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THE DESIGN AND FUNCTION OF THE INTERIOR SPACE
OF THE MORTON H. MEYERSON SYMPHONY
CENTER OF DALLAS 1980-1989

THESIS

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by

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This thesis investigates how the interior of the Morton H. Meyerson Symphony Center of Dallas accommodates the three groups which use the space: the patron, the musicians, and the administration. Following the Draft Brief of 1981 prepared by the Dallas Symphony Association's Concert Hall Building Committee, each area is discussed as to what was actually built and what concerns were met. The primary data were the symphony center and interviews with I.M. Pei, architect; Russell Johnson, acoustician of the concert hall; Charles Young, associate of Pei, Cobb, Freed & Associates, interior architect of the concert hall; Carolyn Miller, Trisha Wilson & Associates, designer of the Green Room, Richard Trimble, designer of the musicians' areas, and Joe Pereira, designer of the Administrative area.

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CHAPTER I

INTRODUCTION

During the early seventeenth century, music was performed for private gatherings of aristocrats in palaces and courts of Europe in any suitably large room which could contain an orchestra and the audience. Due to the popularity of these concerts, rooms began to be designed especially for this purpose. The space was often designated by the addition of a gallery and decorative motifs, such as depictions of muses, the lyre, panpipes, or classical musical themes. There is little information available concerning these early concert rooms.¹

There was a tremendous spurt of growth in music and places where it was performed during the English Commonwealth period due to the closing of the theaters. Musicians, who had once performed for the aristocracy, now played in taverns where they could appeal to the middle class for patronage. As concerts were played more frequently, the taverns that began to designate a special room for music became known as music-houses. Moreover,

music clubs began organizing concerts and charging for refreshments. When the monarchy was restored, this interest in music continued; the first London instrumental concerts open to the public date from this period. Gradually, formalized seating and admission fees were initiated. Realizing the tavern's profitability in the use of music, professional musicians became entrepreneurs themselves and erected in 1675 the York Building's Music Room, the first building specifically for concert use.²

In eighteenth-century England, there were two major room sizes for music performance: a music room for small groups and the pleasure gardens for masses of people. The orchestras of this period were relatively small, but in the confined enclosure of these early music rooms, the sound produced adequately filled the space. The formally structured music of this classical period with its reason, clarity, detail, and subtler emotional characteristics was revealed to advantage in the small, often overcrowded, music rooms such as the Hickford's Room and the Hanover Square Rooms. In 1738 the Hickford's Room, which became one of the most fashionable places in London by the mid-eighteenth century, was built. This music room--which was about fifty feet long, thirty feet wide, and twenty feet high--had a coved

ceiling, a platform at one end, and a gallery at the opposite end above the door. In 1775, the Hanover Square Rooms, one of the most famous London concert halls and designed to accommodate 800 listeners, was constructed.³

During the eighteenth century, composers had usually written music for a particular building--a cathedral or music room.⁴ Therefore, pieces composed were technically appropriate to the acoustical ambience. Having an elegant intimate atmosphere, these early music rooms were not built to entertain masses of people. That was the function of London's pleasure gardens which could seat more than 12,000 people. For an admission fee, families could promenade and have tea as they listened to music. One of the larger ones, the Rotunda at Ranelagh Gardens, which opened in 1742, was remarkable for its tremendous size of 150 feet in diameter and 555 feet in circumference. These types of gardens propagated the idea of public concerts, both in England and abroad.⁵

In most of Europe during the early part of the eighteenth century, there were few public concerts.⁶ Semi-private musical gatherings were held at the homes of wealthy connoisseurs and at the various royal courts. Notable are the music rooms at Eisenstadt Palace in Austria, seating 400, and Esterhague Palace in Hungary, seating only 200.⁷

Although the first German public concert hall was built in 1761, it was not until 1781 that the Altes Gewandhaus was completed in Leipzig. Due to its excellent acoustics, this building was a prototype for later concert halls. The hall consisted of a rectangular floor plan with interior curved ends, wooden walls and floors, and a flat ceiling with coved margins which is the concave surface that forms part of a ceiling at its edge so as to eliminate the usual interior angle between the wall and ceiling. Walls were not broken by side galleries-- indentations which provide room-like compartments for seating--but reached the ceiling, thus preventing sound reduction in the hall. This Leipzig concert hall, whose shape is referred to as the shoebox, was small, accommodating only 400 patrons. As indicated in Figure 1, the rows of seats were arranged parallel to the sides of the room in order that members of the audience faced each other. At the opposite end of the hall, a box of a higher level was also used for seating. The slightly raised orchestra platform, which took up nearly a third of the floor space, accommodated fifty to sixty players. Although the hall was torn down in 1894, the plans and sections found in the Leipzig archives indicate that the entire wooden structure was built within the stone shell of a pre-existing building. This

building, which became known as the Leipzig tradition, was the first known music room to be built within a room.⁸

By the nineteenth century, several important musical changes had occurred. First, composers became divorced from church or private patronage, and as a result they no longer had a dictated architectural setting for their compositions. As countries adhered more to democratic principles during this century, an ever-increasing demand for entertainment placed public production into the hands of the growing full-time musical societies. The collection of music of different periods was now performed in a variety of conditions.⁹

By the mid- to late-nineteenth century, as the popularity of concerts continued to increase, new concert halls were constructed to accommodate larger audiences. There were two popular designs: the larger rectangle of the Leipzig tradition and the grand circles design. Consequently, musical performances ceased to be an intimate semiprivate occasion. To improve the musical sound, orchestras could enlarge proportionally to the size of the room. These larger halls fostered the deep, resonant sound of the Romantic period.¹⁰ Due to a lack of understanding the scientific principles involved in room acoustics, there was no predictability as to the sound quality which might result from the hall's different

shapes and materials. If a hall proved to be unsuccessful acoustically, it would eventually be used for other purposes. Because many of these halls were destroyed, it is difficult to study these early buildings.

