The Columbia Museum

Roy Davis Smith

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THE COLUMBIA MUSEUM
THE COLUMBIA MUSEUM

Roy Davis Smith

Submitted to the faculty of the College of Architecture,
Clemson University, in partial fulfillment of the
requirements for the degree of Master of Architecture.

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And Becky.
Dedication

To my family for their love and support.
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PILGRIMAGE
The "pilgrimage" lies deeply within the human nature although different times and cultures dictate different types. Almost all major religions have various shrines to which adherents travel. Shakespeare's house in Stratford has become a pilgrimage terminous as has Lenin's tomb in Moscow. The pilgrimage, as a sequence of events through time and space, is usually seen as an experience which will enrich the individual "selves." The pilgrimage often involves movement to an architectural monument, then around and/or into it. This simplification, which is derived from religious as well as secular examples, could be considered the least denominator common to all. Columbia was founded a governmental city, and therefore, a pilgrimage city. Centers of political power always act as magnets to which the populace draws. Columbia is no exception. Most South Carolinians visit Columbia as pilgrims. Religious, governmental, recreational, educational, and mercantile opportunities provide many destinations within the city for pilgrims.
Traditionally, centers of government have been closely connected to repositories of art. Paris has the Louvre, the Vatican its treasures, and Madrid the Prado. More recently, Washington, D. C., has added a wing to the national gallery and in the southeast, Atlanta Meier's High. It is right and proper, if not its bounden duty, for Columbia to more strongly emphasize its art museum.

Because of its function in society, its internal order (sequential spaces), and its symbolic status not only as a physical embodiment of Columbian aesthetic value, but also as an impetus for growth in Columbia, the pilgrimage aspects of the museum cannot be ignored. It is, then, imperative for the design of an addition and/or a new facility to take the pilgrimage seriously and exploit it as a design determinant.
The object of the Columbia Museum of Art is the "increase and diffusion of knowledge, appreciation, and experiences of the arts, the sciences, and history through the collections and programs" of the museum. The governing body is the board of trustees which consists of the officers of the Columbia Art Association, the members of the Columbia Museum of Art Commission, elected trustees, and additional and honorary trustees.

The museum currently occupies one four-acre block in downtown Columbia. Several separate buildings, many having been expanded and renovated through the years, provide approximately 30,000 square feet of usable interior space for exhibitions, services, and other functions of the museum. Because the present facilities are inadequate, a proposal has been made to relocate the museum near the Governor's Mansion in the Congaree Vista area of Columbia on a one-block site which is currently being utilized for automobile parking. The property on which the museum now exists
can be used by the University of South Carolina, which is also expanding.

A recent study completed by the director reported the need for approximately 75,000 square feet of usable interior space. The final gross square footage, however, will be considerably greater because of circulatory, mechanical, and other needs of the museum. The design of the building must not only gracefully accommodate the functions to be housed there, but must also carefully address the needs of the urban situation in an exciting manner. The facility will become a civic symbol which must serve not only as a repository for Columbian aesthetic value, but also as a physical embodiment of it.
The city of Columbia was created on March 22, 1786, by act of the General Assembly in Charleston. The need to move the capital from the coast to the center of the state was not a new one; indeed, it had been discussed for about a century.

The wilderness which stretched from the fall line of the Carolinas westward abounded with resources. Rich soil, seemingly infinite timber, bison and deer attracted German, Scottish, Irish, and Welsh settlers. The new land of plenty, however, was far from the military and judicial center of Charleston. Less than friendly Indians often raided farms and attacked forts. Taxation/representation and law enforcement was unsatisfactory to the newer settlers, who, by coming through Pennsylvania and Virginia, had little to do with Charleston and the tidewater society.

After a successful Revolution, a law was passed which stipulated that "the town must meet the requirements of an ideal city of its time." The chosen location
Columbia was at the junction of the Broad and Saluda rivers, on the eastern bank of the Congaree near Friday's Ferry across from the town of Granby, or Saxe-Gotha. Four square miles were purchased from Thomas Taylor, and a city plan was formed.

The new City, Columbia, was laid out on a two-mile square grid. The boundary and bisecting streets all had 150-foot rights-of-way while all other streets had 100-foot rights-of-way. Each block was divided into half-acre lots which were sold to speculators and prospective residents. A provision of the purchase stipulated that a structure at least eighteen feet long and thirty feet wide be erected on each parcel. The proceeds from the sale of the land was given to the fund for a new State House. Two blocks at the intersection of the major bisecting thoroughfares were reserved as a site for this.

