TEMPORARY EXHIBITION PAVILION
for
THE INSTITUTE OF CONTEMPORARY ART
Boston, Massachusetts

Submitted in Partial Fulfillment of the Requirements
for the Degree of Bachelor of Architecture

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In partial fulfillment of the requirements for the degree of Bachelor of Architecture, I herewith submit my thesis entitled, "Temporary Exhibition Pavilion for The Institute of Contemporary Art."

Respectfully submitted,

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ACKNOWLEDGEMENT

I wish to express my appreciation for the assistance and guidance given me in the preparation of this thesis by the members of the staff of the Department of Architecture and also to Mr. Thomas M. Messer, Director of The Institute of Contemporary Art.
This thesis proposes a temporary exhibition pavilion and small restaurant to be located in the Back Bay Fens of Boston. The program has evolved out of the existing need of The Institute of Contemporary Art for more exhibition space and has been planned in accordance with a budget that was fixed by the Institute. The building is demountable so that it may be transferred to another site when the Institute acquires more spacious quarters.

It is hoped that this structure will help to attract to the Institute the regional artists and young talent in addition to the general public.
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INTRODUCTION

Contemporary art has had to struggle for its existence in the face of adverse public opinion, but the attitude of the public toward modern art has been changing over the last thirty years. In Boston, modern art is abundant in certain areas due to the level of cultural activity; however, the museums and galleries of Harvard Square and Newbury Street are not frequented by the general public. Recent interest in the visual arts has been manifest in the exhibitions of paintings and sculpture that have been appearing in movie houses, restaurants and other popular gathering places. Nevertheless, exhibits of contemporary art have still to find their rightful place in the lives of a larger portion of the population.

Throughout the United States cities are building new museums to stimulate the interest and participation of their inhabitants. Fort Worth, New Haven, Houston, Portland are but a few of the cities that have recently erected Museums devoted to contemporary art and public education. Since 1936 Boston has had the seed of a modern museum in the Institute of Contemporary Art. The following brief history of the Institute will provide the background and character of this institution out of which this thesis has grown.
HISTORY OF THE I.C.A.

"As recently as 1936, there was no organization in Boston devoted to the contemporary arts. To fill this vacuum, a group of art-minded Bostonians headed by Nathaniel Saltonstall, Mrs Dorothy de Santillana, Mrs Roger Merriman, Thomas N. Metcalf and W.G. Russell Allen formed a Society to bring loan exhibitions to Boston. The first exhibition, financed by a Modern Arts Ball, was devoted to Gauguin.

"The venture was successful in every way. The Society was incorporated as the Institute of Modern Art, and within a year had attracted 250 members. In 1938 an Advisory Committee was formed to perpetuate the new Institute and place its activities on a professional basis. James S. Plaut left his post as Assistant to the Curator of Paintings at the Museum of Fine Arts to become the Institute's first director. In the fall of that year, the new organization moved into a sizable gallery at the Boston Art Club, 270 Dartmouth Street, with sufficient space to present exhibitions entirely under its own auspices. (see map)

"Two years demonstrated the vitality of the new addition to Boston's ever-growing list of socio-cultural organizations. In 1940, Mrs Joel Goldthwait made the Institute an integral part of the community by donating her home at 210 Beacon Street for its permanent headquarters. (see map) Within three years, despite Pearl Harbor and the dissolution of the staff through 100% participation in the war effort, the Institute again outgrew its premises. A Trustees' committee, controlling the operation
for the duration, purchased the building at 138 Newbury Street in 1943, (see map) and formally opened the new galleries that summer. Messrs. Allen and Metcalf, with the help of a secretary and a janitor, kept the doors open, maintained membership and presented an important series of exhibitions to the public.

"In 1946, Mr. Plaut returned from the Navy to reassume the directorship, and began to rebuild his staff. The Institute's postwar exhibition program was formidable. Many of the European leaders of contemporary art were presented to Boston, often for the first time in this country, and these were complemented by a succession of American artists. Generally, the Institute sent these exhibitions to other museums across the country. At one point no less than 10 Institute-organized exhibitions were touring the United States simultaneously.

"1948 was a particularly significant year in the Institute's history. The organization attracted national attention when it changed its name from the Institute of Modern Art to the Institute of Contemporary Art. In this same year, the Institute founded a department of design in industry. The purpose was to link art and industry in the face of increasing consumer demand for better-designed products. In effect, the Institute set itself up as a middleman for art and industry; explaining and projecting the economics and esthetics of a vital 20th century development - industrial design. The new department's first task was to assist the Corning Glass Works in creating a company design department by selecting and training a staff of designers. Following the Corning example, many leading
American companies turned to the Institute for design guidance and assistance.

"Until 1955, the Institute grew and prospered in its Newbury Street headquarters. Exhibitions covered both the European and American art scene, and also dealt with contemporary architecture and design. The industrial design educational services were expanded to provide American industry with a regular series of design conferences, a design information service, publications such as the "Job Opportunity Bulletin," (see enclosed copy) a listing of positions vacant and wanted in the design field, and "Current Design" an illustrated survey of well-designed products. The program for members also grew apace. The Institute presented series of lectures on the art of our time; symposia on such central questions as "Uses and Abuses of Design"; a film series and annual tour of contemporary architecture in the Greater Boston area; and adult education courses in drawing and art history.

"This flourishing program was materially assisted by the formation in 1952 of a Ladies Board and Committee, which, working in conjunction with the Trustee committees, did much to promote the general welfare of the Institute. Their projects included an exhibition program for the Small Gallery, the creation of an art wagon to circulate art books and reproductions among patients at the Massachusetts General Hospital; and assistance in such areas as membership, hospitality, benefits and the Christmas Sales Desk.

"These activities gradually overtaxed the physical facilities of the
Institute. The space problem became acute during the 1955/56 season in the light of two important developments. In December, 1955, the Institute signed a government-sponsored contract with the Israel Institute of Technology for a long-term design education and information program. The first of several proposed overseas operations, the project required an increase in staff, and the appointment of a full-time field representative in Israel. A month later, the Institute was appointed the coordinating agency for the Museum Exhibitions Association, a collaborating group of twelve of the country's leading museums. The purpose of the Association is to share the burden of originating loan exhibitions among its members, and thus provide an opportunity to create better exhibitions for a larger public at a lower cost.