By the late nineteenth century, the rectangular, shoebox-shaped Leipzig concert hall--of narrow width and high ceiling, with a flat floor, a raised platform at one end, and a gallery around the perimeter--proved to be the most successful acoustically. Seldom built with wood finishes, these halls were constructed of heavy masonry with plaster walls and ceilings in which the plaster was directly placed on the masonry. Due to the popularity of concerts, newly built halls were expanded to accommodate from 1,500 to 2,000 people. Three preeminent rectangular halls were built in this Leipzig tradition: Grosser Musikvereinssaal (1870), part of the Musikvereinsgebäude in Vienna, with 1,680 seats; the Neues Gewandhaus in Leipzig (1887) with 1,560 seats, as illustrated in Figure 2; and the Concertgebouw (1887) in Amsterdam with 2,200 seats.¹¹

Around the turn of the twentieth century, a departure from the rectangular pattern developed. Concert halls, built in a form which is called grand circles, consist of a main floor and four curved, tiered

galleries which were made possible by the technical advances allowing wrought and cast iron balconies to span long spaces. These balconies were capable of accommodating a large audience in a relatively compact space. Carnegie Hall in New York (1891) accommodates 2,760 as does another building of this type, the Massey Hall, Toronto (1894). Orchestra Hall, Chicago (1905) with 2,580 seats, was part of the first cultural-commercial complex of its kind and was the forerunner of numerous auditoria in the twentieth century. Because of their efficient seating, these halls, which have unpretentious dimensions, tend to produce a sound which is relatively small in volume and lacks fullness of tone. Concert halls in Europe--such as the Queen's Hall, London (1893) and the Usher Hall, Edinburgh (1914)--began to adopt the grand circles form. ¹²

However, not all new concert halls followed the grand circles design. Acoustics, not just size and shape, became a factor in concert hall planning. The Boston Symphony Hall (1900) was designed in the Leipzig tradition by Wallace Clement Sabine (1868-1919), often called the Father of Acoustics. Sabine took the form of the Leipzig Gewandhaus as a standard of excellence in musical tone and from it developed the theory of reverberation time--the time it takes a sound to die

away. Sabine evolved a quantitative theory of sound which was defined as a function of the amount of absorptive material in an enclosed space. This theory was based on reverberation time which could be used as a measurement in the predicting of auditoria acoustics at the design stage.¹³ Prior to the twentieth century, acoustical planning was largely a subdivision of architecture. With his research, Sabine marked the beginning of architectural acoustics as a true science setting its own standards.

By the 1920s, auditoria in North America had become more concerned with patrons' comfort than the sound of the music. For example, the Eastman Theater in Rochester, New York, built in 1923, has sound-absorptive carpets, profuse drapery, and large upholstered seats, all of which are unsuitable for music. Several major concert halls were designed in this style: the Severance Hall, Cleveland (1930) seating 1,980; the Edward C. Elliott Hall of Music at Purdue University, Indiana (1940) accommodating 6,107; and, the auditorium of Indiana University at Bloomington (1941) with 3,788 seats.¹⁴

Even those concert halls which had an acoustical concern were not always successful. Due to the destruction created by the Second World War, a new London auditorium, the Royal Festival Hall was built in 1951.

Although directly derived from stated acoustical criteria, the hall produces a musical sound which has a brittle, hard-edged quality. With 3,000 seats, the auditorium is at least one-third to one-half larger than the older halls that are generally admired.¹⁵

By mid-twentieth century two other concert hall designs became popular; the fan-shaped hall and the centralized hall. Because most auditoria must be self-financing and, therefore, must accommodate as many people as possible, large halls were designed with fan shapes. With moderately high ceilings and thin, light-weight substances made possible by technological advances in building materials, these halls were too big to provide the acoustical background necessary for symphonic, chamber, and recital music. The light-weight materials absorbed sound, rather than reflect it. Acousticians were led to believe, by Sabine and his followers, in the all important reverberation theory without much concern for other factors such as the gross shape of the hall and the kinds and amount of materials used both in building and in interior finishing.¹⁶ The Dallas Fair Park Music Hall, which seats 3,400, is a fan-shaped hall.

Concurrently concert halls were being designed for closer contact with the performers. The 1963 Berlin

Philharmonic was the first centralized concert hall--seats forming a circle which rise around from a central point with the center being a slightly raised platform for the performers. The seating is arranged in tiered, free-form slopes facing inward from every direction around the stage. The main disadvantages were the ill-balanced sound behind the orchestra and the musicians' inability to hear one another.