Columbia rapidly became the political and, later, the commercial center of the state. The city was
designated the seat for Richland County in 1799 and in the city were located county offices, a jail, and a courthouse. The first railroad provided rail link with Charleston in 1842, and by 1850, Columbia had become a hub of the railways with service to Wilmington, Charlotte, Spartanburg, and Greenville.

The First Baptist Church of Columbia was in December of 1861 the scene of the Secession Convention which led to the Civil War. During the war, money was printed in Columbia and the offices of the Confederate Quartermaster, Paymaster, and Printing Bureau were located in the city.

In February of 1865, General Sherman, during occupation by Federal troops, burned the city because of the important role it played in the war. The fire destroyed eighty-four out of one hundred twenty-four city blocks including Main Street and all public buildings.
In the years following the war, Columbia rebuilt and continued to grow. The population during the war was just over ten thousand people and by 1900, the population had reached twenty-one thousand one hundred and three. The number of people in Columbia doubled every twenty years until 1950, when growth stopped.

Columbia is fortunate to have a great diversification of industry. This, along with Fort Jackson, state, county and other governmental jobs, agricultural and dry goods distribution have helped to maintain steady development.

The economic and social misfortunes that have ravaged many American urban areas since World War II have not left Columbia unharmed and suburbanization has created a lack of residences in the downtown area. Fortunately, in recent years, with the expansion of governmental needs in the city, the Strom Thurmond Federal Building and the Richland County Judicial Center have resulted in more office workers downtown. Private office
complexes, too, such as Jefferson Square, Standard Savings and Loan, Bankers' Trust, and First National Bank, have contributed greatly to the business of the downtown areas during working hours.2

The population increase from 1950 to 1970 was due to the annexation of Fort Jackson and Eau Claire. Without these additions, the population of the city would have decreased. Since 1970, there has been no annexation of major populated areas. The decline, then, that was occurring within the former city presented itself as a population decrease. Since 1980, the population has risen slightly and is stable with about 114,000 residents.

The racial composition of the city in 1980 was 69.3 per cent white, 29.9 per cent black, and 0.8 per cent other minorities. Forty per cent of the population is 65 years of age or older and 25 per cent is 18 or less. The 1980 census shows Columbia to be 56 per cent male and 44 per cent female.
According to the census, the median number of years of education was 12.0 years for both the city and also the metropolitan area. The State of South Carolina had a median of 10.5 years.
THE CONGAREE VISTA
The Columbia Canal was built in the 1820's as an aid to shipping activities. A few grist mills grew up there and remained until the middle of the century the only significant structures in the Vista. Arsenal Hill, a neighborhood bounded by Elmwood Avenue, Wayne, Blanding, and Park Streets, grew after the state legislature established a military college there in 1842. The only building there to survive Sherman's burning of Columbia was the officer's quarters built in 1855. In 1868, that building became the Governor's Mansion.

Sydney Park, now being revitalized as "Seaboard Park," was Columbia's first public park and was built in 1852. The Park was landscaped and featured outdoor concerts twice weekly.

The railroad had a blighting effect on the neighborhood, especially Sydney Park. In 1899, the Seaboard Railroad turned the park into a freight depot. The war damaged residential character deteriorated further.
Cell Block One of the state's Central Correctional Institution was completed in 1870 and has been a malignant influence ever since. This, along with the railroad and mills built near the water, deprived the Vista of being considered a prime residential area.

"Bad" grew into "worse" as the canal, originally built to allow a 34-foot drop from the Broad to the Congaree through a series of locks, began to be used as a power source. The duck mill, built in 1894, was the first textile factory in the United States to use hydro-electric power. Other mills ensued and more railroad tracks followed.

By the end of the nineteenth century, Gervais Street saw the arrival first of commercial businesses and later of less respectable saloons and accompanying houses of ill-repute.

Columbia's upgrading of its housing code in the 1960's led to the demolition of much substandard
rental housing. Many parcels of land have been bought by the government as well as by private developers from displaced homeowners and tenants.

A few good, attractive residences exist in the Arsenal Hill neighborhood along with the majority of sub-standard rental units occupied by low income blacks. About nine hundred people live in the area now.
NEW DIRECTIONS FOR THE VISTA
The western portion of the original city of Columbia, the congaree Vista, has been the subject of a study done recently by Robert Marvin and Associates, P.A. A master plan for the area has been developed that will reshape the Vista into a more interesting and enjoyable neighborhood. The plan is to, over time, encourage the growth of three new east-west elements: the government mall, the university corridor, and the arts/retail corridor. This will create a system of parks throughout this area.

