find that wood construction was used during the Shang-Yin Dynasty. During the Shang Age two advanced architectural forms were introduced, the city wall and the use of a platform to raise an important building. From the Chou to the Han Dynasty we can assume that architecture was highly developed. Some of it is described in numerous books, but, unfortunately, the sum is insufficient to provide us with a clear and detailed picture.

The Han line, taking power after a costly civil war, was held at the outset to a relative frugality. Even in its first years, however, there was a powerful feeling of a great architecture represented in relief on sepulchral stones. Generally speaking, Chinese traditional architecture is symmetrical in plan and embodies a moral idea.

Buddhist era: -- From late Han to Ch'ing Dynasty (A. D. 220 - 1870)

Art: During the first centuries after the fall of Han Dynasty, Buddhism became firmly implanted on Chinese soil. The Buddhist doctrine from India was the first foreign system to become an integral part of Chinese culture.

Sculpture: Sculpture in the second era was the beginning of Buddhist sculpture in China. An inspired religion, demanding faith from its followers and offering the reward of salvation, it profoundly affected the form and content in much of Chinese art.

Buddhist sculpture falls into three categories. In caves or mountains, stone was used in huge scale. In the temples, sculpture was executed in wood and clay with paint at a large scale. For domestic use, it was executed in jade, ivory and wood at small scale.

For almost thirty-five years from the beginning of the Wei Dynasty (A. D. 460), thousands of sculptors and stone masons labored to hollow out the living rock, and to adorn

with profuse sculpture a series of some twenty enormous, and numerous lesser, cave temples in the sandstone cliffs at Yun-Kang in north Shansi. They remain today as one of the wonders of the Eastern world. The concept of a cave temple cut into the face of a cliff was of Indian origin and from there spread to Afghanistan, Central Asia and China.

Japanese civilized art probably begins at the end of the 6th century with the almost simultaneous introduction of Buddhism from Go, from Dzin, and from Hiakusai.

Korea, in the real sense, was a link between the China and Japan, and for a short time, about the year 600, her art flamed up into a splendor which fairly surpassed the achievements of her two chief rivals.

When a branch of Buddhism named "Zen" originated in China during the Chin Dynasty (A. D. 300) and spread later to Japan, it had a profound influence in Japan, especially on Japanese art. In the Zen's concept, everything is regarded as a manifestation of Buddha; Buddha is not limited to his literal image. In the famous Japanese Garden, "Luianji," there are several rocks in the sand garden which are revered as Buddhas.

Painting: In the sixth century, when Buddhism was sweeping China, it is interesting to find purely Confucian subjects
like the Paragons of Filial Piety and Taoist material like the
creatures of the quadrant. Religious subjects increasingly
attracted the attention of leading artists from the sixth

century to the end of the ninth, but there was a constant undercurrent that followed traditional subject matter.

Most famous painters in Chinese history were Confucian scholars, but they were always influenced by Taoist concepts in their paintings.

Generally speaking, perspective does not appear in Eastern painting. This limits pictorial expression to two dimensional relationships, although sometimes isometric was used to express a three dimensional idea. For human figures, Eastern painters used simple and clear lines without shadow. They also left the background blank to contrast or balance the painting itself. This concept anticipated the fundamental ideas of abstract art today.

Eastern painting may be regarded as a link between realistic and abstract painting, "not too far nor too near." However, the Eastern painter did not have at his disposal the materials and techniques of the modern painter. Traditional Eastern painting was always on paper or silk, not on canvas, and was difficult to preserve.

Architecture: In Chinese, Japanese and Korean traditional architecture, wood was always used for the essential structure. Buildings consisted of three parts: platform, structure (wall) and roof. The platform was of stone, brick or clay. A skeleton structure was utilized with wooden beams and posts infilled with brick curtain-wall. Another important element was a special

part between the roof and structure known as "Tou-Kung" or cave brackets. The function of the "Tou-Kung" is to transfer the weight of the roof to the structure and at the same time to permit the roof to cantilever further and to bend up, thus allowing more sunshine to enter the interiors. This accounts for the beautiful winglike roof line of traditional architecture.

In Chinese architectural plans, space units are determined by modules and layouts emphasize symmetry. The site plan is generally organized about several small open spaces. In Japanese houses standard modules (about 3' x 6') are arranged in asymmetrical plans. Partitions consist of sliding wood and paper doors.

Oriental landscape architecture develops and controls natural forms in conformity with the tenets of Taoist philosophy rather than following the geometric arrangements. So characteristic of Western gardens.

Christian era - from late Ching:

Western civilization came into the East with Christianity at the end of the last century. Democracy and science influenced all aspects of life in the Asian countries. In the realm of art, the Eastern artists at first abandoned their traditional art, and unconditionally followed and imitated Western style; but recently, not only Eastern artists themselves, but also many of their Western colleagues, have recognized the quality and worth of traditional Eastern art in its centuries of development. Resurgent Eastern art has recently achieved a position

of world esteem and is effectively contributing to the cultural interchange between East and West.

RELATIONSHIPS BETWEEN EASTERN
ART AND A MUSEUM

RELATIONSHIPS BETWEEN EASTERN ART AND A MUSEUM

There are very few museums of special design which can be found in Eastern countries except in Japan. Museum collections are usually housed in old palaces and temples, such as Ku-kung in Peiping, China. (Ku-kung means former palace.) Thus, an attempt is made to incorporate a fine example of traditional architecture into the museum, with the architecture itself becoming an exhibition object related to the traditional collections which it houses.

Several paramount considerations in the design of a contemporary museum are the following: the arrangement of collections in spatial and compositional terms; natural and artificial lighting; the establishment of an easy flow of circulation permitting the viewing of one collection without going through others; control of temperature and humidity through heating and air conditioning.

As Walter Gropius has said, "We have today sufficiently clarified our mind to know that respect for tradition does not mean complacent toleration of elements which have been a matter of fortuitous chance or a simple imitation of by-gone aesthetic forms. We have become aware that tradition in design has always meant the preservation of essential characteristics which have resulted from eternal habits of the people." For

example, a museum project for Chinese art in Shanghai designed by I. M. Pei is based on the base Chinese wall and the small individual garden patio which were so evident in various periods of Chinese architecture. These were two eternal features which are well understood by every Chinese. We do not need to imitate the traditional style of Eastern architecture for a museum of Eastern art today.

Since this thesis is concerned with the design of a museum for Eastern art, contemporary techniques and materials will be used while basing the design on Eastern concepts. We must bear in mind that a museum is a shelter for collections and not an end in itself.

"You may go to this building to see Kandinsky or Jackson Pollock; you remain to see Frank Lloyd Wright...," as Lewis Mumford said, "Yet once you come close to the Guggenheim Museum, Wright has you in his hold. From the time you scrape your feet on the unmistakably Wright grating in the vestibule and grasp the bronze bar that serves as handle, stretches from top to bottom of the glass door, you are under his enchantment." The Guggenheim Museum might be good architecture. But when people go there to see the architecture rather than the collections, that means a museum changes its subject from collections to architecture. This implies that we should also change the definition of museum, i.e., "a museum is a work of architecture decorated with collections."

Exhibition spaces in this thesis could be divided according to periods, as previously mentioned: Pre-Buddhist, Buddhist, and Christian eras. Countries could also be taken as units of classification: India, China, Japan, Korea, etc. Another means of classification might be by techniques such as: silk; sculpture in stone, clay and bronze; pottery; porcelain; jade; ivories; lacquers, etc. But, supposing they were divided according to countries, it would be difficult to make relationships in space for so many countries. If they are classified according to the variety, it would be difficult to make relationships in time. Buddhism is the only element that directly influenced both religion and philosophy, and indirectly the art of all the Eastern countries. It, therefore, seems more reasonable to establish relationships both in time and space based on underlying Buddhist principles.