"Early in the Spring of 1956, the Institute embarked on its fourth move - into the School of the Museum of Fine Arts. (see map) The move climaxed some three years of careful and thorough discussion by a joint Institute-Museum of Fine Arts committee, and not only took into account the desirability of additional space, but also sought to obviate the unnatural and illogical schism between the art of our time and of the past; and to obtain full value for the art dollar donated by the community. As the joint announcement of the Presidents stated: "Working together and interdependently on exhibitions and educational activities, the two organizations will vastly increase their services and usefulness to the community."

"In mid-1956, also, the Trustees appointed Thomas M. Messer to succeed Mr. Plaut as Director, effective December 1, 1956."*  
*I.C.A. publication, 20th Anniversary Event - "Candida", pp.5-8, 1956*
Exhibitions 1936-1956
A partial listing of Exhibitions brought by the Institute to Boston during the past.

1936
Paul Gauguin

1937
Surrealism

1938
Young New England
Picasso-Matisse

1939
Despiau-Maillol
Sources of Modern Painting
Contemporary German Art

1940
Frank Lloyd Wright
One Hundred Contemporary Prints
Picasso: Forty Years of his Art
Georges Rouault

1941
Carl Milles
Eugene Berman
Modern Mexican Painters

1942
Thirty-six Abstractions
Americans, 1942
Henri Rousseau
1943
Twentieth Century Boston
Europe in America
Ten Americans

1944
Twentieth Century Prints
Religious Art of Today
Pioneers: Chirico, Ensor, Kandinsky

1945
Soutine — Chagall
Eight by Eight: 64 Abstractions by 8 Americans
Forbidden Art in the Third Reich

1946
Four Spaniards

1947
Twelve Americans
John Marin
The Genius of Louis Sullivan
Hartley, Cheney, Cutler Memorial
30 Massachusetts Painters

1948
Ben Shahn
New World of Space: Le Corbusier
Diverse Vision in New England
Oskar Kokoschka

1949
Milestones of American Painting
Elie Nadelman
New England Painting and Sculpture
Villon — Feininger
Design for Christmas #1
A. H. Maurer Memorial

1950
New Irish Painters
Edvard Munch
Christian Berard
Design for Christmas #2

1951
Lovis Corinth
Raoul Dufy
Jack B. Yeats
Karl Zerbe
Design for Christmas #3

1952
Walter Gropius
James Ensor
Wassily Kandinsky
Wyeth — Pierce
Jack Levine
Design in Industry
J. C. Orozco Memorial

230 The Fenway

1953
Seven Painters of Israel
Sutherland — Moore
Sironi — Marini
Gardner Cox
Milton Avery
Design for Christmas #4

1954
Ponti — Kepes
Hyman Bloom
Younger New England Painters
Design for Christmas #5

1955
Pleasures of Collecting
Fritz Wotruba
Robert Delaunay
Young New England Graphic Artists
Design for Christmas #6

1956
Armando Reveron
Expressionism: 1900-1956
Gulf-Caribbean International
Design for Christmas #7
FUTURE OF THE I.C.A.

After many years of struggle to keep the Institute a living thing it has acquired the support and leadership to embark upon a bold new program of activities. The Institute has attempted to accomplish its goals in the past:

* By presenting exhibitions of leading contemporary artists from all over the world. In order to achieve flexibility and variety, the Institute relies entirely on loan exhibitions, and possesses no permanent collection of its own.

* By an art education program that includes courses, lectures, publications, and library facilities.

* By a design education program that includes seminars, exhibitions, publications, research, conferences, placement service and establishment of graduate courses.

* By an Industrial Design program to stimulate business to realize the responsibility of good product design and to assist in the training and placement of product designers.

These objectives are reflective of the basic policy of the Institute: that "an art institute's success is measured as much by the activities it generates outside the four walls of its galleries as by the exhibition which adorns those walls." With the appointment of Thomas M. Messer as director, the I.C.A. has begun to formulate its plans for the future. This thesis has developed in connection with these plans. The following publication just released by the I.C.A., entitled, "A Glance Into the Future," clearly proposes the objectives and means which could provide Boston with one of the most progressive and effective organs for enriching its cultural environment.
Institute of Contemporary Art

a glance into the future

Thomas M. Messer
Director

March 1957
20 years of service as an independent organization devoted to public enlightenment in the subject of contemporary art and design through:

a. Exhibitions and Publications

b. Supplementary Educational Activities

   lectures
   films
   library
   tours
   etc.

c. Design Programme

   assistance to business and industry
   assistance to foreign governments

The first responsibility is toward a local public. Certain services are extended (through traveling exhibitions, etc.) to a national and international public. Others (design) benefit business and industry.

The annual $100,000 budget is made up of 4 approximately even shares, covered by:

   25% local contributors
   25% American art institutions
   25% business and industry
   25% federal government

The Institute of Contemporary Art is located in temporary, rented quarters in the building of the Museum School, 230 The Fenway.
In any enhancement of the Institute's usefulness, the ideological and physical aspects must be considered jointly, as each reflects and expresses the other.

Hence: the present primary function (education through exhibitions and supplementary activities) must be further defined and transferred from the present inadequate quarters to well suited premises.

At this time:

all exhibitions are held in one gallery with the result that the programme is not differentiated enough to satisfy the separate and legitimate interests of a public demanding:

the very best in contemporary art gathered from national and international sources.

the valid efforts of regional artists, the work of children, young talent, and those still striving for recognition.

a programme balancing emphasis upon fine arts through proper attention to the applied arts, whether hand-made or the machine product.
III
EXPANSION STRATEGY

Step 1: Inform the Boston public of the plan:

A
Gallery for art education

B
Gallery for creative encouragement

Gallery for design education

C

Step 2: Raise $250,000 from local sources of which 50% would be used to build and 50% would serve as initial endowment for Gallery A.