A new rail line is being placed in the city which will better serve its present needs while older rail rights-of-way are being made into parks. The revitalization of Mt. Vernon Mills as the State Museum should give added momentum to the process. The Arsenal Hill area has a mix of older and newer residences, some in better condition than others. Lots of land area in the Vista is currently being under-utilized. Redevelopment will occur. Hopefully, the Open Space Masterplan will give coherent direction to the neighborhood's growth.
CULTURAL ACTIVITIES
The Columbia Museum of Art offers a wide variety of lectures and concerts in addition to the many provided by the colleges and university in the city. The Town Theatre and Workshop Theatre sponsor various dramatic performances.

The Columbia Music Festival Association sponsors six concerts each October to April season. Internationally known orchestras, ballets, and soloists are featured. Six organizations which are affiliated with the Association include the Columbia City Ballet (two performances per season), the Columbia Philharmonic Orchestra (four concerts per season), the Columbia Youth Orchestra (six concerts per season), the Columbia Lyric Theatre (two operas per season), the Columbia Choral Society (two concerts per season), and the Women's Symphony Association.6
CLIMATE
The climate in the Columbia area is relatively temperate. The Appalachian mountains to the north and west retard the flow of cold air into the area during winter while the relatively constant Bermuda High causes a continuous flow of moisture laden air across the region during warmer months.

Long summers characterize the area with warm weather lasting from early April to mid-October. The Bermuda High causes many short afternoon thunderstorms which account for fully one-third of the average yearly rainfall. High winds and heavy rains resulting from passing tropical storms are likely to occur only once or twice a year precipitating only minor damage in the Columbia area. A typical summer has six days with a maximum temperature in excess of 100°F.

Autumn is often thought to be the most pleasant season in Columbia with bright, cloudless days and cool nights constantly inviting people to come out-of-doors. Rainfall is minimal and sunshine is relatively maximal.
Winters are mild with cold weather usually lasting from late November to mid-March. Only an average of one-third winter days actually see freezing temperatures. A maximum temperature of 32°F or below is likely to occur only once yearly. Occasionally, colder air masses push their way into central South Carolina bringing snow and sleet. Disruption of activities is rare because sustained cover by snow or ice is rare. Because a day with one inch or more of snowfall is seen only once in five winters, little equipment designed to deal with this problem is needed. As a result, an occasional snow-holiday surprises the city.

Spring is the least constant season in Columbia. Temperatures can vary from occasional cold snaps in May to a generally warm and pleasant feeling in March. Tornadoes and hailstorms, although infrequent, occur most often in the spring and early summer.
The average date of the first autumn freeze is the third day of November and the last spring freeze the thirty-first day of March. Temperatures of 32°F or below have occurred as early as the eighteenth of October and as late as the twenty-first of April. Because of the relatively mild winter, some shrubs can be found in bloom almost any time of the year while there is still sufficient cold weather for a dorman period to occur in other plants.
BUS AND PUBLIC SERVICE TRANSPORTATION
Greyhound and Continental Trailways both provide Columbia with intercity bus service. Bus service within the immediate area is contracted by the South Carolina Electric and Gas Company. A fleet of fifty-eight vehicles operate on twenty-three separate routes. One hundred and seventy-five cabs, operated by five taxi cab companies, service the Columbia area.  

Adequate public transportation exists now in Columbia and is fairly inexpensive. This, coupled with the use of private automobiles for those not wishing to use the public system, provide ample access to the museum.
Three sites can be evaluated as potential sites for the Columbia Museum of Art. The first is the current location on the block at the corner of Senate and Bull Streets. The second is at the eastern end of the Lady Street Arts/Retail Corridor. The third is at the corner of Gadsden and Laurel Streets overlooking Seaboard Park.

The advantages of staying at the current location include the current value of the building and site, its proximity to the downtown, and room on-site for expansion. The disadvantages include improper spaces for exhibition, inadequate amounts and allotments of space, and many other functional problems of housing a modern art museum in a residence.

The second alternative seems a plausible solution to connect the State Museum at one end of Lady Street to the Columbia Museum at the other by means of the arts/retail corridor. This would be a tremendous advantage to the creation of a true arts district. One
disadvantage, however, is that the area around the intersection of Lady and Assembly Streets is not in as severe economic disrepair as other areas of the city. Also, the land is privately owned.