Under Buddhist and Confucian influences, the sculpture of the human body, especially in the nude, is not regarded as art; hence, we find no figure sculpture of the type common in Western traditional art. Buddha is regarded as a religious symbol rather than an art symbol, so it is inappropriate to compare Buddhist images with Western sculpture from the point of view of art. Some animal sculpture in stone occur in Eastern art, but these are considered as mere decorations or symbols in front of an emperor's tomb or temple. However, Eastern art abounds in small scale carvings in jade, ivory, porcelain, gold and silver.

Throughout Chinese history large bronze vessels displayed in the palace garden served to symbolize the country as ruled by the emperor.

The large scale vessels and the images of Buddha are of such importance that it seems appropriate to display them in conveniently scaled outdoor spaces. The small scale sculpture can best be enjoyed indoors under controlled illumination where the observer can examine them closely.

Painting and calligraphy: Eastern traditional painting and calligraphy are painted or written on paper or silk, and not on canvas. The coloring materials are also quite different from that of oil paint. They cannot be kept in good condition as long as oil paintings. Hence, Eastern paintings are rolled for preservation and laid in storage. They are not enclosed by frames and are always narrow in size either vertically or horizontally. This makes for a wall layout distinct from that of framed Western paintings. The lack of shade, shadow, and perspective in Eastern art suggests special considerations in illumination.

Since large mural paintings in Eastern countries deal with Buddhist and Taoist religious allegories, large scale is deliberately contrasted with the human figure in order to impress upon the observer the greatness of Buddha.

Landscaping: Eastern landscape design employs grass, stone, trees, flowers, sand and water to create an asymmetrical order and to express the essence of nature in space. It differs

markedly from the traditional Western formal gardens with their rigid geometric symmetry.

CHAPTER 4 PHILOSOPHICAL CONCEPTS

PHILOSOPHICAL CONCEPTS

"When the mind rests in the state of Nothingness, the enigma can be understood; when the mind rests in the state of Reality, the bounds can be reached.

These two states, though bearing different names, have a common origin. Both are mysterious and form the gateway to all mysteries." -- Chapter 1, Lao-Tzu, Tao-Te-Gin-

"The mysterious Nature is that which produces, grows, lives without the desire for ownership; gives without the wish for return; rules without claiming lordship." -- Chapter 10, Lao-Tsu, Tao-Te-Gin-

"Thirty spokes share the space of one nave. The substance and the void are both essential to the usefulness of a carriage. Clay is moulded to make vessels, the substance and the void are both essential to the usefulness of a vessel.

Doors and windows are hewn in a house. The substance and the void are both essential to the usefulness of a house.

Thus, the presence of something may prove beneficial, just as the absence of something may prove useful." -- Chapter 11, Lao-Tzu, Tao-Te-Gin-

"Under the highest type of ruler, the subjects are hardly aware of his existence. Under the next type of ruler, the subject loves his government. Under the still next type of ruler, the subject praises his government. Under the still next type of ruler, the subject stands in awe of his government.

Under the still next type of ruler, the subject despises his government." -- Chapter 17, Lao-Tzu, Tao-Te-Gin-

"Space is a reality. Space is a reality of sensory experience. It is a human experience like others; it is a means of expression like others. Other realities, other materials.

Space is a reality, and once it has been comprehended in its essence, it can be grasped according to its own laws, and arranged according to them. As a matter of fact, man has constantly tried to use this reality (i. e., this material) in the service of his urge for expression, no less than the other realities which he has encountered."

"A definition of space which may at least be taken as a point of departure is found in physics -- 'Space is the relation between the position of bodies.' Each of the senses with which we record the position of bodies helps us to grasp space."

The New Vision -- Moholy Nagy --

"'Zen' affirmed the reality of immediate experience and yet declared its indivisibility from a present defined as 'the moving infinity' -- its oneness with life in eternal flux. Space was felt to be the only true essential for only in space was movement possible. Space was the universal medium through which life moved in constant transformation, in which place and time were only relative state. Change was something that could not be arrested, but only guided -- a movement through space that could not be confined, but only directed." -- Form and Space of Japanese Architecture, Norman F. Carver, Jr.

Space is also a nothingness; we cannot think or imagine the whole space and its limitation, because we cannot imagine that there can be obtained a pivot point outside of the space. Space cannot be considered as an object of thinking. We cannot imagine the nonexistence of materials in space. Even if there is such a thing, it is worthless. Hence, we can only capture a segment of space; that is the pattern of space only through the limited space (i. e., the space with materials); it then is worthy of existence in its sense, value and feeling.

Space is nothingness; we cannot see it, hear it, nor touch it. Furthermore, we cannot perceive its color, size, form or limitation.

Space is reality. We live in it. Everything exists in it. We can see and measure the distance between things. We can also mould it into any form or size and otherwise control it.

Architecture is space, a pattern of space, and a space reality as it exists in its sense, value and feeling. But at the same time, it is nothingness in essence. "Being as nothingness," space, as water and as air, benefit all things without contention. Lao-Tzu said, "Under the highest type of ruler, the subjects are hardly aware of his existence."

Architecture is a segment and a pattern of space. Man must have the opportunity to experience space in architecture. Through architecture we can perceive of space from nothingness

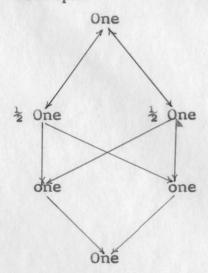
to reality. The real architectonic conception, beyond the fusion of all functional purpose, is space creation that is formed by form.

Space as a raw material for the architect is solid substance for the sculptor. Thus, architecture differs from sculpture as does space from volume.

We may observe recent creations by leading architects in which architecture is expressed plastically as enlarged sculptures in concrete. It might seem, at first, that this architecture is merely sculpture at a larger scale. However, the architect endows his material with a special quality, the quality of space. He can use any variety of materials such as concrete, steel, glass, timber and plastic to create his space sculpture -- architecture.

The architect uses a very simple and economical structure to form a unity of space that is his raw material. Then he can push space in or pull it out. He can also cut or enclose it very freely. Activity is his aim. Architecture is a space sculpture, free, beautiful and long lasting.

The following diagrams are designed to illustrate the basic concept:



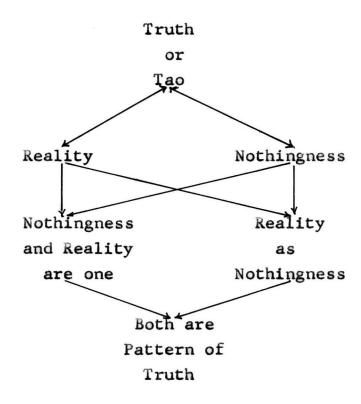
One = a truth, a Tao - is a concept; produce all things, therefore exist between and above them, not on them.

being as nothingness.

Both "small one" are the pattern of "large one" substituting those things into

22 the formula.

The first stage is:



Truth or Tao:

Based on Chuang-Tzu- (the follower of Lao-Tzu) - Concept. Reality and Nothingness can only exist in their relationship not in an individual. Truth or Tao make them as one, even though truth or Tao is above reality and Nothingness, but actually they are between them.

Reality:

Confucius' concept.