Step 3: Build Gallery A on city grounds while utilizing present, temporary quarters to develop programme for ultimate transfer to Galleries B and C.

Step 4: With such a programme for Galleries B and C fully developed, approach:

- A major foundation for funds to pioneer a new experiment of national importance based upon the premise that encouragement of creativity can come from a novel institutional approach thereby realizing Gallery B.

- A group of business and industrial concerns who have received Institute services over a period of years, to establish and endow Gallery C.
IV

DISTANT VIEWS

With this threefold programme of

- art education
- creative encouragement
- design education

firmly established and translated into Galleries A, B, C, built on city grounds and endowed for permanent functioning,

the outlines of Galleries x, y, z begin to emerge.

These would be devoted to:

- \( x \) : the building of a provisional collection in close cooperation with and for the ultimate benefit of the Museum of Fine Arts
- \( y \) : the introduction of cultural programmes derived from foreign countries and designed to strengthen international understanding
- \( z \) : the concern with contemporary religious art as an interdenominational service designed to improve the present low standards of sacred art and architecture throughout the nation

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SUMMARY

1 It is respectfully suggested that this blueprint is modest and that Boston can hardly afford to settle for less.

2 The plan is non-competitive and does not collide with stated or with foreseeable moves by other public institutions in this city.

3 It involves support by the general public only in its initial stage as each subsequent development draws upon new income potentials which are:

- A art education..........Boston Public
- B creative encouragement......National Foundation
- C design education..........Industry
- x provisional collection......Museum of Fine Arts
- y international exchange......Governments
- z religious art...............Churches

4 The plan allows for gradual growth by concentrating upon possible short range developments which, nevertheless, are part of an ultimate objective.
FORMULATION OF THE PROBLEM

The realization of this ambitious program will take a good deal of time and it is not likely that the Institute will be able to build Gallery A before two or three years. In order to stimulate the interest of the general public in this new museum and in order to have facilities immediately available that will accelerate the participation of local artists, a temporary exhibition pavilion has been proposed. The existing quarters of I.C.A. are not sufficiently large to serve more than one function at a time. If a structure were provided in the general vicinity of the Institute it could serve as a center for student and professional exhibits of a temporary nature and as an important symbol of the things to come; a visual stimulus to participate in the new programs. This exhibition space could help to satisfy "the valid efforts of regional artists, the work of children, young talent, and those still striving for recognition."

In addition to facilities for exhibition purposes it is desired to provide a small restaurant within this temporary structure that will help to draw people to the area. This space would also serve small groups for discussions or demonstrations, there being little room for these uniting activities in the present quarters at 230 The Fenway.

These two functions would be the only ones provided for; all administration, storage and preparation being handled in the Institute's present quarters.
The life span of this structure would be two or three years, depending upon the success of the proposed building program. However, this structure will not be destroyed with the realization of the new museum, but will be dismantled and either reassembled in some other location that is in need of local activity in the arts, or its parts may be used in conjunction with the new building.

To utilize practically some of the facilities of the present quarters the pavilion should be located within \( \frac{1}{2} \) to \( \frac{1}{3} \) miles of the Museum School. Fortunately this area includes a major portion of the Back Bay Fens, a park which is directly opposite the Museum School. (see enclosed map) The Institute is a non-profit institution and the Director anticipates the temporary acquisition of a parcel of land in the Fens for this purpose.
The following list of spaces and facilities should be provided for in the pavilion.

a) indoor exhibition space 2,000-3,000 sq.ft.
b) restaurant and meeting room 700-900 sq.ft.
c) office and parts storage room 100-150 sq.ft.
d) kitchen 100-150 sq.ft.
e) entry 100-150 sq.ft.
f) coat room or closet 40-70 sq.ft.
g) rest rooms for men and women 70-100 sq.ft.
h) heating and maintenance room 70-100 sq.ft.

Total enclosed area 3,000-5,000 sq.ft.

i) outdoor exhibition and dining areas would be very desirable.

The total funds available or considered collectable for erecting this pavilion are about $25,000. This would require an expenditure of about $5-$8 per square foot: an extremely low figure for any building. Therefore the design of the pavilion should be approached with its inexpensive, temporary, and reusable nature in mind.
THE SITE

The one controlling factor in the site selection, that of proximity to the I.C.A.'s present quarters, was in no way a hindrance to the selection of an appropriate site for the pavilion. A circle of 13 miles' radius from the I.C.A. would include the Boston Museum of Fine Arts, Simmons College, The Museum School, The Gardiner Museum, part of Harvard Medical School, Boston Public Latin School, Gordon College, Leland Powers School, Wentworth Institute, and at least one half of the Back Bay Fens. It also includes a M.T.A. public transit line for buses and subways to downtown Boston and the suburbs. Although not in the heart of the business district, which might increase accidental attendance, this area is only ten minutes away from it by subway. There is some indication that the expansion of the city will be in this direction. The proposed Boston Center (Prudential Life Insurance project) will bring the civic heart of the city only 3/4 mile away.

Due to the consideration that land in the Fens would be available free of cost, the site selection was limited to that area. The following description of the Fenway is taken from Henry Russell Hitchcock's "Guide to Boston Architecture".

"In 1875 Boston received its first considerable park, Franklin Park, located to the southwest far away from the central core of the city, which then had only the common, the Public Gardens and the narrow greenbelt of Commonwealth Avenue as open spaces. At this time, the Boston Park Commission asked for suggestions for coping with the Stony Brook and Muddy River problems.
(no access to the Charles River) and in 1879 Frederick Law Olmsted, already involved in laying out Franklin Park, proposed the present solution - a park area following the serpentine course of the waterway in a generally southwesterly direction with raised roadways at its edges."

The area of the Fens considered is a rectangular strip roughly 500 feet wide by 2,000 feet long. It is bounded on the long sides by Park Drive to the north and by The Fenway to the south. To the east Agassiz Road divides this portion of the Fens from the other major portion. To the west is a continuation of the Fenway which makes a sharp turn at this corner of the site. The outstanding characteristic of the piece of land is the serpentine Muddy River which gently flows along the south side of the park. It averages about 70 feet in width except at two places, one at which it blossoms out into a semi-circular lagoon directly in front of the entrance to the Museum of Fine Arts; the other being a larger pond devoted to a World War Memorial on its banks.