The third solution is to relocate the museum where now exists a parking lot at the corner of Gadsden and Laurel Streets with a most spectacular view of the Columbia skyline. The site also has visual access through the parks system to the State Museum. It could, then, become an anchor for pedestrians in the city. The parks system converges on Sidney Park like spokes on a hub and the museum could well be sited here. The city owns the site.

The third site, because of its redevelopment potentials for the museum and park together, is chosen as the best location. The current site could be either held by the city or given over to the expanding university. The area around the third site is open and ripe for redevelopment. Laurel Street Streetpark,
Gadsden Street Park, City Hall Plaza, and the Railroad Greenbelt are parks that adjoin Sydney Park. The pedestrian flow that should occur through these open spaces should bring many visitors to the museum. The location within this system should realize the symbolism of a museum for the people of the city.
Sydney Park encompasses the area of roughly four city blocks where the system of Congaree Vista Parks converges. An exciting change of contours—a drop of approximately seventy-five feet—occurs across the site. The museum itself rests on the edge of a steep drop and steps down the hillside with terraces. These terraces continue the movement of a much older, curving road to the northeast proposed to become a pedestrian path around the park at a high elevation. The terraces face southeast, toward the city to afford a view of the skyline rising above the park and to step gently down into the parks. The area to the northwest of the museum will be used as on-grade parking. To the southwest, a defunct railroad tunnel goes under the road and will become a pedestrian link across the road.

Several larger buildings are nearby. These include the Strom Thurmond Federal Office Building, the Post Office, the Columbia City Hall, the Richland County Judicial Center, the Employment Security Office, and the Veterans' Administration Building. To the immediate
north of the Laurel Street is the Arsenal Hill Historic District which includes many fine old homes, the most notable being Lace House and the Governor's Mansion. To the west is an area which is now occupied by dilapidated residences. These will either be renovated or redeveloped.
The art museum as a public institution came about because of the Enlightenment. The interest in past civilizations, the enhanced status of artistic endeavors, and the formation of great collections had been growing since the Renaissance and the second half of the eighteenth century saw the rise of the bourgeoisie with its demands that art be accessible to the people. Many of the great European collections were, in essence, nationalized in the political turmoil that swept Europe. The private galleries and homes which housed the collections were appropriate in sighting, style, and scale for the works within.

The evolution of the art museum as a specific building type began at a time when classicism was dominant. Rationalism was a major influence in museum design with heavy reliance on geometry as an ordering system. The scale and lighting saw a furthering of the traditions established by the earlier buildings. A continuance of these ideas continued to mirror the attitudes of society from then until now.
Modern architecture came to house collections largely due to the leadership of the Museum of Modern Art in New York City. A schism in formal thought developed within the Modern movement.

Mies van der Rohe contributed his ideas of universal space adapted to the museum. The building would become a shell with the works within expressing themselves. The suitability of this design is often questioned not only for technical difficulties (lighting) but also for Meis' application of it to almost any building type.

The guggenheim Museum, though expressive of the newer needs of modern museum, recalls the domed rotunda of tradition. It, too, is often criticized for various design flaws or deficiencies, but it, nevertheless, established so strong a sense of place that it has survived and become a major influence in subsequent designs for other museums. Although the ramps of the High Museum in Atlanta recall the Guggenheim, perhaps
the deeper influence it has is the rejection of Mies' anonymous approach. The design of museums since the Guggenheim has been on the cutting edge of architecture. Most often, the built forms can be seen as houses to shelter tenants (artwork) and perform other related functions. With the definitive needs providing another, the architectural responses are free to be not only functional design but also architecture as art. 10
In 1915, a small group of community leaders in Columbia gathered to form the Columbia Art Association. For the next thirty-five years, that association provided Columbia and the surrounding area with a succession of exhibits and activities in the arts. During this time, although progress was impeded by the involvement of the nation in two major wars, ambitious plans were made for a museum. This museum was opened to the public on March 23, 1950.

The Columbia Museum of Art was first established in a renovated residence that was never intended architecturally, or functionally, as a museum. It was, however, enthusiastically received by the public and offered services which increased in number and quality over the years until the present. Funding for the services and acquisitions of desirable art objects have been made possible largely through miscellaneous grants on matching basis from governmental agencies such as the National Endowment for the Arts and the South Carolina Arts Commission.
The Museum since its beginning has stressed the need for acquiring art collections of quality. Two such collections were added in 1954 and in 1964. These were from the Kress Collection of Renaissance Art and became "a formidable catalyst for the physical, educational, and collection potentials of the Columbia Museum of Art." To this collection has been added paintings, bronzes, marble, and publications to finalize an imposing collection of Renaissance Art. In 1956, a bequest by Dr. Robert W. Gibbes resulted in the formation of the well-equipped Gibbes Planetarium.\textsuperscript{11}