Because the auditorium shapes were changing and growing in size, the acoustics were unsatisfactory. During the late 1950s to better the acoustics of existing halls, such as Carnegie Hall in New York City, the notion for an acoustically adjustable hall became established. Out of makeshift methods, designers began to incorporate adjustable sound-reflecting surfaces within the basic shell of the hall. By the 1960s there was a demand for auditoria with instantly variable acoustics to suit different styles of music--symphony concerts, chamber music, recitals--within the context of its ideal acoustical condition. This variability was met either mechanically or electronically.¹⁷

The first large multipurpose auditorium in the United States was the Jesse H. Jones Hall for the Performing Arts in Houston, Texas (1966). This 3,000-seat symphony hall is used not only for different

types of instrumental music but also for opera performances. The movable ceiling creates two separate performing areas. The upper balcony forms a recital hall while the lower space with retractable sound-absorbent curtains provides less reverberant acoustics necessary for opera. A movable shell around the orchestra completes the conversion.

In these early acoustically adjustable halls, the variability was found either not used or not utilized to obtain maximum benefits for different types of music. Consequently in the 1980s, the adjustability of recent halls has been more simple. A movable sound-reflecting canopy over the stage area is used to manipulate the degree of acoustic intimacy at the English Royal Concert Hall, Nottingham. Toronto's Roy Thomson Hall uses movable cylinders in the ceiling to alter reverberation time. The present trend in European concert halls is to omit the suspended reflecting canopy and to allow sound to reflect more freely off the ceiling and walls which requires a careful selection of structure shape and surfaces in order to produce a combination of distinct sound from each section of the orchestra with an adequate time for diminished sound.¹⁸

Electronically assisted resonance involves the installation of a large number of microphones, amplifiers

and loudspeakers. Initially, there was a reluctance to rely on electronics as anything other than a remedial solution; however, these systems have proved to be successful. An example of electrically variable acoustics is the Hult Center for the Performing Arts in Eugene, Oregon (1983).¹⁹

Simultaneous with the demand for instantly variable acoustics within auditoria were the advancements in recording techniques and electronic sound reproduction. As a result, private usage of recordings greatly increased developing not only a larger audience, but also a more educated audience in its awareness of musical quality and sound authenticity. For them, these recordings became a measure against which to judge acoustical excellence in a hall or auditorium. The accessibility of these recordings initiated the placing of greater significance on the visual aspects of live music--close contact with the performers and the social purposes of the audience gathering within the concert hall.

For economic reasons, halls must be used for performances of a variety of music and should provide perfect acoustics for each musical style. Recent research has caused acoustical experts to become more aware of the importance of lateral sound. Lateral

sound--sound which reaches the listener's ears from the sides--in combination with direct sound creates a sense of depth. This union simulates the feeling of being surrounded by music. Because of the importance of lateral sound, the shape of the concert hall becomes critical. The fan-shaped auditorium is considered by many present-day acousticians to be the worst shape of all for the performance of symphonic music due to its diminished lateral sound with the primary audible effect being directly from the front.

In an extremely comprehensive study conducted in the early sixties, acoustician Leo L. Beranek concluded that twentieth-century halls differ in size and acoustics from nineteenth-century halls in the following ways: "the median floor area occupied by seats and orchestra is 65 per cent greater in the newer halls than in the older halls; the medium ceiling height is 8 feet lower; the medium mid-frequency reverberation time is 0.2 seconds lower; and, the interiors in the new halls contained thin wood...(or) sound-absorbent tiles."²⁰ However, most damaging of all to twentieth-century halls is "the medium width [which] is 83 per cent greater, yielding a greater difference between the times of arrival at listeners' ears of the direct sound and the first reflections."²¹

During the 1980s there has been a growing trend in

which acoustical consultants have begun to have more voice in the structural concerns of a concert hall. Their input is now considered essential. Acousticians are now being chosen for projects just as the architects. In fact, most acousticians will accept only those jobs in which "they are contracted by the hall's management or symphony association rather than being sub-contracted by an architect."²²

In the earlier 1980s, the Dallas Symphony Association selected I.M. Pei as architect and Russell Johnson as acoustician for a new symphony hall. The challenge of I.M. Pei's symphony hall for Dallas was to take a building designed for concerts and musical events, and make it an important public building. The mandate from the Dallas Symphony Association Committee to Pei and Johnson was twofold: (1) a unique design which would become an architectural landmark for Dallas, and (2) an outstanding facility of world stature for the performing arts. Because of the building's use, the interior space and its acoustics were of prime importance. This thesis studied the design and function of the interior space of the Morton H. Meyerson Symphony Center which must accommodate three different groups: the audience, the musicians, and the administrative staff. It is the interior spaces that will designate the hall as being successful.

Statement of Problem

This thesis studied the design and function of the interior space of the Morton H. Meyerson Symphony Center of Dallas from 1980 when I.M. Pei & Partners were chosen as the architects to September 27, 1989, three weeks after the opening.

Methodology

The primary data for this study was the interior spaces of the Morton H. Meyerson Symphony Center located in Dallas, Texas. The spaces were examined and photographed. The first public performance by the Dallas Symphony Orchestra in the concert hall, "A Tribute To Dallas," on September 6, 1989, was attended.

A number of meetings with I.M. Pei, Russell Johnson, and Charles Young occurred. On some occasions tours of the building were given as well as interviews. The chance to meet them more than once facilitated the research of this thesis in providing opportunities for new questions. John L. Adams, Administrative Coordinator for Concert Hall Planning, was interviewed several times, guiding tours of the space during construction as well as providing a copy of the 1981 Draft Brief, the criteria for the building.

Additional interviews were conducted with Carolyn Miller, of Trisha Wilson & Associates; Richard Trimble; and Joe Pereira, of Donna Vaughan & Associates. At least one musician from each section within the orchestra was interviewed.