The selection of the specific location was no problem for one parcel of land was so favorable that it excluded all others. Directly across the lagoon from the Museum entrance a grass-covered piece of land, 150 feet by 135 feet, was planned as a continuation of the main axis of the museum. This site is surrounded on three sides by miniature trees, twelve feet high and the fourth side addresses itself to the museum across the lagoon. It slopes gently (one foot in forty) down to the water. Beyond the rows of enclosing trees it is surrounded by a raised walkway which carries the majority of the traffic through the park. This location is perfect for a
pavilion of this nature. As it is now the strong axis of the museum facade is unresolved and the space seems to have been intended for a focus of some sort, sculpture, terraces or perhaps a formal garden.

Locating the pavilion on this site would not only provide a beautiful surrounding for the gallery and restaurant, free from the noises of the urban environment, but would put it in a strategic location. At least half the visitors to the Museum of Fine Arts come in through the Fenway entrance and they would undoubtedly be conscious of the pavilion, in its natural surroundings, contrasting with the overpowering Greek portico of the Museum. Leaving the Museum by this entrance, the observer's view is directly focused upon this site between the two columns flanking the doorway. The present quarters of the I.C.A. are a mere 800 feet away.

Functionally the site is well adapted to accepting a small structure. A one-inch pipe-line is already installed at the top of the site and this would provide the water supply. A row of street lights passes the site on its west side, 400 feet away, and could be tapped for electricity. There is also a sewer located 50 feet from the site at the southwest corner.

Service access to the pavilion can be gained if the truck drives along the ten-foot wide concrete walk on either the east or the west side of the site. For exhibition deliveries the vehicle can be brought to about 400 feet from the entrance to the building. All deliveries of kitchen supplies and portable goods can be made from the street, 100 feet away. There can be no special provision for parking upon the public land; there-
fore all visitors will park their cars along one of the peripheral streets and walk to the site through the park from any one of four directions.

The majority of visitors will approach the gallery from the south and will first see it reflected in the lagoon and surrounded by trees. Since the walks are about five feet above the level of the site the entire composition will be easily visible and if approached from the north the pavilion will not block the view of the Museum or the lagoon.

One consideration is of major importance in approaching the design of the building. In order to obtain permission from the city to use this land, the point should be stressed that not only will the building enhance the character of the Fens; but when the building is removed the terracing will remain as a place for benches and large pieces of sculpture, retaining the focal interest that is so absent now.

Boston is starved for recreational space. On a pleasant spring or summer day the Fens is crowded with people out for a stroll. Not only will this location be convenient to visitors who had planned to come, but it will attract the interest of many who had not anticipated a visit to a gallery and consequently introduce many newcomers to the I.C.A. and its activities.
CHARACTERISTICS OF THE PROBLEM

The determining factors in designing a gallery of this nature are not complex, but they are precise. The function, location and budget demand a simple solution of the problem: one that most directly satisfies the requirements of exhibition space and which serves as an enhancement to the site and a symbol of the spirit of the sponsoring institution. Those factors which most directly demand solution are:

a) determinants of Function
b) determinants of Volume and Surface for Exhibition
c) determinants of Lighting
d) determinants of Mechanical Services

Determinants of FUNCTION

The pavilion must provide two basic spaces: a large room for the exhibition of paintings, drawings and small pieces of sculpture; and a restaurant or cafeteria of modest capacity catering to lunches or light snacks. Also dependent service spaces, needed for each basic function, must be included. These include entry, office, kitchen, heating and maintenance room, toilets and coat room. These functions may be united in a service core or divided into two groups each related to their immediate function.

These units must be juxtaposed so that the visitor may use either of the facilities separately. The two basic areas must not interfere with each other but should complement each other's function. Under special circumstances the restaurant space should be adaptable to exhibition
purposes with the kitchen closed.

The building will probably receive its most intensive use during the warmer months of the year. Therefore it is desirable to relate the surrounding outdoor spaces to the interior functions as much as possible. Outdoor exhibition and dining will be planned for and there must be a continuity between the indoor and outdoor space for each facility.

The building should express its temporary nature and should be sympathetic with the environment of water, trees, sunlight, and the dominant view of the Museum across the lagoon.

The pavilion should be a self-contained unit that may be completely enclosed and secured against robbery when not in use. When in operation, one or two attendants should be able to supervise the entire unit.

Structurally the pavilion must satisfy several conditions. It must be adaptable to any site that is not excessively uneven in grade, its re-assembly being anticipated. The structure must not be so complex that it creates tension with the exhibition or a distraction. It must be interesting enough, however, to draw attention to itself and encourage new visitors to participate in its activities. It is a piece of propaganda for the Institute.

The soil in this area is of low bearing capacity; therefore it is desired to build a lightweight structure that will distribute its loads over many supports. Accomplishing this will not only avoid the cost of deep and expensive foundations but when the building is removed from the site it will leave it unscarred, requiring very little effort to restore it to the normal activities of the park.
It is improbable that during the next two years art forms will change sufficiently so that a gallery catering to the dimensions of present works of art will become obsolete. Therefore I have made certain observations about the nature of exhibition space provided in galleries today. Flexibility of the exhibition space is always desired for temporary exhibits. Most designers provide a large loft space and then proceed to break down its large unusable area into smaller, more practical spaces. This involves a redundancy of structure. One structure to span a large area and the other to break it up again. Consistent with the desire for a distribution of loads, it seems desirable to create a structure that will serve both as the supporting framework of the exhibition and as the structure of the building. This system could be of easily assembled parts that would be interchangeable in different locations. The flexibility of this system would allow any arrangement of the parts in accordance with the requirements of the exhibition. All partitions should be movable and non-bearing, including the exterior walls. This will permit their being opened in the summer to gain continuity with the outdoor exhibition space. These assumptions seem to imply a "tinker toy" type of structure that can be manipulated in any way desired within a basic system. This will be explained more fully in the section on the solution.