The museum is now actively pursuing the increase of its collection of regional work, particularly works on paper and canvas. The residence in which the museum first began has now become too small and for the museum to adequately house its present and anticipated art collections and to meet the needs of an ever-increasing cultural demand by its public, new facilities are needed.
THE FUNCTION OF THE MUSEUM IN SOCIETY
The purpose of the museum is to increase and diffuse knowledge, appreciation, and experiences of the arts, the sciences, and history through its collections and programs. The museum collects, preserves, and displays a record of past occurrences which individuals may contemplate and consider cultural evolution.

Maintaining a collection, however, is but one of the ways the museum accomplishes its purposes. Concerts, lectures, special exhibitions and programs as well as a museum school contribute toward an exciting atmosphere. These activities must be relevant to the intellectual and social needs of the community. The museum, then must serve as instructor and educator by informing the public of the programs and by helping to develop an appreciation and understanding of its total function.

The activities of the museum must serve the needs of the community and, indeed, must be on the cutting edge of the population from best education to least
and from the poorest to the wealthiest. It must be inviting without losing its integrity. It should be a place for everyone to go, not just a few. The careful integration of the functions and activities into understandable programs is the most difficult challenge of the museum.
TECHNICAL CONSIDERATIONS
Conservation of artwork is one of the most basic functions of the museum. Three major threats to the work during preservation, storage, and display, are lighting, humidity, and air pollution.

Light

Energy in the form of light can deteriorate artwork. The spectrum of radiation from light sources used in museums comes from both daylight and artificial lamps. The emissions can be divided by wavelength into three areas: ultraviolet radiation, visible radiation, and infrared radiation. The more harmful types are visible and ultraviolet and precautionary measures must be taken to safeguard the artwork.¹²

Ultraviolet radiation is the most harmful to museum objects but, fortunately, can be virtually eliminated through a variety of methods. Visible light, while not as harmful, cannot be eliminated if the artwork is to be seen.
Daylight has the highest proportion of ultraviolet radiation and, therefore, needs to be filtered in some manner. Special filters made of acetate or varnish can be applied to glass windows to eliminate most harmful rays. Acrylic sheets can also be used in place of glass in order to filter ultraviolet radiation.

White paint containing titanium dioxide is also a good absorber of harmful rays. Daylight reflected onto artwork by a white surface gives not only good color rendering, but also safe light.

If daylight is to be used, several other conditions need consideration. These include the variability of the sun's pattern. The orientation of the sun changes throughout the day and also throughout the year. The intensity of light varies depending on atmospheric conditions. Some traveling exhibits may be loaned to facilities which have gallery space with no access to natural light.
Fluorescent lamps also emit bothersome amounts of harmful radiation but can be easily fitted with individual filters. Tungsten lamps emit negligible amounts of harmful radiation and need not be filtered.\textsuperscript{14}

All natural and artificial light has heat-producing capacities which also can be detrimental to artwork. Light fixtures should be placed away from surfaces to eliminate excessive heat gain and direct sunlight should not be allowed to fall onto a sensitive surface.

Humidity

Humidity control is another important factor in museum conservation. A deficiency in moisture will cause certain materials to warp, crack, or become very brittle. Excess moisture can cause swelling and the growth of molds and fungi.\textsuperscript{15} A constant humidity of fifty percent is ideal and necessary for major traveling shows.\textsuperscript{16}
Air conditioning is the best solution to humidity control in both exhibition and store rooms. This not only prevents a detrimental amount of moisture but also removes gaseous pollution and dirt from the air. This centralized system is sufficient for almost all of the exhibits. However, upon occasion, when an abnormally high or low amount of humidity is needed, room humidifiers and dehumidifiers controlled by a humidistat can be used. \(^{17}\)

Pollutants

Pollutants in the air constitute a third major area of concern to the museum. Particles from automobile exhaust and industrial emissions settle on objects and must be removed. Sulphur dioxide, ozone, nitrogen dioxide, and chlorides readily cause damage to surfaces. Cigarette smoke and dust carried by people can also harm artwork. The most effective way of removing particulates from the air is by passing it through
filters in the mechanical system. Water sprays and carbon filters resolve the problem.\textsuperscript{18}

Security

Most thefts of art objects occur during visiting hours. Therefore, adequate surveillance at the main entry should help deter the problem. There should be only one main way of entering the museum for both staff and visitors. A "back door" for service is also needed. Security checkpoints must oversee the entrances.