Secondary data consisted of articles and books on the history of concert halls and acoustics, as well as audio-taped interviews while on the air and newspaper and magazine articles on the project and reviews on the building.

Endnotes

1. Michael Forsyth, Buildings for Music (Cambridge, England: Cambridge University Press, 1985), 21. Statistics gleaned from this source unless otherwise noted.
2. Ibid., 25-27.
3. Ibid., 28 and 35.
4. Leo Leroy Beranek, Music, Acoustics & Architecture (New York: Oxford University Press, 1962), 45.
5. Ibid., 43.
6. Beranek, 48.
7. Forsyth, 55
8. Hope Bagenal, "The Leipzig Tradition in Concert Hall Design," Journal of the Royal Institute of British Architects 36 (September 1929): 757-759.
9. Beranek, 48.
10. Ibid., 44.
11. Forsyth, 208, 209 and 214.
12. Ibid., 222 and 225.
13. Bagenal, 756. Notes that Sabine did not visit Leipzig but took his data from the published material of architects Gropius and Schmieden's plans which were misleading. The reverberation figure is 1.9 seconds not 2.3. Author concludes that this fact does not weaken Sabine's general principles.
14. Forsyth, 260.
15. Ibid., 275.
16. David Fritze, "Overture to Glory: The Story of a Symphony Hall," Dallas Times Herald, 6 August 1989, 13.
17. Nicholas Edwards, "The Acoustical Design of a Concert Hall; A Case Study," Musicanada, November 1985, 4. Also, Charles Passy, "The Delicate Art of Acoustics: Blind Man's Bluff or Brave New World?" Ovation, April 1989, 86.
18. Bagenal, 759.
19. Passy, 86.
20. Leo Leroy Beranek, "Rating of Acoustical Quality of Concert Halls and Opera Houses," Architectural Acoustics, ed. Thomas D. Northwood, no. 10 (Stroudsburg, Pennsylvania: Dowdren, Hutchingson & Sons, 1977), 17. This data was compiled after interviewing over forty conductors, musicians and music critics.
21. Ibid.
22. Passy, 85.

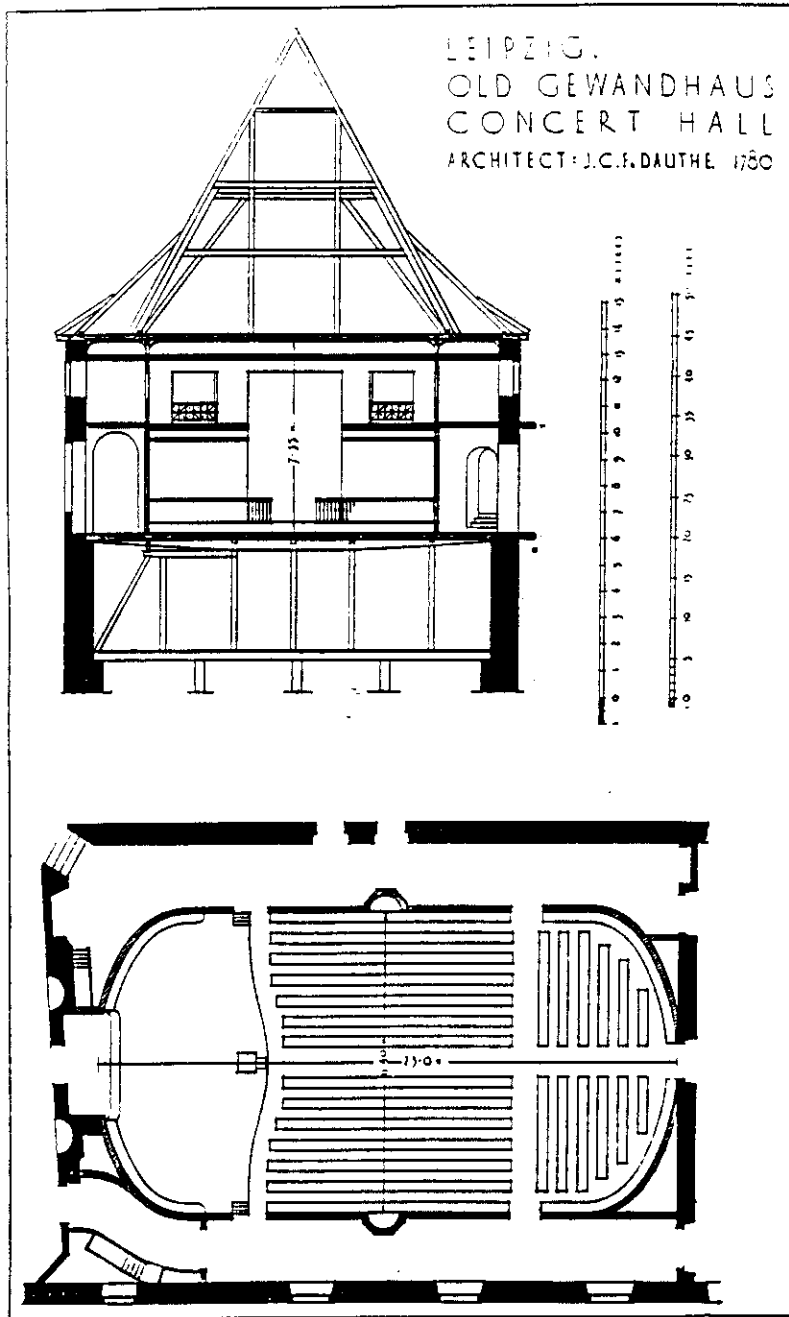


Figure 1 Leipzig Old Gewandhaus Concert Hall, 1780
 ("The Leipzig Tradition in Concert Hall
 Design" by Hope Bagenal)