Determinants of VOLUME and SURFACE

The nature of each exhibition will probably be different. The relationships in color, scale or character between the objects being exhibited will also vary from exhibition to exhibition. The methods of displaying
calls for a very flexible system of space and background. The nature of each object shown will require a particular background and the correct scale of volume in which the observer stands. To get the correct proportion or scale relation between the art and the background may be very important. If the background is definite but very large in comparison to the piece of art work, much of the detail in the work may be lost. The whole work may become a dot on the background. On the other hand, a backdrop which is too small for the work would add nothing to it, indeed it would tend to destroy the scale of the work. Decreasing the size of the backdrop on a piece of finely detailed work may bring out this detail more clearly. The flexibility of the proposed system would allow a modulation in the dimensions of backdrops to suit each piece of work. In this way individual pieces may be made to complement each other, support each other, or maybe isolated from each other on their own backdrops.

The same problems occur when considering the relation between the space volume and the object. The space must be modulated according to the scale of the work and must not dictate a fixed scale relationship to the object.

By permitting all the vertical and horizontal surfaces of the gallery to move within a basic framework the volumetric and surface characteristics of the space may adapt to the needs of each individual piece of art. A variation in the ceiling plane and in the wall planes would not only create volumes suitable to the works of art but would provide a spatial sequence exciting to the observer.
The angle of vision that is required to view a piece of art work and the distance from the observer to the work should determine the dimensions of the framework of the structure. The height of the backdrop should be about twice the distance from the observer's eye level to the ground. This would be satisfied by a vertical panel dimension of 10-12 feet. In the horizontal direction a panel of 12 feet would be ample background for even some of the largest works of contemporary painters. Of course the flexibility of the system would allow panels of smaller vertical and horizontal dimensions to be inserted. Individual paintings upon an individual background have an added emphasis and will retain the attention of the observer longer.

The overall dimensions of the gallery are not sufficiently large to provide an exhibition that is of such a size that museum fatigue becomes a problem. The variation in sequence of spaces and wall surfaces will also help avoid this problem.

It has been estimated that each object requires approximately five linear feet of wall space. If a typical exhibit contains 40-60 pieces; depending upon their size, this would require at least 250 linear feet of wall. This is one of the determining factors in designing the structure.

Determinants of LIGHTING

Together with the modulation of background and volume, lighting is perhaps the most important of all considerations in creating the appropriate conditions for viewing the work of art.
Lighting is the most evident technical problem in designing museums, and much more has been written about this problem than any other aspect of museum design. The great volume of documents are inconsequential, however, for there are many sides to the question and each statement is as dependent upon personal preference as upon technical information. The basic controversy exists between the use of natural light and the use of artificial light. There are arguments for and against each light source and it remains up to the designer to select those qualities he considers most important and provide for them.

This pavilion is devoted to the primary purpose of exhibiting the visual arts. Lighting will have a great control over the relationship of the work of art to the observer. Aside from the iconography of object, the color, intensity, texture, form and even the detail will be completely dependent upon a good source of light for communication. Theories of painting have been based upon the relationships of color and light and it is important to provide conditions for exhibition as near as possible to those under which the work was conceived.

Natural light is mobile; it not only changes direction but also intensity and color. It contains the full range of the spectrum and brings out with the greatest intensity the color of the work. Its constant flux adds an element of time to the work of art; however, it is extremely hard to control and is very unreliable as a constant source, especially during the overcast winter months. As the primary source it is useless in the evening, the time of day when the gallery will be quite active. Artificial
light will be entirely depended upon at this time; therefore a completely adequate system is already a requisite to the solution.

Uniformity is the general characteristic of an over-all system of artificial lighting, but this may lead to dullness of the space. This may be overcome by varying the frequency, intensity and position of the individual lamps, creating contrasts between areas of light and dark. This flexibility together with the movement of surfaces will further enable the director to arrange his exhibits in an exciting progression of big and small, light and dark, horizontal and vertical.

Total artificial light is also undesirable, regardless of the variety of intensities. It is important to create an interior space that is not completely confining in all its visual dimensions. The site itself is so beautiful that it should be the over-all frame of reference to the visitor and he must not feel isolated in a box, anticipating the joy of bursting forth into nature again. Some portion of the exterior walls must contain glass, not depended upon for the primary purpose of lighting the exhibition but for the elements of contrast and surprise that may exist if the glass is used in small quantities and in juxtaposition with opaque surfaces and enclosed volumes. On the south side of the gallery a narrow band of glass will afford the viewer a glance across the lagoon to the museum. On all other sides he will look out into the shrubs and trees.

A small piece of sculpture may be placed in front of these narrow openings, their three-dimensionality highlighted by the stronger light.

The warmth and richness of natural light can be retained by making
the entire ceiling of a translucent material which would admit a soft glow yet not permit all the intensity of the sunlight to infiltrate. This source of daylight will free more area of the perimeter walls for exhibition. At night the artificial lighting in the interior will reverse the effect, the glowing roof being seen from the surrounding apartment houses.

In contrast to the relative opacity of the exhibition space there is no need for confinement and control of light in the restaurant. Just the opposite is desired, maximum vision and contact with the beautiful surroundings. The tendency would be to use as much glass as possible in this structure, thereby heightening the contrasting expression of the two distinct volumes of gallery and restaurant.

Determinants of MECHANICAL SERVICES

Museum directors are becoming more conscious of the importance a comfortable environment plays in the appreciation of works of art. The physical comfort of the visitor directly affects his perceptive state and tends to keep him in contact with the art for a longer period of time. The satisfaction of this goal depends upon the temperature and humidity of the space and upon facilities provided such as coat rooms, toilets and an area in which to rest or refresh oneself.

In a temporary building of this sort it is not possible to provide complete control of all elements. Heating is basic to any winter operation and must be provided. However, an air conditioning system to control the moisture content and cool the building in summer is out of the question, especially since a large portion of the exterior wall will be open during
the summer months. The exhibits will not be hanging in the building for any great period of time and therefore will not be permanently affected by any moisture in the air.