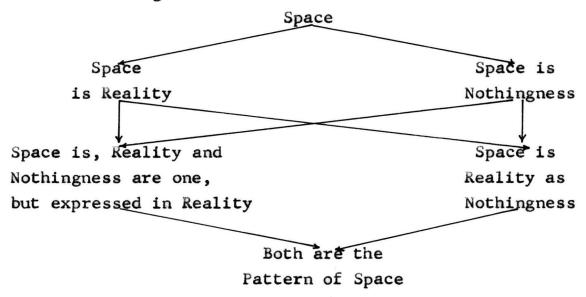
Nothingness:

Lao-Tzu's concept.

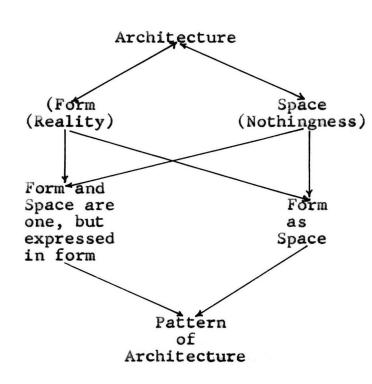
Nothingness and Reality are one: The concept of Chinese Rationalists.

Reality as Nothingness: Zen's concept.

The second stage:



The third stage:



Architecture:

Architecture is a form and a space. Form and space can only exist in their relationship, not in individuals.

Form:

Form is architecture in past time.

Space:

Space is architecture in revolution -- the beginning of modern architecture.

Form and Space are one, but are expressed in form: Contemporary architecture; treat architecture as a sculpture.

Form as Space:

Concept of this thesis.

The Fourth Stage:

To follow the above concept, the museum in this thesis uses a simple and economical structure to build a unity of space that is based on the museum's functional requirements, making of this museum a sculpture of space. Therefore, this results in a feeling of "Nothingness," which in turn accomplishes the creation of space.

In other terms, what is the abstract concept in this thesis?

The abstract concept is the resource and tool of progressive human civilization, because everything has its abstract essence which can be considered as the embodiment of the abstract, such

as the geometric figure is the common abstract form of all things; basic colors are the abstract color of all colors; 1, 2, 3, 4,...

Arabic figures are the abstract numbers in mathematics; notes are the abstract symbols in musics; etc.

The first characteristic of the abstract is the use of an abstract as the function of an abstract, although the higher the level, the more remote will the controlling region be. That is, to control the complexity by simplicity, to control more by less.

The second characteristic of the abstract is in the abstract field; this can be made by a deduction, or under certain assumptions, the conclusion or resultant is actuality and generality.

The third characteristic of the abstract is that the object can be separated from its utilitarian standpoint and can be perceived for its beauty, such as abstract art of today.

The fourth characteristic of the abstract is the pre-existing and the eternal.

The aim of this thesis, using abstract form color, and texture of collections and of the elements of architecture, is first to compose and to evoke spatial emotion and then to substitute the tangible considerations.

PROGRAM REQUIREMENTS,
FUNCTIONS AND ARRANGEMENTS

PROGRAM REQUIREMENTS FUNCTIONS AND ARRANGEMENTS

The museum has many physical requirements and arrangements which may permit it to work smoothly to achieve its purpose. Beyond them lie another group of factors not strictly related, such as the creative vision of the architect, harmony with setting and surrounding buildings, practical limitation of the site and the financial resources available. Perhaps the most important of the non-functional factors, though the least tangible, is the museum's tradition, its spirit, its individual character that makes it different from other museums -- a quality that one hopes can be captured in its architecture as firmly as in its activities.

Space Functions and Requirements:

The selected site is on Independence Avenue between 7th and 9th Streets, and is nearly square in shape -- 500' x 500'. The north side faces the Mall; the site has beautiful surroundings. The total area is about six acres and is almost level. The location of the museum is shown on the plan of Washington.

Horizontal space arrangements.

This project uses a center court as a core. It divides the whole site plan into several belts surrounding the area based on function. The arrangement is from outside to inside as follows:

1st belt: surrounding streets

2nd belt: surrounding pedestrian walks

3rd belt: green belt, outdoor exhibition space and

parking space, surrounded by trees

4th belt: inner pedestrian walks

5th belt: surrounding water area

6th belt: external spaces of the Museum

7th belt: internal open exhibition spaces at first

floor and closed exhibition spaces on

second floor

8th belt: center court

Vertical space arrangement is as follows:

1st level: closed indoor exhibition space and gallery

2nd level: roof gardens

3rd level: open exhibition space and surrounding

spaces

4th level: green belt and outdoor exhibition space

5th level: surrounding water and parking space

6th level: basement

Outdoor space: The use of the 2nd belt -- outer surrounding pedestrian walks as boundary lines of the site; the use of the 4th belt -- inner surrounding pedestrian walks make a circulation of outdoor space surrounding the museum. People can take a rest in the green belt, or come to visit this museum beyond exhibition hours.

1st floor: Open exhibition spaces on 1st floor make an inner circulation surround the center court and is also

connecting with the four subsidiary elements -- administration, library, lecture hall and restaurant.

2nd floor: A semi-open gallery surrounds the center court and the closed exhibition space surrounds it again. There are four entrances on each side.

Basement: Even though the four parts are of individual functions, they are connected with corridors for circulation. Exhibit, study, reserve areas are located here.

Loading, service and staff use a bridge direct to the minor entrance.

Vertical circulation:

For the public, there is a curved ramp as the main circulation from main floor to 2nd floor. The ramp makes a space emotion and variation when one is walking up or walking down. There is also a small elevator for aged men and for disabled individuals.

For the collections, staff and emergency, there are other staircases and an elevator from the basement to the upper floors.

For the subsidiary elements, there is an individual staircase from main floor to the basement and from 2nd floor exhibition space to roof garden.

Entrances: On the north side, people can walk along the Mall and go in; they can also drive their cars to the parking space and take a short walk to the main entrance. The minor

entrance is on the north side for loading and staff. Both entrances use a ramp across the surrounding water.

The 1st floor exhibition spaces:

- 1. Lobby: Lobby is the place in the museum for the control of crowds and leads directly into the permanent and temporary exhibition spaces. In this project, the lobby is enclosed with the center court. Facing the main entrance, an information desk is also closed in. "In the entrance hall," Mr. Philip Johnson said, "the public must be herded, separated and sent on their way in many contradictory directions without ever feeling lost or constrained: the toilets, the Egyptian mummies, the restaurant, impressionist paintings, garden terrace, auditorium, director's office, all of these must be easy to reach without a guide, a greenline, or a Minoan thread."
- 2. Exhibition space: It is the mid-exhibition space between outdoor and indoor. It can be used for sculpture, vessels, mural painting, and other large scale collections. The circulation is short, makes an order, and also has a space emotion with the outdoor space and inner court space. People can also look in when they walk around the building even out of exhibition hours.

The 2nd floor exhibition spaces:

1. Semi-open gallery: The semi-open gallery surrounds the inner court. It can be used as a buffer space from the

1st floor open exhibition space to the 2nd floor exhibition space. Spaces from outdoors flow in open area and along the curve ramp going up in this gallery and then along the four exhibition walls flow into closed exhibition area. As Zen's concept, space, -- "the moving infinite" -- its oneness with life is eternal flux.

2. The main closed exhibition space: This space is divided into four parts: pre-Buddhist era, Buddhist era, Christian era, and Temporary exhibition space. Narrow storage and show case units are used for special collections.

Temporary exhibition space is near the vertical service line to make easy the changing of exhibitions.

Administration, facilities of maintenance and storage:

The offices of the administrative staff should be located where they can be reached without going through the exhibits. The maintenance area of the museum should be isolated from the public and close to the administration element. Combined, these two elements use a minor entrance and one service circulation for horizontal and vertical use.