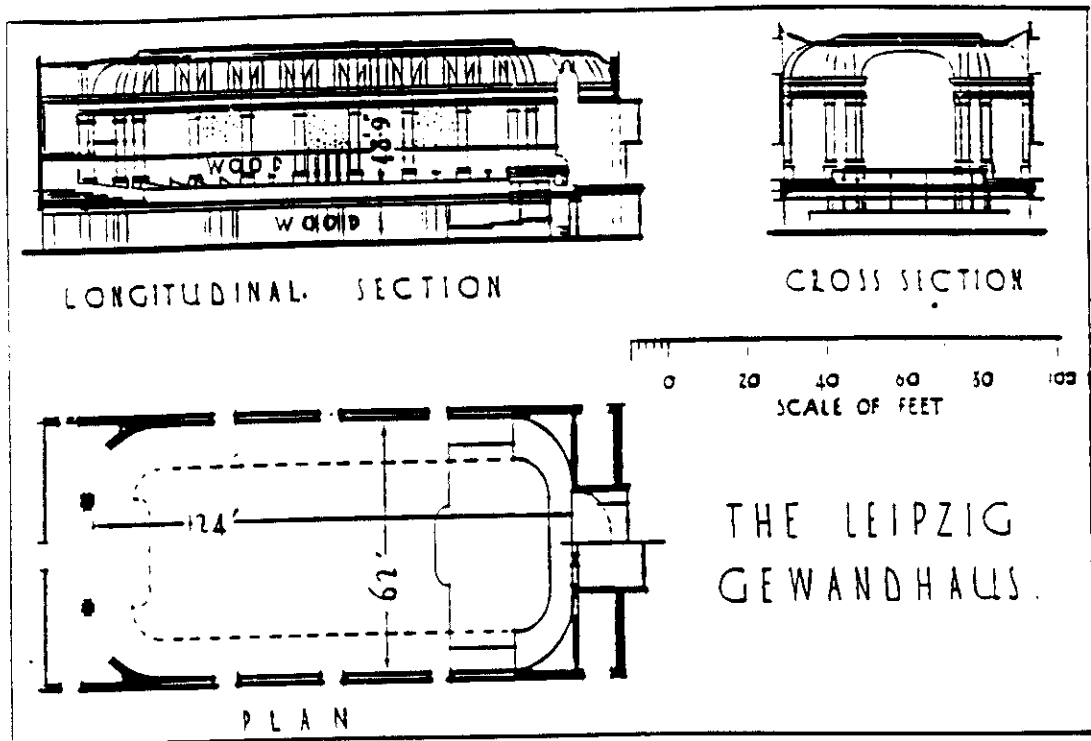


Figure 2 The Leipzig Gewandhaus, 1887
 ("The Leipzig Tradition in Concert Hall Design"
 by Hope Bagenal)

CHAPTER II

PLANNING THE MEYERSON SYMPHONY CENTER

Owned by the City of Dallas, Texas, the Morton H. Meyerson Symphony Center, which opened on September 6, 1989, is the performance home of the Dallas Symphony Orchestra. Designed primarily as a facility for the performance of symphonic music, the center's concert hall will provide an acoustical background for a variety of musical presentations: chorus, pop concerts with guest artists, twentieth-century compositions and Baroque music, solo recitals, and chamber music performances. This chapter is concerned with choosing the site and early planning, selecting the architect, selecting the acoustician, and the design and naming of the center.

Choosing the Site and Early Planning

Prior to the Meyerson Center, the symphony suffered from having no permanent home. This new hall remedies this inconvenient problem, allowing the orchestra to play the classical subscription series throughout the season in a single location. The State Fair Music Hall, where

the orchestra performed previously, could only accommodate the orchestra for five of its twenty-one concerts in the fall. Between October and mid-January the concerts had to be suspended due to the State Fair Musical and the Dallas Opera Series. During this period the orchestra performed in Southern Methodist University's McFarlin Auditorium. Also, and definitely most importantly, the State Fair Music Hall, is more accommodating to amplified music. Seating 3,400, this hall is fan-shaped which produces an untrue and distorted sound for symphonic and solo performances. In a new acoustically designed hall, the orchestra will be able to expand its season and concentrate its energies on artistic momentum instead of moving instruments.

In 1977 the City of Dallas commissioned Carr-Lynch Associates to make recommendations on strategies for locating and funding several new arts facilities. The Carr-Lynch Report recommended a loosely knit concentration of the city's major cultural facilities in the northeast quadrant of the Central Business District. In 1981, a group of property owners, representatives from Arts organizations and the City of Dallas, along with private developers, formulated a list of objectives for the Arts District. Consultant Sasaki Associates, prepared the Arts District Master Plan after extended

meetings with this group and other interested supporters. The City Council approved the Arts District Planned Development District Ordinance in February 1983. This is the largest United States arts project in a downtown location.¹

With the support of the Carr-Lynch Report, the symphony began the search for its own acoustically pleasing home. In November 1979, Dallas voters approved a bond issue to acquire a site for the hall.² In September 1981, a donation from the Bordon Company of about 25,000 square feet of land at Flora and Pearl Streets in the Arts District was secured, and the symphony administrators announced the hall location. With half of a site in hand, the city then began a series of land swaps, both crucial and controversial to acquire the rest.³ On April 29, 1983, a purely symbolic ground-breaking ceremony was conducted, for it was not until September 1985 that the site was completely finalized, and workers began clearing the site.