There are many heating systems that will satisfy the requirements of this problem. Economy is one of the major factors in its selection. It must be easily installed and salvageable upon removal, it must be quiet since it should be centrally located to gain maximum efficiency. An important criterion is the visual characteristics of the system. In order to preserve the simplicity of the interior space, free from any elements that would be distracting, the system should be installed in the ground.

Although the space to be heated is great, the thermal load can be reduced due to the small area of glass and the provision of insulation on the other peripheral surfaces.

There will be no serious acoustical problem in the structure. In the gallery there is little noise and the restaurant will be sufficiently removed so that it will be no distraction. The park acts as an excellent buffer from the noises of the city.
SOLUTION

The following brief description will outline the basic nature of the solution. It does not attempt to be a complete description since the forthcoming drawings will present this information in greater detail.

Site Work

A minimum of disturbance to the site is desired. The building is to sit upon a platform that must be constructed. A wall varying in height from 2 to 6 feet is to be constructed out of rubble field stone and will be the container for the platform. The void will be filled with 'bank run' gravel and compacted in 3"-4" layers. The finished surface will be a layer of finely-crushed stone.

The water pipe at the north end of the site will be extended to the core of the building. A trench will be dug to connect the sewer at the southeast corner of the site with the kitchen and toilets. A line of drainage tiles will be buried at the perimeter of the platform to carry off ground water.

Structural Frame

The entire structural frame of the building is assembled of "Power-strut" continuous slot channels. These members are a direct replica of the well-known Unistrut system but are manufactured in Framingham, Massachusetts. The columns are fabricated to individual designs from a combination of a number of channels welded together. Framing between the columns
at the roof level and at lower levels are horizontal members of built up "Powerstrut" sections. The advantage of this structural system is that its continuous slots are fitted with special nuts and bolts which permits any member to be connected to any other with the aid of only a wrench. In this way the entire framework of the exhibition can be manipulated to suit the particular needs with the maximum of ease and in the minimum time.

Foundations

Under each column a small footing will be set into the compacted fill. The properties of the fill are such that it will sustain at least 2-3 tons per square feet compressive load, sufficient for this structure, but it is not so dense as to draw the water up from the ground below.

Floor

There will not be any finished floor provided except under certain core facilities. The top layer of finely crushed stone with a binder will serve as the floor surface for the gallery and for the restaurant. This is in consideration of the small budget provided for this building, and the satisfactory functional properties of the surface.

Walls

The perimeter wall surfaces will be sandwich panels of plywood skins with a core of insulation material. These panels will be simply bolted into the Powerstrut framework and painted on both sides. Certain areas will be glass set into the framework with rubber gaskets. In the summer these panels can be unbolted to open the building to the outdoors.
Roof

Spanning between the roof beams are panels also of sandwich construction. However, these are constructed with skins of translucent plastic and a core of aluminum ribs. These flat panels are capable of spanning 12 feet with normal live loads of 35-45 pounds per square foot. Waterproofing is accomplished by applying a plastic tape to all joints and bolting a metal batten down over the tape, thus securing the panels to the framework. The structure is braced across the diagonals with steel cable, both in the horizontal and the vertical planes.

Interior Partitions

Interior partitions are large sheets of plywood mounted into the framework with standard Powerstrut connectors or a pin and spring connector that will be explained in the drawings. These partitions are painted and are ready to receive the exhibition.

Moisture and Condensation Control

Although the wall studs present a through-metal connection between outdoors and indoors, it is believed that no serious condensation of moisture will occur on the interior wall battens. Field tests at the Unistrut plant have reported little evidence of moisture in this application.

Heating System

A perimeter heating system is employed. A warm air, gas-fired furnace blows the heated air through a perimeter band of plastic impregnated fiber
tubes which are buried in the gravel floor a few inches below the surface and are wrapped with insulation. Every twelve feet a grill extending up from the tube releases the warm air into the rooms. All registers are located near the outside walls, preferably under the windows. This helps to maintain constant room temperatures by replacing heat losses at the origin of losses, since outside walls and glass areas are responsible for 60 to 80 per cent of the heat which escapes. Releasing heat near the outer walls provides a sort of insulating blanket of warm air rising over these colder surfaces. The space housing the furnace opens directly to the outside and all structural joints are sealed with a lead-foil tape to prevent any leakage of gas or combustion fumes to the building interior.

**Lighting**

A network of Powerstrut channels is attached to the bottom side of the roof. Their form provides a track in which swivel-head incandescent fixtures may slide the entire length of the panel. The wires are run through the channel, which is approved by the electrical code, and can be tapped at a number of points. This will allow the exhibition director to arrange any number of lights upon an individual object and from any angle.
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Important Change in J.O.B. With this issue, the first of J. O. B.'s fifth year, the Institute announces an important change. For four years J. O. B. has been prepared and distributed by the Institute of Contemporary Art as a free service to manufacturers, firms, schools, museums, etc.; and to individuals desiring employment in the field of industrial design, architecture, art, crafts, interior design and design education.

Because of the steady growth of J. O. B. and the increasing cost of publication, the Institute herewith announces a changeover for J. O. B. from a free to a charge service. To allow a period in which to obtain sufficient subscriptions, the March and April 1957 issues of J. O. B. will not be published. If enough subscriptions are obtained within the next few weeks, publication will be resumed with the May 1957 issue. Subscription prices for one year (10 issues) are as follows: $3.00 for individuals, schools, museums and other non-profit institutions and organizations; $7.50 for corporations and other business and commercial organizations, including industrial design and architectural firms. Though you will receive subscription and 'ad' rate information by separate mail, we invite and urge you to subscribe immediately, sending your check or money order payable to the Institute of Contemporary Art. Unless sufficient subscriptions are obtained promptly, the Institute's publication of J. O. B. will have to be suspended indefinitely or permanently.

J. O. B. is in two parts:

I. Openings with manufacturers and other concerns or institutions interested in securing the services of artists, architects or designers. We invite manufacturers to send us descriptions of the types of work they offer and the kinds of candidates they seek. Ordinarily the companies request that their names and addresses not be given.