Requirements of these elements are as follows:

- 1. Administration area:
 - a. Director's office and board room.
 - b. Semi-private working space for two curators near the director's office.
 - c. Two assistant directors offices.

d. Staff room with reception area.

2. Maintenance area:

- a. A working area for receiving and shipping. This room should accommodate a complete uncrated traveling exhibit.
- b. A studio. This room is used for carpentry, repair and the incidental work required in mounting new exhibits.
- c. A photographic room with darkroom.
- d. A printing space.
- e. A locker room. The maintenance staff should have a locker room with shower.

Staff facilities:

- a. Lounge space with a small kitchen.
- b. Men's and Women's lavatories with custodians.

4. Storage facility:

Storage rooms should be arranged so that every object, large or small has its own place. Reference should be made in the storerooms as to the present location of the object (temporary exhibit, loan, permanent exhibit, etc.). Objects in storerooms could be displayed without consideration from an aesthetical standpoint, but best accessible for research workers or students who are doing special work. Such storerooms could be used by the staff to perform their normal duties.

- a. Storage facilities for collections.
- Extension space for future.
- Mechanical equipment room:
 - a. Heating and air conditioning plant.
 - b. Transformers.

Lecture hall and meeting space:

This element is near the main entrance and avoids the disturbance of the other parts. A folding partition is used to divide this element into two parts: One is a lecture hall with stepped fixed seats and another is the meeting space with removable seats. It can also be used for overflow of the audience. The stage can be rotated facing the lecture hall, meeting space and both sides at the same time.

- Lecture hall with stepped fixed seats -- about 200 seats.
- 2. A small projection space above the seats.
- 3. Meeting space: For social meetings, individual exhibitions and overflow for lectures.
- 4. A small kitchen.
- 5. Revolving stage with screen.
- 6. Lavatories.
- Storage for folding seats.
- 8. Guards and Nightwatchmen's room.

Library:

The library in the museum is generally used by its staff and the public. Especially in this project, it should have

many books about Eastern art for reference.

- 1. Area for reading.
- 2. Exhibition space for prints.
- Librarian's desk and files.
- 4. Darkroom for slide projections.
- 5. Stacks and research room.
- 6. Reproductions, prints and photographs.
- Public lavatory.

Restaurant, Tea, Public lounge and flower exhibition space:

Eastern food, especially Chinese food, is famous in the world. Tea for Eastern people is as important as coffee for Western people. It seems necessary that the visitor after a long walk enjoys the collections and then take a rest in this part with Eastern style tea or food.

- 1. Public lounge space.
- 2. Tearoom with a "Kotonoma".
- 3. Dining room.
- 4. Kitchen (Service comes from the minor entrance).
- 5. Pantry.
- 6. Storage.
- Basement includes flower, goldfish exhibitions and a sales counter.

From fixed seats along the wall, visitors can see the surrounding water through the high windows and feel as if in a show boat.

Center court:

This is a core of the whole thesis. Space is flowing from the outside into the building and along the center column in the center court going up through the top glass roof to the sky. Here, we will see the use of sand and rock garden to express the Zen concept and the use of a stream to enclose a quietness with blue curve line between it to contrast the non-life garden. This also shows the Chinese traditional enjoyment of pavilions.

Philip Johnson said, "Space for visual escape or space for orientation reference points in the galleries are not waste. The human eye, even the human spirit, droops from uniformity of lighting and space. A view back to the entrance, an opening into a court or a garden can be of greater functional use to the museum director than another two galleries. Space that helps us to look at painting is not waste space."

Outdoor space:

It is not only for exhibition, but also like a small park where people can take a rest with their children under the surrounding trees and enjoy the sculptures, the building and the beautiful view along the Mall of the Capitol. Gardening is essential.

Gardening and surrounding water:

The surrounding water can be used for: (1) protection - no one can walk in, but can look in after exhibition hours;

- (2) the building can be imaged as floating on the water;
- (3) it makes beautiful reflections; (4) it protects against fire.

Here is the use of stone, gravel, bamboo and small pine trees, etc., to make asymmetrical order for the gardening.

Roof gardens:

Roof gardens are used for rest, enjoyment, exhibits and views.

Parking space:

- 1. Public: Public parking space is on the west side and below the ground surface about 4 feet in order to avoid disturbance to the sight lines.
- Staff and service: Private parking space is on the south side near the minor entrance.

CHAPTER 6

EXHIBITION PRINCIPLES

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In the design of the proposed museum for Eastern art, the following principles, assumptions and decisions have been made with regard to exhibition methods:

- 1. Chronological sequence has been adopted in expressing time relationships between exhibited objects. The principles of Buddhist art serve as the basis for spatial relationships.
- 2. The large scale collections such as stone sculpture, images of Buddha, large vessels and mural paintings will be exhibited in outdoor spaces and in open spaces on the main floor with a large scale background; the small scale collections will be exhibited in semi-open spaces and enclosed indoor spaces on the second floor with a small scale background.
- 3. The abstract forms of exhibited objects and building elements will be organized into harmonious and integrated compositions. For example, the abstract essence of a column will be regarded as a vertical line, a mural painting as a vertical plane, a piece of sculpture as a mass, and a vessel as a volume. Color and texture will then be considered in a similar manner.
- 4. Through the use of form, color and texture, three dimensional space compositions will be created throughout the museum evoking the principles of static symmetry or dynamic equilibrium, thus complimenting and extending the two dimensional abstract compositions of the paintings.

- 5. By substituting the actual objects and building elements into the abstract composition developed as indicated above, it is hoped that the end result will achieve a unity of composition of the whole as successful as Mies van der Rohes' "Museum for a small town."
- 6. The collections themselves, as well as certain building elements, will be used as space dividers.
- 7. The proper physical and psychological distance will be maintained between the observer and the objects in order to display the collections to greatest advantage. Realistic paintings may be framed while abstract paintings may be hung unframed. Some objects will be shown in cases and others not. Some sculpture will be observed from close up and others from afar, depending on sculpture size and nature of the work as well as its degree of abstraction.

Movable Partitions versus Fixed Interior Walls: Mr. Joseph F. Booton, chief designer for the State of Illinois, in writing about the proposed Illinois State Museum, says, "Vistas and axis terminations should be provided, not by the building plan, but by the museum direction with its displays. Time changes the viewpoint and approach, so flexibility is necessary. Ease in tearing down and making new installations is an important requirement." According to Mr. Booton, the movable partition is necessary as new collections demand new installations; this is particularly essential for temporary

exhibit space. The purpose of the wall is not only to support the painting, but to mould and change the space.

The architect, Philip Johnson, however, argues the opposite opinion in his "Letter to the Museum Director." He contends, "Movable walls are expensive, ugly (since they cannot be well finished), difficult to fireproof, and work not at all with high ceilings. Needless to say, they are impossible to combine with skylights. The architect cannot begin even to advise you until these two points are resolved."

In the museum proposed in this thesis, permanent, fixed walls are provided in the main exhibition space for two collections, painting, calligraphy. They also are used as the main space dividers. Both movable partitions and fixed walls have their individual functions and cannot be interchanged.

Show cases:

I. Function:

- A. Utilitarian function.
 - Protection from dust, insects, climate, visitors, theft, fire and sunlight.
 - 2. Ease of access.
 - Flexibility for both internal and external adaptability.
 - Visitor's comfort: for ease of vision and physical comfort.
 - Mobility.
 - 6. Storage.

- 7. Ease of maintenance.
- 8. Flexibility of manufacture.
- 9. Display effectiveness.
- 10. Administrative control.
- B. Aesthetic function.
- II. Types of show cases:
 - A. Table show cases.
 - B. Upright show cases.
 - 1. Free standing show cases.
 - 2. Upright wall show cases.
 - 3. Inset show cases.
 - 6. Show cases equipped with panels and drawers.
 - D. Show cases with storage space.
 - E. Other types of show cases.