A coat and parcel check should help by keeping large bags out of the galleries where artwork could be placed in them. Umbrellas, often misused for pointing at paintings, should be stored so as not to puncture surfaces.\textsuperscript{19}

Artwork must be carefully protected when visitors are about. Paintings should be securely attached to walls and small sculptures placed in tamper-proof cases.
Museum wax can be used to ensure the stability of ceramic pieces and other small objects.  

Two basic areas need electronic security areas. These are the interior areas and the peripheral areas. For peripheral areas, magnetic devices can be attached to all doors and other openings. For interior security, a sonic system is required for insurance purposes and for most traveling exhibition programs. This type of alarm is triggered by movements disturbing air currents. It must be readjusted each time the space changes. Closed circuit video cameras can be used for the loading dock and other similar areas which do not require constant attention. Galleries, however, should be staffed personnel who keep watch over the exhibition.
The Oakland Museum

Oakland, California

Architects: Kevin Roche, John Dinkeloo and Associates

Client: The City of Oakland, California

Spatial Requirements

The program originally called for three separate structures to house the collections and exhibitions of the art, history, and natural science museums. The three have been integrated into a single three-level structure with one exhibition on each level. A restaurant, classrooms, a theatre, a bookstore, administrative, storage, and support structure (including parking) is largely underground freeing the roofs of the spaces to become gardens and terraces.
Nature of the Collections

The three collections consist of natural science on the lowest level, history on the second level, and art on the top level. The natural science galleries exhibit samples of geology, flora, and fauna of the Northern California region from the Pacific Coast to the Sierra Mountains. History and technology begins with displays of neolithic Indians and Spanish colonists moving through the Gold Rush and ending with the industrialization of urban California. The floor for creative arts has both permanent and temporary exhibition space. Various art forms are represented including painting, sculpture, photography and prints. The collection, at the time of the building commission, was considered weak but has grown considerably in the past years.

Design Influences

An analysis of Oakland's urban fabric revealed the need for more park-like spaces and the social fabric
demanded a nonmonumental building. The solution was three museums in one with the roof of each gallery being a terrace for the one above it. The resulting low-horizontal forms overgrown with foliage, flowers, and trees allow the museum to carry a four-block park on its back. The diversities existant within the Oakland population respond well to the building and the building is used by a wide variety of people.

Technical Concerns

Sandblasted light beige concrete is the predominant building material both inside and outside the museum. Indigenous trees including twelve existing cedars and seven redwoods along with aquatics, vines, ground covers, espaliers, ferns, and fern trees are part of the building, watered through an automatic irrigation feeding system. The interior finish floors are of wood. Other finishes include laminated plastic, painted and chrome-plated metal. The exhibition spaces are largely independent of the structure and building finishes.
Charles Shipman Payson Building

Portland Museum of Art

Portland, Maine

Architects: I. M. Pei and Partners, Henry N. Cobb, Design Principal

Client: Portland Museum of Art

Spatial Requirements

Twenty thousand square feet for exhibition include 3600 square feet for the Charles Shipman Payson Collection, 4100 square feet for the permanent collection, and 4300 square feet for temporary exhibitions. A museum shop, library, a 200-seat auditorium, administrative, storage, and work space complete the expansion project and require 42,500 square feet.

Nature of the Collection

The State of Maine Collection, which includes the Payson Collection of four oils and thirteen watercolors by Winslow Homer, forms the greater part of
the holdings. Other works held by the museum are paintings, decorative arts and sculpture relating to Maine. the Hamilton Easter Field Foundation Collection of works by the Ogunquit art colony done in the earlier part of this century, a small group of European paintings and a growing collection of contemporary work complete the holdings.

Design Influences

The site chosen fronts on one of the city's major public spaces and is surrounded by historical landmarks structures. These two contextual factors led to the development of a scheme which declares itself boldly on the square, becoming a landmark itself while stepping down and back to allow the smaller existing buildings located nearby to retain their sense of place.

The exterior materials relate to the vernacular masonry tradition of Portland and are indigenous to the area. The building provides a variety of spaces from intimate to monumental seen in natural and/or artificial light.
An ordering system of gallery units 20 by 20 by 11.5 feet and circulation spaces of 20 by 6 by 10 feet provide opportunities in the design to combine the units in a variety of ways. Domed clerestories allow controlled, diffused light to enliven the spaces they affect.