Located within the center of the sixty-acre Planned Arts District, the Symphony Center fronts onto Flora Street, intended to become the district's central boulevard, at the point where Crockett Street flows into Flora between Pearl and Leonard Streets. A plaza is situated to the east of the center; a three-fourths acre

park, the Betty Marcus Park, to the west. Along with the Dallas Museum of Art, the Morton H. Meyerson Symphony Center provides the Arts District with its cultural anchors.

Meanwhile, a subcommittee referred to as the Smaller Unit, was formed from the twenty-member Symphony Association's Concert Hall Building Committee. Their job was to select the architect and the acoustician for the hall. Chaired by Morton H. Meyerson, this group was composed of Stanley Marcus, Dallas Neiman-Marcus retailer, author, and lecturer; lawyer Richard Levin; Eugene Bonelli, Dean of the Meadows School of the Arts at Southern Methodist University; as well as symphony benefactors Louise Kahn, Mary McDermott Cook and Nancy Penson. The group had no architectural advisor; however, both Meyerson and Marcus had worked with architects in their corporate roles.⁴ Acoustically, the group had musically trained ears for some of these members were not only music lovers, but were professional musicians.⁵

In its comprehensive planning of the building, the first action by the Smaller Unit was the visitation, at its own expense, of twenty-one concert halls in North America and Europe during the fall of 1980. Their trips resulted in the Draft Brief of 1981 which was divided into sections providing criteria for the proposed concert

hall. The Concertgebouw in Amsterdam and Musikvereinssaal in Vienna, represented the combination of the two qualities with which the committee was most impressed: intimacy and acoustical excellence. The direction to the architect and acoustician was to get as close to the ambience and acoustics of these two nineteenth-century Leipzig tradition concert halls as possible. A unique design and a concert hall of world stature were the top priorities in selecting an architect for the project. As Morton Meyerson stated, "A building of permanence for the enjoyment of music not only by us, but by those of the twenty-first century...our grandchildren's grandchildren...was the desire."⁶

Selecting The Architect

In August 1980, the committee requested forty-five international architects to indicate whether or not they were interested in designing a symphonic hall for Dallas. Twenty-seven replied to the affirmative. No response was received from I.M. Pei. Six finalists were chosen: Araldo Cossutta, Philip Johnson, Leandor Locsin, Gunnar Kirkerts, Arthur Erickson and the Oglesby Group of Dallas.⁷

After interviews with the finalists resulted in a dead-lock, Stanley Marcus, who had worked with Pei during

the City Hall project, telephoned him asking him to reconsider the project. Pei, who had never designed a concert hall, came to Dallas to visit with Mort Meyerson in a private meeting, and later with the Smaller Unit. The committee unanimously chose Pei with the agreement that he would do the design and not delegate it to others in his office and that he would be available for consultation throughout the project. The committee's decision was announced December 31, 1980.⁸

Born in Canton, China in 1917, Ieoh Ming Pei was educated at the Massachusetts Institute of Technology and the Graduate School of Design at Harvard, where he later served on the faculty. One of the world's most illustrious architects, Pei attained his status as much because of his innovative use of materials, such as concrete and glass walls, as for his clean, geometric designs. He has won awards for twenty-four out of the fifty worldwide projects he has built. His award-winning designs include those for the National Center for Atmospheric Research in Boulder, the John Fitzgerald Kennedy Library in Boston, the East Building of the National Gallery of Art in Washington D.C., the New York Convention and Exhibition Center in New York City, and the expansion and renovation of the Musée du Louvre in Paris, and the Bank of China in Hong Kong. Pei is

currently serving a six-year term on the National Council for the Arts.

Winner of two American Institute of Architecture Gold Medal Awards, the National Medal of Art, and the French Chevalier de La Legion D'Honneur, Pei is no stranger to the Dallas architectural scene. Pei and his firm are credited with bringing green areas and public spaces into the Dallas cityscape. Pei designed City Hall; a partner with his firm, Henry Cobb, designed Fountain Place. Pei's Dallas office designed Arco Tower in Dallas and the Field Research Facility for Mobile Oil Company in Farmers Branch. As of 1987, I.M. Pei & Partners moved the Dallas office, which consisted of two members, to the job site location of the Meyerson. After twenty-one years the Dallas office will close upon completion of this major project. In September 1989, the firm changed its name to Pei, Cobb, Freed & Partners.

Pei made it clear from the start that this was a special project for him. Both Pei and the committee were dedicated to the creating of a space which would convey the festive spirit of a concert hall. The symphony's executive board felt it would work to their advantage that Pei had never had the opportunity to build a symphony hall; they were very excited about his acceptance of the project. The committee wanted someone

willing to make a major commitment of time to the project.⁹ Little did they realize it would take almost a decade before the first note would be played inside the new hall.