In this project, built-in wall show cases for precious objects are not only intended for their quality value, but also for their historic value. In some cases, bullet-proof glass will be used. In general, flat show cases will serve for small scale craft art, fabrics, etc., free standing vertical show cases will be provided for porcelain and pottery in order that they may be seen from all sides.

Temporary exhibition space:

Temporary exhibition space in this project will have its own autonomy, yet can be seen and also serve as an extension of the permanent exhibition areas. The areas near the vertical circulation are intended for changing shows and are

provided with an individual entrance. As Mr. P. R. Adams has stated, "Experiments in modification building space, control of circulation of visitor and arrangement of material can be tried out in temporary exhibition. It is, in fact, one of their chief virtues that they invite fresh exhibition effects, many of which can be adapted to permanent or at least more lasting use. Some of this effect will need judicious toning down of color or of dramatic lighting accent since the pace of temporary exhibition is swift. This part mainly serves the purpose for private collections or collections from Eastern countries for travelling exhibition."

Today, it is generally agreed that one of most important functions of the museum is to show its collections to the public. In a sense, this places museums under the obligation of satisfying the interests of the general public and, in recent years, has led them to seek to interest the larger sector of the public which has not been in the habit of visiting museums.

CHAPTER 7

STRUCTURE, CONSTRUCTION AND TECHNIQUES

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STRUCTURE, CONSTRUCTION AND TECHNIQUES

Structural System:

- Simplification of the structural system creates a unified space.
- 2. Functional space and structural space are one.
- Modules are selected according to structure, function, proportion and relation between structural members and their spaces.
- Proportion and scale of structures should correspond to the material -- concrete.
- Diagonal rigid structural system is more reasonable for roof and floor use, statically and economically.
- 6. Precast and prestressed systems are used for this structure; it is more economic, saves labor and form costs, especially for large scale concrete structures. Connecting precast and prestressed concrete structural members in place make a structure.
- 7. Concrete is a good material to protect the building from vibration and humidity from the ground and fire.
- 8. Long span in structure makes space flexible. It can be divided by partitions of light weight materials.
- 9. To express the traditional architectural character, such as some of Yamasaki's works express the Gothic character, is believed appropriate. Contemporary materials and techniques are to be used for the following reasons: most of

the Eastern traditional architecture were wooden structures. It was also a preformed system and built up in place. This is a building for Eastern Art.

10. Assumed snow load is 60 pounds per square foot for roofs;
150 pounds per square foot live load is used for public floors.

Materials:

Materials selection is based on function, economy, color and texture.

1. Function:

- Reduce noise to a minimum.
- b. Protect extremes of temperature and humidity.
- c. As a buffer for sunshine.
- Economy. Costs of construction are believed to be reasonable.
- Color. Natural color of material is used mainly to make an harmonious composition.
- 4. Texture. Texture expresses the character of material such as qualities of softness, roughness, reflection, smoothness, etc.

Construction:

Roof and floor: For both precast and prestressed concrete, channel members of 4' x 56' x 4" size are used. Thickness of the slab is related. Waterproofing is part of the roofing in general.

The color and texture of the floors must be as such to set off the exhibits; the floor should be darker than the walls with a reflecting capacity of less than 30 per cent. The interior concrete floors should be covered with tiles which have a fine color or the reddish-brown tint so that they will absorb any color which may be applied to them. Rock concrete covering is used for main exterior floors because its rough texture can correspond to that of the structure.

Ceilings: Ceilings make a space between floor or roof and floors to resist the variation of weather and noise. This space is also used for mechanical equipment including ducts and pipes. For the museum it is also a good place for lighting installation. In this project, the ceilings are hung from roof truss and separated from exterior wall for closed exhibition rooms on the upper floors, because of the high surrounding windows over them. The solid opaque portions can be built of light weight materials, except in places where the workmen have to have access for maintenance.

Walls:

Facing of Interiors: The treatment of the interior walls can do much to make the room pleasant, varied, serviceable and to set off the exhibits especially in art galleries where appearance is obviously of particular importance. Materials and colors play the chief part, and it is difficult to make any suggestion on the subject as their choice must be decided by

the taste and judgment of the designer. The larger the room and the greater the wall space, the lighter should be the colors used on the wall. To avoid monotony, large surfaces may be treated with stippled or slightly pitted textures. Where the walls are excessively high in relation to the size of the objects displayed, the color may be washed only up to certain height, leaving the rest white like the ceiling. For these reasons, peg-board wall sheets are used for parts of this project, because it is

- a. very flexible for changing exhibitions;
- b. stippled, pitted for large scale walls;
- c. a good sound absorbing material;
- d. color variations that can be altered; and
- e. 4' module.

External: Colored marble is used for upper part of the exterior wall facing. These are attached to the prefabricated concrete panels. The general size of each marble panel is 4' x 8'. Light color mortar is used for joints. This can bring a big wall into human scale. On the other hand, it still keeps the simple unity of mass in correspondence with the large scale structure. It has good texture, bright, smooth, polished, which makes a contrast to the rough concrete structure.

Grills: The general functions of grills are for sun screens and visual screen. In this project, it is used for its dynamic pattern to divide a huge wall plan into a human scale and not lose its unified feeling. Moreover, the traditional pattern of eastern architecture can thus be recalled.

Doors: Regular doors are 2' x 10', long and narrow in red color. This follows the Eastern tradition of the door size. The axletree at the top and bottom is the hinging device.

Windows: Metal windows are fixed for the purpose of air conditioning installation. Heat absorbing glass is used for top lights over center court.

Electrical and Mechanical Systems:

Electrical Systems: The electrical equipment for lighting or for power must be planned and installed, not only according to immediate requirements, but also with a view to its possible increased use or further extension in the future. All wiring, controls and fittings, in whatever part of the building, should be connected by a number of independent circuits to a main control switch panel. This will be placed in the quarters set aside for the technical supervision of the museum, and, if necessary, linked by a relay system to the night watchman's room.

Luminous and accoustic signal installations are also needed for the public and for the staff. Moreover, the installation for protection against theft and fire should be here. Air Conditioning: A complicated air conditioning plant should be used in this project. To select the air conditioning system, the following considerations must first be weighed:

- a. Type and character of building.
- b. Divisions and space factors within building.
- c. Building usage, regarding both type and time.
- d. Building architectural form and treatment.
- e. Cost of air conditioning installation.
- f. Owner's special requirements.

In this project:

- a. Type of building: This museum building comprises two floors and basement of about an interior area of 83,600 square feet total, with good architectural treatment intended.
- b. Divisions and space factors: Central court extends through all levels. Upper floor: indoor exhibition space; main floor: administration, library, restaurant, and lecture hall; basement: mechanical equipment, storage, stack, etc.
- c. Building usage: From 9:00 a. m. to 5:00 p. m. daily, six days per week.
- d. Architectural treatment and form: A monumental building with solid walls and high windows on upper floor; and fixed
 glass windows in other parts; the whole building is surrounded
 by water.
- e. Cost of air conditioning installation: The owner is prepared to pay for good quality design and equipment.

- f. Owner's special requirements: In the upper part exhibition room and the storages of collections should be kept at a temperature from 70 (winter) to 80 (summer); humidity from 86 per cent (6:30 a. m.) to 59 per cent (12:30 p. m.).
- g. Building location and utility supplies: In Washington, D. C., near the Mall, utilities are readily available, but there is no steam.
- h. Special requirements by the building owner: To avoid the accumulated snow on the roof garden of the four individual parts during winter periods, there should be roof heating.