II. Individual artists and designers desiring employment. We invite such to send us information about themselves and the type of employment they seek.

Please address: Editor, J. O. B., Institute of Contemporary Art, 230 The Fenway, Boston 15, Mass., unless otherwise indicated. On all correspondence please indicate issue, letter and title.

I. OPENINGS WITH COMPANIES

A. ADVERTISING ARTIST-MECHANICAL DRAFTSMAN: Large manufacturer in Boston area seeks candidates for position combining machine and assembly drawings with advertising layout of brochures, flyers; requires good mechanical background, imagination, good color sense.

B. ARCHITECTURAL DESIGNER: Well-known producer of aluminum, architectural and metal wall products needs man with 5-10 years experience in architectural design work. Person selected will head design section in metal wall operation. A ground floor opportunity which should grow with expansion of company's metal wall activities.

C. ARCHITECTURAL-INTERIOR DESIGNERS: Interior design organization, located in New York City, seeks designers, draftsmen and project managers with office lay-out experience. Excellent opportunity for permanent association. Salaries commensurate with experience and capability.

D. ART DIRECTOR of active municipal Art Center to carry on lively program of exhibitions, classes, and community programs. Applicants should have thorough educational background, some knowledge or experience in museum field, and strong desire to participate in community projects. Salary open. Applicants should send letter of application with educational credentials, photograph, and recommendations to President, Art Center Association of Sioux City, Sioux City Art Center, Commerce Building, Sioux City, Iowa.

E. ARTIST for industrial design organization, visualizer; experience on point-of-purchase, packaging, store fixtures. Must be able to assume responsibility, work with accounts. Salary commensurate with experience.
F. ARTIST-DESIGNER: Teaching position, possible rank of Asst. Professor, in Art Dept. of large eastern university, for painter or printmaker also interested in continuing professional career. Required: experience as commercial designer as base for organizing and teaching course in lettering, typography and layout.

G. ARTIST-PACKAGE DESIGNER: Male or female; experience necessary; strong on design, lettering and layout. Immediate availability important. Package design studio, designing mostly food and textile packages, New York City.

H. ASSISTANT TO DIRECTOR OF DESIGN: Major manufacturer of machine-made glassware, located in Ohio, seeks capable all-around male designer to enter company as assistant to present Director of Design and to carry out responsibilities in product design, silk-screen glassware decoration, and packaging problems. College degree desirable but not essential. Applicant should be 27-35 years old and have some industrial experience. Good starting salary and unlimited future in company for right man.

I. CONTEMPORARY FURNITURE DESIGNER: Unique opportunity to develop new lines of wood and steel office furniture with design firm located in New York City.

J. DESIGNERS: Industrial design firm in New York City seeks talented designers with experience in industrial, package, graphic, furniture or interior design, although staff designers do not specialize as such and all work on many or all aspects of a design program.


L. DESIGN COORDINATOR: Progressive mid-western manufacturing concern needs a Design Coordinator. He must be experienced with an industrial design background, knowledge of window display and merchandising techniques. This is a newly created position in an important product development program. A good opportunity for a qualified man.

M. DESIGN TALENT: Large international corporation in Detroit area invites inquiries and applications from individuals 20-45 years of age of unusual design talent for full-time staff employment in automotive exterior styling. Excellent salaries (plus overtime), inspiring facilities and working conditions. If records and portfolios show real promise, company will fly candidates to Detroit for interviews.

N. DESIGNER-DRAFTSMAN: Large Boston department store needs designer-draftsman with creative and proven ability. Essential: 4-5 years experience in department and specialty store interiors, fixture design and detailing. Preferred: college graduate with architectural or industrial design degree. Liberal employment benefits and opportunity for growth in a store with large expansion program.

O. DESIGNER-SALESMAN: New England industrial design consulting firm invites inquiries from individuals (male or female, age 25-50) with design or art training and experience, to fill full-time client relations position, working out of Boston, any part of New England or New York City, to increase firm’s business and provide high standards of service.

P. DESIGNER-STYLIST: Nationally known gift wrapping firm in Boston area seeks designer to style annual line of papers and ribbons. Designer will also assist in packaging of products, label layouts, etc. Small amount of nation-wide travel will be necessary to promote line with our resident salesmen, interrogate buyers, etc.

Q. DIRECTOR OF INTERIORS: Internationally known Southern California firm seeks outstanding man to assume position of Director of Interiors. Must have interior design experience combined with proven administrative ability. Commercial and industrial experience preferred. Department store, furniture manufacturing experience helpful. Excellent starting salary; opportunity to grow with this progressive firm.

R. DISPLAY DESIGNER: An outstanding international corporation in Boston area seeks candidates for full-time staff position in growing company design department, for large and small scale store display designs. Modest starting salary with excellent future growth possibilities. Should have working knowledge of basic materials and interest in merchandising.

S. DRAFTSMAN-DESIGNER: Small progressive office in Central New York State with large and varied practice seeks senior draftsman and designer. Salary commensurate with capacity and experience.

T. FREE-LANCE DESIGNER: Progressive distribution organisation in New York City is interested in the services of a designer to develop well-detailed contemporary seating pieces.

U. FREE-LANCE DESIGNERS OF GREATER BOSTON AREA: Manufacturer of building material, acylic plastic panels using decorative embelishments, has need for several free-lance designers with flair for decorative effects and imaginative approach to use of unusual natural and synthetic materials.

V. FURNITURE DESIGNER: Famous U.S. manufacturer of fine furniture invites inquiries from free-lance furniture designers of proven talent and success; please submit experience descriptions and photographs of work.

W. INDUSTRIAL DESIGNER: Chicago office of industrial design firm has immediate opening for qualified industrial designer with minimum of 2 years experience. Must be good renderer.