Technical Concerns

Structural frames of concrete columns with waffle-slab concrete floors are used. The exterior is finished in water-struck red brick with grey granite trim. Granite paving is used inside and out for floors with pine board panels inset in exhibition areas. The interior finish is painted gypsum wallboard backed with plywood in galleries.

Lighting in exhibition spaces is by louvered clerestories with artificial supplementation by adjustable track lighting.23
The High Museum of Art
Atlanta, Georgia, 1983

Architects: Richard Meier and Partners
Client: The High Museum of Art and the Atlanta Arts Alliance

Spatial Requirements
Fifty-two thousand square feet of gallery space on six levels organized so that the museum can accommodate exhibitions of various sizes exist. There are educational workshops, classrooms, a 200-seat auditorium, a museum shop, café, administrative, storage, and work spaces. Total area of the High Museum is 130,000 square feet.

Nature of the Collection
The collection is diverse with works from contemporary painting and sculpture to Oriental ceramics and Early
American decorative arts. Photographs, prints, American furniture, African art, and many Renaissance, Baroque, and Rococo works are included in the holdings. The core of the collection is American paintings, particularly those of Copley, Hartley, Inness, Peale, Marin, and Sargent. The collection has the distinction of being the largest publicly owned in the Southeast.

Design Influences

As with many museums, the collection had previously been housed in inadequate spaces. The museum needed a new building which would be an agreeable public space as well as highly functional. The museum was funded initially by a challenge grant of $7.5 million. The public was interested enough to meet the challenge, largely after the preliminary design was shown. Funds followed form.

The design of the museum is largely concerned with light, carrying forward the tradition of European
museums of the Enlightenment which, although not designed as repositories for art, allowed objects to be seen in natural light. The technology of today, however, is not ignored but is used as a static supplement to the dynamic daylight. The lighting, circulation, and spatial qualities present in the design are intended to permit the public to enjoy not only the exhibitions but also the artform of architecture. The role of the museum as a civic and cultural symbol and the strongly progressive tradition of the city reinforce the design concepts. The building is intended to be, and is, "radiant." It both contains and reflects light and expresses the enlightenment of Atlanta.

Technical Concerns

Structural frame and reinforced concrete slabs are used. The exterior is of granite panels at the base and porcelain enameled steel panels above. Interior finishes are painted gypsum wallboard with plywood reinforcements. Floors are of granite and wood.
The atrium and several other large openings allow for much natural light to enter the museum. This light was intended to permeate the circulation spaces and become ambient in galleries with artificial light (both recessed and track spot lighting) used to fine tune specific levels and needs of illumination. 24
Galleries
(present approximately 12,000 square feet/require approximately 40,000 square feet)

All galleries must consider lighting, installation, conservation and security of the works exhibited.

Collection
(present approximately 6,000 square feet/require approximately 25,000 square feet)

To install for extended periods of time those works in the collection which best represent the strengths of the collection, space configurations should address physical and aesthetic requirements of types of work exhibited. Spaces should permit continuous, sequential development of themes by time or geography.

Changing Exhibitions
(present approximately 6,000 square feet/require approximately 15,000 square feet)
To install for shorter periods of time those exhibitions, primarily borrowed or rented, which complement the collection and arouse public interest, space configurations should provide a major exhibition space which is flexible to accommodate various sizes and types of installations and one or more smaller spaces for installation.

Public spaces
(present approximately 10,000 square feet/require approximately 28,000 square feet)

Public spaces are those which primarily serve specialized non-exhibition purposes.

Service
(present 1,100 square feet/require 17,000 square feet)

These areas include the Museum Store, Food Service, Coat and Parcel Check, Library and restrooms to provide specific services to visitors. These spaces must be convenient and meet specialized utilization needs.
Auditorium
(present approximately 1,200 square feet/require approximately 4,500 square feet)

To provide space for visitor orientation, concerts, films, lectures and meetings, this space should be accessible and capable of being used independently of the whole museum.

Planetarium
(present approximately 490 square feet/require approximately 1,500 square feet)

To provide space for specific programming, this space should meet the specialized needs of a planetarium chamber. The planetarium chamber must have access independent of the rest of the museum.

Museum School
(present 5,500 square feet/require 5,000 square feet)
The purpose of the museum school is to provide space for educational programming. This space should meet the specialized requirements of art studio and other educational offerings. It should also be accessible and capable of independent use.

Support
(present approximately 8,000 square feet/require approximately 20,000 square feet)

Support spaces are generally thought of as those spaces to which there is very limited public access and is used primarily for work space.