Everything, therefore, points to a central station type of job with controlled zoning. For instance, the exhibition space and storage may be on one zone, while the subdivisions on the main floor and other basements must be on individually separate ducts. An efficient system of automatic controls for the individual zone is indicated. The ducts from the mechanical room run to the four vertical duct spaces which are below the main floor. A simple heating boiler plant will effectively serve the conditioning equipment for winter use.

A MUSEUM FORELASTERN ART



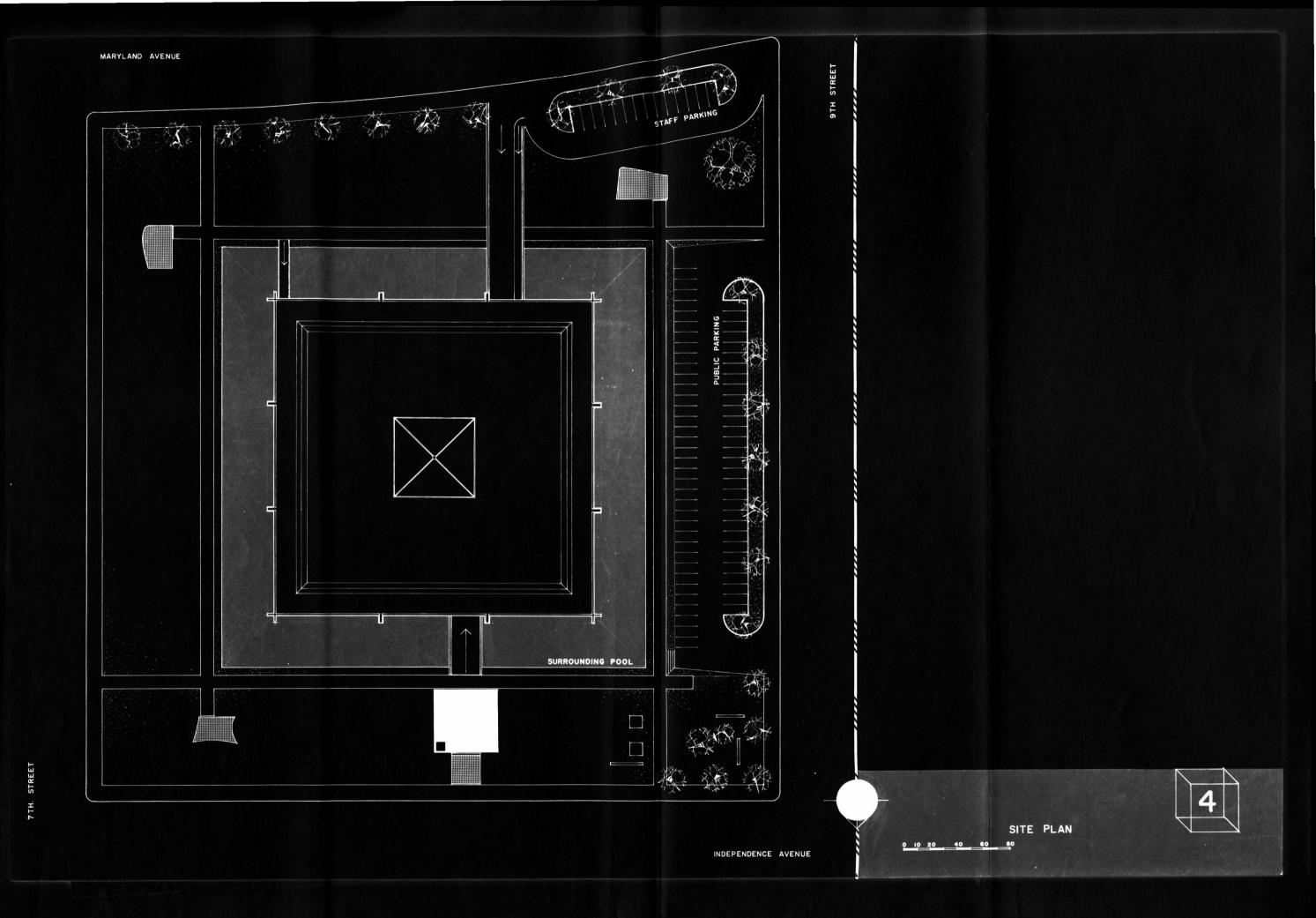


東方藝術館

THESIS
CHIN CHANG-MING



SITE PLAN



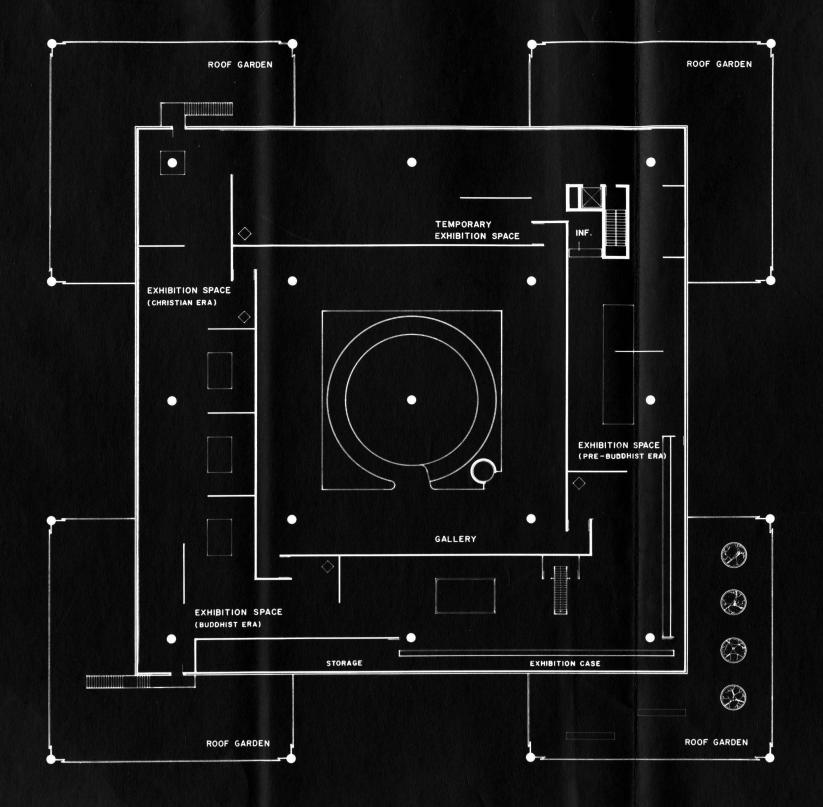
FIRST FLOOR



FIRST FLOOR

5

SECOND FLOCK

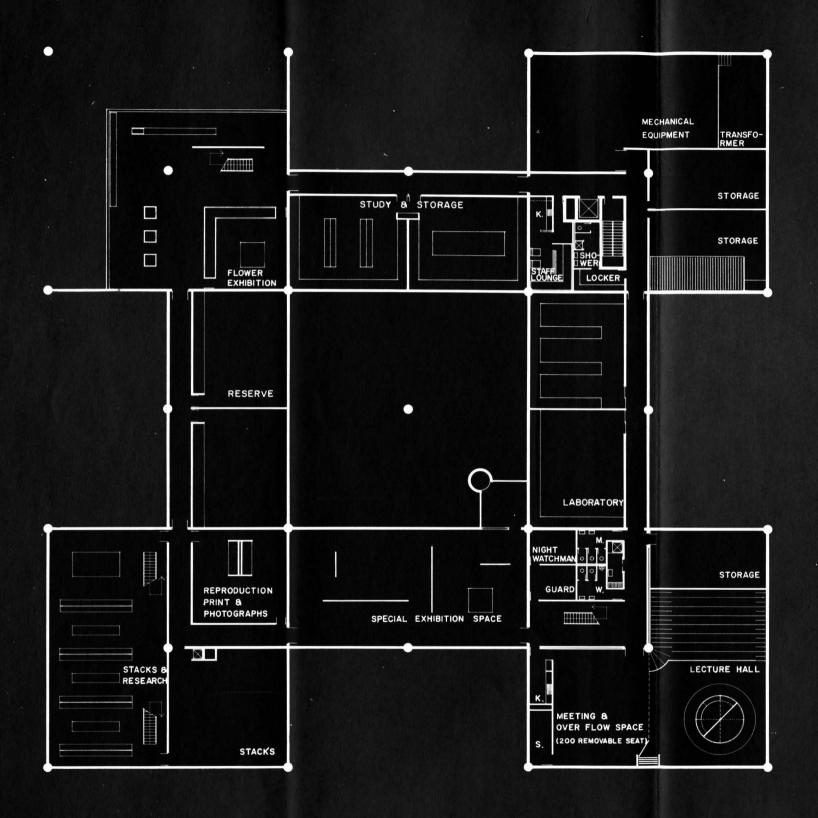


6

SECOND FLOOR

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BASEMENT



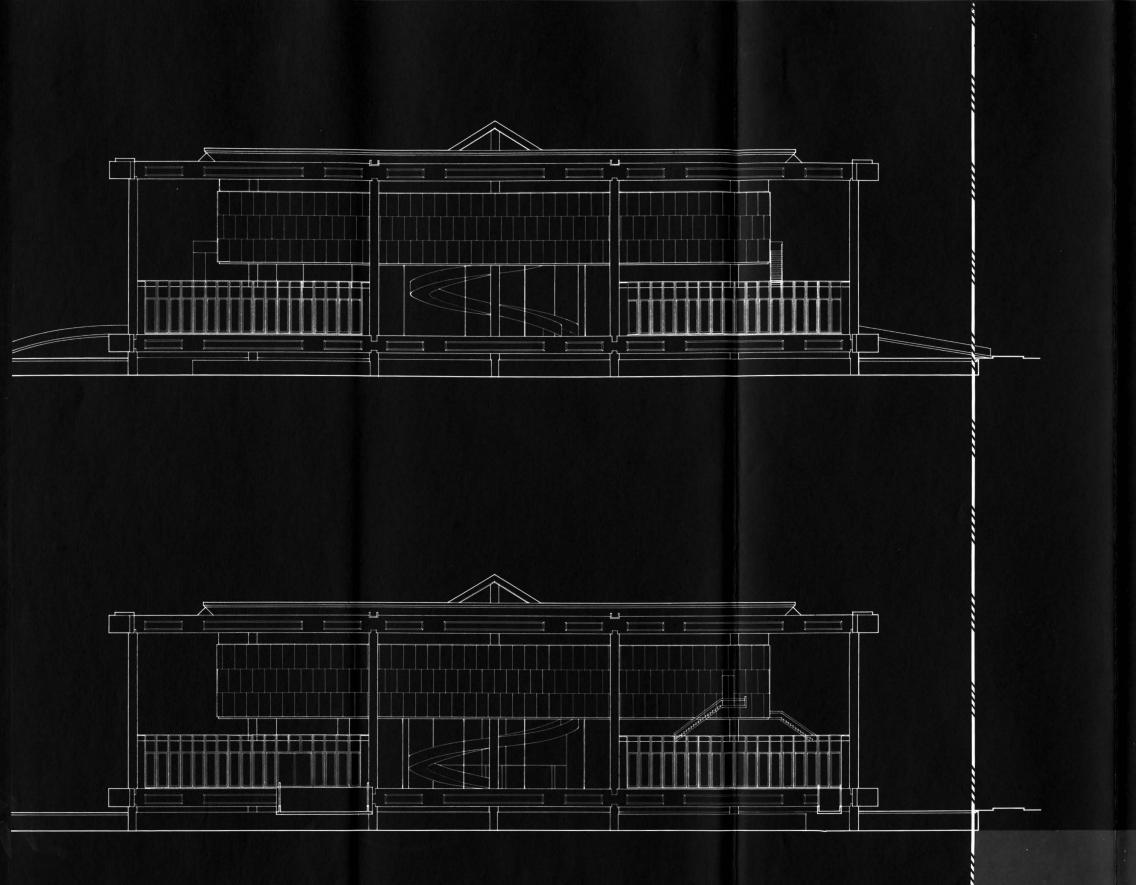
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BASEMENT