Long stressing the necessity of a building to work with its surroundings, Pei refuses to locate a structure without consideration of its total environment. He was chosen at the beginning of this project in order to be a voice in the selection of an aesthetically and properly scaled site. His ability to help choose the land for the building, as well as his interest and background in Dallas, along with the chance of a new challenge, were all major attractions for Pei.¹⁰

Selecting The Acoustician

The top contenders for the job of acoustician for this project were Russell Johnson, Cyril Harris, and Christopher Jaffe.¹¹ Members of the Smaller Unit visited halls designed by each candidate. In addition, Leonard Stone formed a committee of musicians to have input in the hall's plan. After interviewing each of the three candidates, the committee recommended Johnson to the Concert Hall Building Committee based on his responses and their own level of comfort to his method of hall designing. On February 20, 1981, the committee announced Johnson was selected for the position.¹²

Born in Berwick, Pennsylvania and educated at Yale University, the University of Dayton, and Carnegie-Mellon University, Johnson also completed in-depth studies at both Yale and Carnegie-Mellon in performance lighting, the architecture and design of opera houses, theaters and concert halls, backstage planning, theater management, and the design of scenery and theater production services.

Johnson, who is an architect as well as an experienced acoustician, was associated with Bolt Beranek and Newman from 1954 to 1969 where he had primary responsibility for room acoustics. He was project manager for over one hundred and ten projects, some of which included: the Opera House, National Arts Centre, Ottawa, Canada; Meyer Music Bowl, Melbourne, Australia; and Franklin Congress Hall, Berlin, Germany.

In 1970 Johnson, with Robert W. Wolff, founded Artec Consultants in Philadelphia. Artec is now based in Manhattan, with branches in England and Vancouver. Johnson is currently chairman of Artec. An extensive list of important projects include: Hamilton Place, Hamilton, Ontario; Centre-in-the-Square, Kirchner, Ontario; Pike's Peak Center, in Colorado Springs; the Royal Concert Hall in Nottingham, England; Concert Hall Shell for the Boston Symphony at Lenox, Massachusetts;

Clowes Memorial Hall, Indianapolis; and The Jack Singer Concert Hall in Calgary, Alberta.

As early as 1956, Johnson pioneered the now familiar concept of variable acoustics--designs which are changeable in their ability to allow a single space to accommodate different styles and types of music.

There were three primary factors for Johnson's choice: 1) he demonstrated he wanted the job by actively campaigning; 2) Leonard Stone, Executive Director of the Dallas Symphony Orchestra, who had known Johnson since February 1968 and had worked in Johnson buildings, brought his name to the attention of the committee and was his biggest and strongest advocate; 3) Eugene Bonelli, who headed a committee to choose the acoustician, prepared a detailed analysis of the three candidates which concluded that Mr. Johnson was "... the least rigid of the three candidates, the most inventive, and the most likely to work comfortably with Mr. Pei." ¹³ Also, Johnson's philosophy on concert hall design concerning shape is essentially based on a study of the the great nineteenth-century halls, almost all of which conform to the basic shoebox shape. ¹⁴

Johnson believes part of the problem of his profession is that in North America there is a general ignorance concerning good acoustics. ¹⁵ Having been

exposed only to over-sized, multi-purposed, usually amplified sound rooms, the sounds of the European music halls are just legendary to most Americans. Johnson stated that he was excited about this project because the building committee members had visited the European concert halls and after their listening experience wanted a hall which produced that great and world class sound. The Concert Hall Building Committee members were dedicated to achieving the best results.¹⁶

The Design and Naming

With architect I.M. Pei and acoustician Russell Johnson, the symphony planners decided not only on the hall's physical appearance but on its sound--which was even more important. The Dallas Symphony Association had each artist sign a separate contract stating that he would be a captain of the project with equal access to the Smaller Unit and to the donors.

Leonard Stone went to New York in late fall of 1981 to view Pei's first ideas for the project. In May 1982, a model for the proposed Symphony Center was unveiled to the public at a press conference held at Union Station.¹⁷ This model presented the building in relation to proposed buildings in the immediate area. It included three

adjacent buildings, a hotel, and two office towers. The hotel and office models are located east of the hall site in a current undeveloped property. A much larger and more refined model of the building itself was built in order to be widely shown to stimulate positive voting in the upcoming fall bond election in which the concert hall was included. It proved to be successful, for in August 1982, a bond was approved by the city allowing the Symphony Association to build the I. M. Pei designed center.¹⁸ At this stage, the conceptual plans for the exterior were complete, however, the interior plans were not.

In October 1982, Johnson gave the first public preview of the concert hall in a lecture at the Lincoln Radisson Hotel which was sponsored by the Dallas Symphony Association. Johnson's acoustical model was then placed in the hands of Pei, whose task was to incorporate it into his final schematic design.

A third model, redefining the design and working within restrictions of Dallas City Ordinance Number 17710, the arts district ordinance as seen in Appendix A, was presented in 1983. This last model has three major changes from that of 1982. The most important alteration was a result of the city ordinance which states, "All permanent parking must be either underground or concealed

within a building with a facade that is similar in appearance to the facades of no-parking buildings."¹⁹ In the 1982 model, as seen in Figure 4, the first floor was to contain a public music library, a display area for instruments, and a special room for educational purposes. The second floor was scheduled to contain the main lobby. With the decision to have underground parking, the building not only needed a new orientation for a second main entrance, but the building was lowered into the site becoming four levels, instead of five. The music library and educational room were deleted; the ground level became the lobby area.

The second and most apparent change occurs on the north end of the building on all three models. On the first model the north wall terraces down from the roof to the second floor. In the larger 1982 model there is no terracing with the wall extending up to the roof line. However, there is an opening shown as a patio on the fourth floor which is opened to the sky. In the final 1983 model the simplification of form and design continued. The four-storied wall, as seen in Figure 5, became solid with the removal of the cut-out for the patio. There is also a reduction of stories on the west side of the concert hall to only one. With this design decision the angle of the hall became more pronounced and the lines of the entire building more prominent.