Offices
(present approximately 2,500 square feet/require 5,000 square feet)

The purpose of the offices is to provide the staff with spaces in which to work. Spaces should be designed to meet the needs of the kind of work done by the individual staff.
Operations
(present approximately 4,500 square feet/require 10,000 square feet)

The operations area will provide space for specific operations: shipping, packing and receiving, security, preparation and construction, food preparation and temporary storage. Spaces should be designed to accommodate the different kinds of activity required.

Collection Storage
(present approximately 1,000 square feet/require 5,000 square feet)

The collection storage will provide space for the storage of works in the permanent collection. This maximum security area must accommodate the present collection and meet the anticipated growth of the collection. It should be designed to facilitate inventory and inspection.25
The museum arises as a response to its programatic and environmental needs and is located at the hub of a new parks system for Columbia. The opportunities afforded by these parks for pedestrian pilgrimages to the building add to the festivity and excitement of a visit to the museum. The building rests on the edge of a steep hillside which has been terraced to allow and enhance interaction between the parks and the museum. The terrace levels continue the formal movement of an older curing road and channel pedestrian visitors from the downtown area around the galleries to the circular entry pavilion. Visitors here are joined by others ascending from the park floor and then by those arriving by automobile.

The entry pavilion is circular. Covered by a large saucer dome and bedecked with plants, the entrance retains a low, human scale. The semicircle opposite the main entry is opened by fenestration to allow a sweeping view of the Columbian skyline. Public spaces including a reception/conference room, a
restaurant, and art classrooms and the library all are on levels lower than the entry. These functions are housed beneath the lobby and step out and down the hillside under the terraces. Movement out of the spaces and onto the terraces is encouraged. Views are retained by fenestration and protected from excess heat gain by the cantilever and planting of the terraces.

The galleries are housed in one triangular pavilion which has a sloping roof broken by louvered clerestories to allow more dynamic natural ambient light. The idea of terracing is continued inside with permanent exhibitions located on terraces hung above the temporary exhibition floor. The terracing effect provides an opportunity for various types of spaces--some grand and dynamic, others intimate and restful. Smaller square rooms with totally controlled light contrast to open spaces with ever changing daylight.

Circulation is organized along the hypoteneuse of the triangle both horizontally and vertically. Secondary
horizontal movement is through the galleries themselves and secondary vertical movement is accomplished by an elevator and fire-stairs.

Visual relief (varied focal distance) is achieved, again, by means of the terracing of levels so that the interior space is opened and longer depths of view are attainable within the building. Artwork can be viewed from one terrace to another, drawing visitors throughout the museum. The idea of "pilgrimage" or journey through time and space is reinforced here with the arrangement of sequentially organized exhibits.

While some windows allow a view across the park and to the city, the thrust of attention is inward to the galleries.

The auditoria are housed in another triangular building in which circulation is organized in a similar manner. The upstairs planetarium swells through the
south wall of the building to recall the circular entry pavilion and semi-circular road with a curving wall. The building is actually separate and is operated independently of the galleries. It, too, affords high windows but the focus is decidedly an interior one.
THE COLUMBIA MUSEUM
TEMPORARY STORAGE
COLLECTION STORAGE
SECURITY
CONSTRUCTION
CONSOLIDATION
CONSTRUCTION
MECHANICAL
MECHANICAL, PLANETARIUM, AND LOWER LEVELS
GADSDEN AND LAUREL STREETS ELEVATIONS
SEABOARD PARK ELEVATION
LOBBY AND LOWER LEVELS, AUDITORIA
GALLERIES
CHARACTER SKETCHES

Greater Columbia Data Book (Columbia: Greater Columbia Chamber of Commerce), 1983.

Ibid.

Ibid.

Robert E. Marvin, Open Space Masterplan for Columbia (Walterboro), 1948. (Unpublished)

Greater Columbia Data Book, op. cit.

Ibid.

Ibid.


Ibid.

A History, op. cit.


Fleissig, Building for the Arts (Santa Fe, NM: Southeastern States Publishing), 1980.

Thomson, op. cit.

Ibid.

Fleissig, op. cit.
17 Ibid.
18 Thomson, op. cit.
19 A Primer on Museum Security (booklet)
20 Fleissig, op. cit.
21 Oakland Museum (bulletin)
22 Searing, op. cit.
23 Ibid.
24 Ibid.


**A Primer on Museum Security.** Booklet.


Hathaway, Walter (Director of State Museum), interview, Spring, 1985.


The *Appreciation of Art.* Publication, Columbia Museum.