WEST ELEVATION NORTH ELEVATION



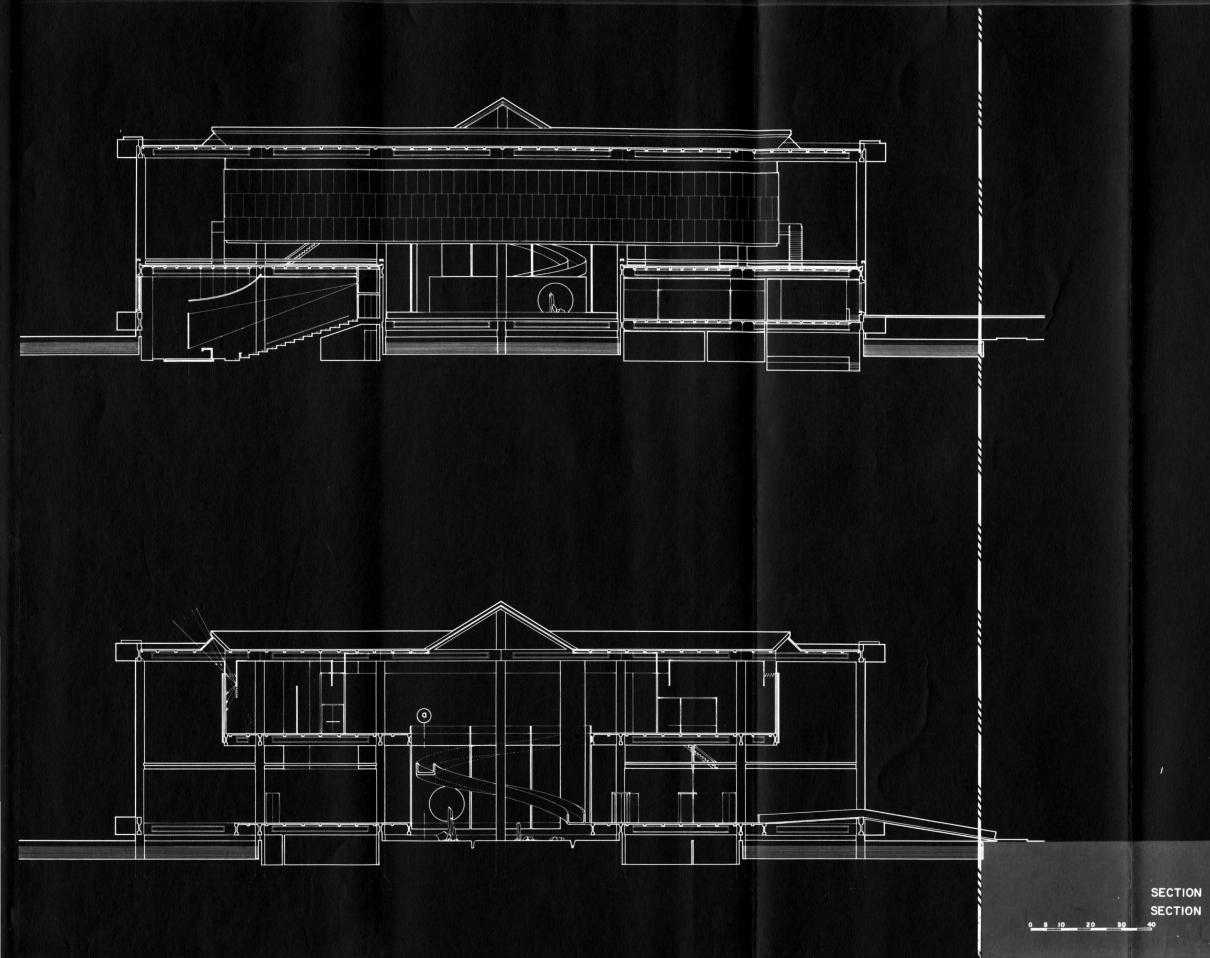


EAST ELEVATION SOUTH ELEVATION

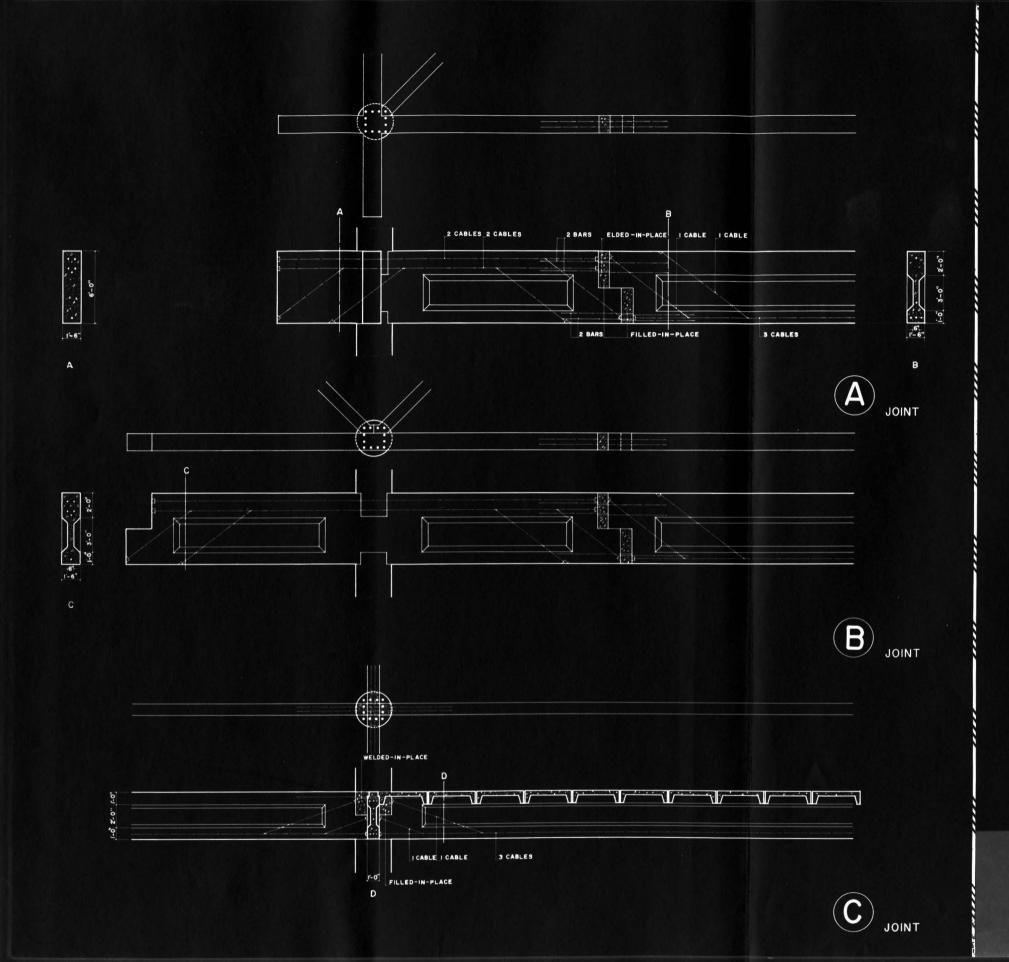
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SECTION



SECTION A-A SECTION B-B

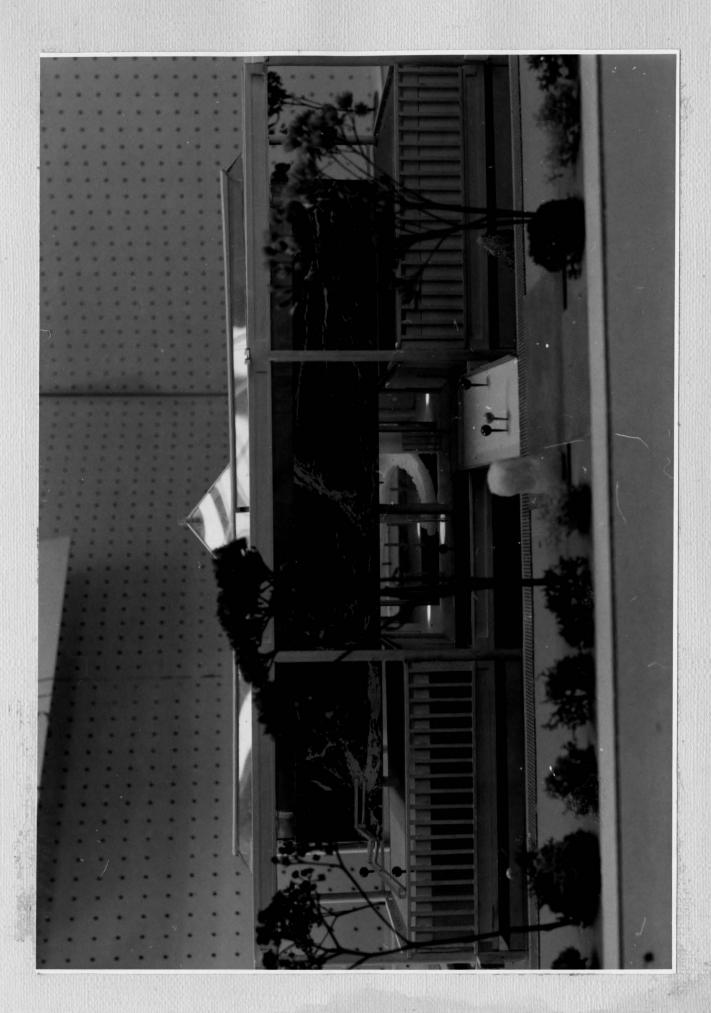


TYPICAL PRESTRESSED & PRECAST BEAMS 14

VIEW FROM THE NORTHWEST



VIEW FROM THE NORTH







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ABSTRACT

This thesis proposes a museum for Eastern art in Washington, D. C. The purpose is to establish a gallery where not only Americans, but also the peoples of other countries throughout the world will have the opportunity to enjoy or to do research in Eastern art and culture.

Eastern concepts are used to express what is space in architecture, instead of imitating the Eastern traditional architectural form. On the other hand, the abstract essence of all elements is used for composition.

A prestressed and precast concrete structural system is to be used to build a unity of space as raw material. Thus, the whole building may become a space sculpture.

For space functions and arrangements, a center court is provided as the core of the whole project. A surrounding water area can be used for protection and reflection of the building on the water.

This project is to be conceived not only as the totality of building and exhibition, but also as unifying environment for art objects and the observers as well.