X. INDUSTRIAL DESIGN INSTRUCTOR: Leading design school in East seeks full-time industrial instructor who wishes to make industrial design teaching a career. Outside activities in industrial design field encouraged in order to benefit teacher’s experience and income. First assignment teaching sophomore class in design. Good future prospects.
Y. INTERIOR DECORATOR: Well established small decorating firm in Redlands, Calif., needs fully qualified interior decorator. Job offers minimum salary, plus commission of sales in rapidly growing small community. Salary range, depending on ability, from $6,000.00 to $10,000.00.

Z. LETTERING SPECIALISTS: Artists to make master drawings of Printing Type Faces for use in Photon photographic type composition equipment. Up to $100 per week depending upon experience.

Aa. PACKAGE DESIGNER-ENGINEER: Large national distillers want top-quality man for new full-time position as manager, packaging and design; desired qualifications: mechanical engineering degree, plus degree in industrial design or advanced engineering; age 30-40; preferably glass and packaging experience; 4-5 years working experience with production phases of packaging and bottling operations; proven ability to create designs with customer and sales appeal, preferably in fancy food, beverage or other luxury fields.

Ab. PLASTICS COMPANY DESIGNERS: A leading Eastern manufacturer of plastics coverings (furniture, automobile, wall, etc.) has positions open in company design department for a male stylist with art or design training, to be given training in company’s operations; and for a two-dimensional designer experienced in textile design.

Ac. POTTER: wanted to establish own studio in pre-Revolutionary building located in historic Massachusetts town; thousands of visitors yearly. Rent free in exchange for maintenance duties. Young man preferred.

Ad. PRODUCT DESIGNER: Well-established, nationally known industrial design consulting firm seeks product designer with 2-3 years experience in designing appliances, etc., for full-time position in Pittsburgh area. Salary based on experience and qualifications.

Ae. PRODUCT DESIGNER: Well-established nationally known and respected company in mid-west invites inquiries and applications from individuals 25 to 45 years of age of unusual design talent. If background information shows real promise company will fly candidate to factory for interview.

Af. WALLPAPER DESIGNERS: New England manufacturer of wallpaper wishes to develop free-lance design sources. Two-dimensional designers in New England or New York area wishing to qualify should apply to Editor, J. O. B.

II. ARTISTS AND DESIGNERS SEEKING EMPLOYMENT — The Institute does not necessarily endorse the following individuals, who are listed because they have asked the Institute to help them find employment.

A. ARCHITECT: 2 years college; 2 years Taliesin Fellowship; 13 years varied experience. Will go anywhere for opportunity to build in natural environment. Male, age 37, single.


D. ARTIST-TEACHER: M.A., N.Y.U.; student of Hofmann; Art Students League; Pratt Inst. 8 years teaching experience in design, graphics, photography, with practical experience in publication design and window display. Exhibited widely; national and regional prizes. Seeks position in northern part of U.S. Male, age 35, married.


F. CREATIVE DESIGNER: B.S., Boston Museum of Fine Arts; Art Students League; Tufts College. 5 years experience in illustration; textile, plastic and gift-wrap design; TV backgrounds; murals; teaching. Seeks challenging free-lance work.


H. DISPLAY AND ADVERTISING: Graduate Vesper George School of Art; European study; graduate U.S. Army school of engineering; 3 years graphic illustration and production control; 8 years retail display and advertising; experienced interior display and fashion coordination. References and color slides on request. Desires northeastern location but will consider far west. Male, age 27, single.

I. EXHIBITION DESIGNER, ARCHITECTURAL BACKGROUND: 5 years study Academy of Art, Berlin, Germany. Experienced in all aspects of exhibition designing, graphic representation, creative design, technical drawing, newspaper illustrating; 4 years free-lance work in Berlin; experienced in all phases of photography and has complete equipment, New York area preferred. Male, age 27, single. Contact: Harry Albert, 17 Johann Georgstrasse 17, Berlin, Germany.
J. INDUSTRIAL DESIGNER: Over 20 years experience designing all phases of product design; furniture and interiors, expert renderer and f. s. detailer. Seeks connection with firm in New York City on part-time basis, as consulting, designing and detailing supervisor. Female.

K. INDUSTRIAL DESIGNER: Grad., Art Centre School, Los Angeles. 6 years experience with firms in New York and Detroit; experience covers product design and development, exhibition design, commercial interiors, packaging and architectural rendering. Desires position west of Rockies. Résumé and portfolio on request. Male, age 35, married, no children.

L. INDUSTRIAL DESIGNER: B.E.D., Pratt Inst., 1951. Diversified design experience in business machines, electric appliances, interiors, furniture. Excellent knowledge of materials and processes. Able to work in all media and capable of carrying design from conception to completion. Seeks permanent design position with manufacturer or basic materials producer. Prefers New England area. Résumé on request. Male, age 32, married.

M. INDUSTRIAL DESIGN CONSULTANT: M.S.I.A., N.R.D., F.C.E.A.D. 15 years experience. Seeks contacts with manufacturers wishing to improve the function and appearance of their products in the following fields: household appliances, radio, capital and building equipment, etc.

N. INDUSTRIAL DESIGN GROUP has opening for a free-lance or retainer account in appliance, furniture, novelty or heavy goods styling. Our experience in product development and industrial design covers 30 years. Area covered includes eastern and midwest area.

O. SCULPTOR: Academy of Fine Arts, Rome, 1951. Varied experience in monumental portraiture; gift and art modeling; production; model making; display. Seeks position with progressive company where such skills could be used or adapted. Willing to relocate. Male, age 33, married. Contact: M. Kaufman, 81 Intervale St., Roxbury 21, Mass.

P. TECHNICAL ILLUSTRATOR: B.F.A. Industrial Design, Syracuse Univ. Experience in fashion illustration, layout and finish drawings for newspapers and catalogs; 7 years mechanical and electrical drafting; free-lance work in business and personal Christmas cards; furniture illustration; posters, maps and watercolors. Seeks position with manufacturer in Boston area for challenging opportunity in technical illustration. Female, age 31, single.

Q. WOMAN DESIGNER: European art school grad. 12 years experience with large automobile manufacturers, styled complete transportation interiors and house appliances; able to develop new products through all phases; color development; extensive public relations and speaking experience in English, French and German. Desires position or consultant arrangement.
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