The third major change concerns this same north wall. Besides the reduction of the amount of stories on the west side of the hall, this wall, as illustrated in Figure 6, was extended to the street creating a cul-de-sac around the Betty P. Marcus Park.

The overall design of the building is a complex integration of a square, circle, and rectangle that produces an unconventional symmetry. The design is a square enclosing rectangle that in turn is wrapped by a circle of glass. This 200,000-square-foot building is set at an angle to its lot lines. The Flora Street side is the main street entrance having been extended with a kind of false front so the facade appears roughly symmetrical viewed from Crockett Street, as seen in Figure 7. The rectangle, set at an oblique angle to the base, defines the concert hall proper and is angled in relation to the rest of the building to orient it to the Dallas skyline, which occupies a different street-grid from that of the concert hall site. The central structure also presents its longest silhouette to the Dallas Museum of Art two blocks away, thus establishing a relationship between these two prominent buildings within the arts district. The design complexity grew out of the demands of the site and the nature of the hall itself. The plan for the building accommodates two functions: a

concert hall whose acoustics and ambience provide pleasure in the making and listening of music and public spaces which invite and contribute to a dialogue with the city.

The shoebox-shaped concert space is surrounded on three sides by a 270-degree circle of glass set within a nearly cube. It is the projecting circle of glass that relieves all the right angles. Three--on the south, east, and west--have been dubbed the "lenses" or "eyebrows." The fourth and most dramatic, the long, sweeping glass wall that covers the space on the west side, is called the "conoid." Each of its 211 curved, computer-designed panes is a slightly different size. A curved, vertical glass wall, also on the west side, together with the "lenses," helps to offset the effect of the masonry box that defines the concert hall.

Space in the enclosing square is taken up by offices, backstage areas, and a large reception area for concert patrons dominated by a grand staircase. The glass round portion contains the public areas: a restaurant, a foyer, and stairways. Glass was used for transparency and openness so people inside could see people outside and vice versa. Pei stressed that he wanted the building to be a public building for all patrons.²⁰

The design does reveal new departures for Pei. The knife-sharp edges and dramatic angles of Pei's straight-line geometrics have evolved into softer, curvilinear forms which are expressed in the circular glass shape that surrounds the concert hall. Pei has used glass in previous architectural designs, however, such extensive and lavish use of the material is new.

Working drawings were completed in August 1984, but many details were dangling due to the uncertainty of the building site which was not completely finalized until September 1985. In August 1985 the construction contract was awarded to J. W. Bateson Company by the city council. Delayed by difficulties in securing its site and finalizing details for construction, work started on the Morton H. Meyerson Symphony Center on September 5, 1985.

In September 1983, Ross Perot had donated one of the largest gifts ever made to any arts organization in America for the building of the symphony hall with two stipulations: it be named the Morton H. Meyerson ²¹ Symphony Center and it be a world class music hall. Prior to that date the working title for the project had been the Dallas Symphony Hall.

Meyerson, former President of Electronic Data Systems (EDS), is a long time supporter of the symphony and member of its advising board, as well as chairman of

the Symphony Association Concert Hall Building Committee.
Perot gave the gift as a recognition of Meyerson's
maximum contributions and value to his company.

Endnotes

1. For a comprehensive article on the Arts District see George Rodrigue, "The Arts District," D Magazine, May 1982.
2. The bond was for \$2.25 million.
3. David Dillon, "Where's the New Concert Hall?" Dallas Morning News, 28 October 1984.
4. David Dillon and Terry Box, "The Meyerson Center: Sage of a Symphony Hall," Dallas Morning News, 6 August 1989, 27.
5. William Littler, "Meet Mr. Acoustics (Russell Johnson)," Opera Canada, September 1986, 16.
6. Morton Meyerson, media luncheon, 6 September 1989, Dallas, Fairmont Hotel, Dallas.
7. Dillon and Box.
8. Janet Kutner, "Pei's Concert Hall Sure to Be Noteworthy," Dallas Morning News, 31 December 1980. Also, Cheryl Taylor, "Pei To Design Dallas Concert Hall," Dallas Times Herald, 31 December 1980.
9. Leonard Stone and I.M. Pei, media luncheon, 6 September 1989, Dallas, Fairmont Hotel, Dallas.
10. Ibid.
11. Chris Jaffe, "Out of the Box: Creative Geometry and Acoustical Excellence," Symphony Magazine, October/November 1986, 59. Jaffe questions continual use of the familiar rectangular shape, supporting other configurations.
12. Dillon and Box, 27.
13. Ibid., 28.
14. William Littler, 14.
15. Ibid.
16. Russell Johnson, interview by author, 6 September 1989, Dallas, Meyerson Symphony Center, Dallas.
17. Frank Clifford, "Concert Hall Plan Unveiled: Pei Designs Model," Dallas Times Herald, 13 May 1982. Also, Bill Marvel, "Pei's Design: Concept of Elegance," Dallas Morning News, 13 May 1982.
18. The bond was for 28.6 million.
19. Dallas City Ordinance Number 17710.
20. I.M. Pei, interviewed by author, 6 September 1989, Dallas, Meyerson Symphony Center, Dallas.
21. Donation was for \$28.6 million

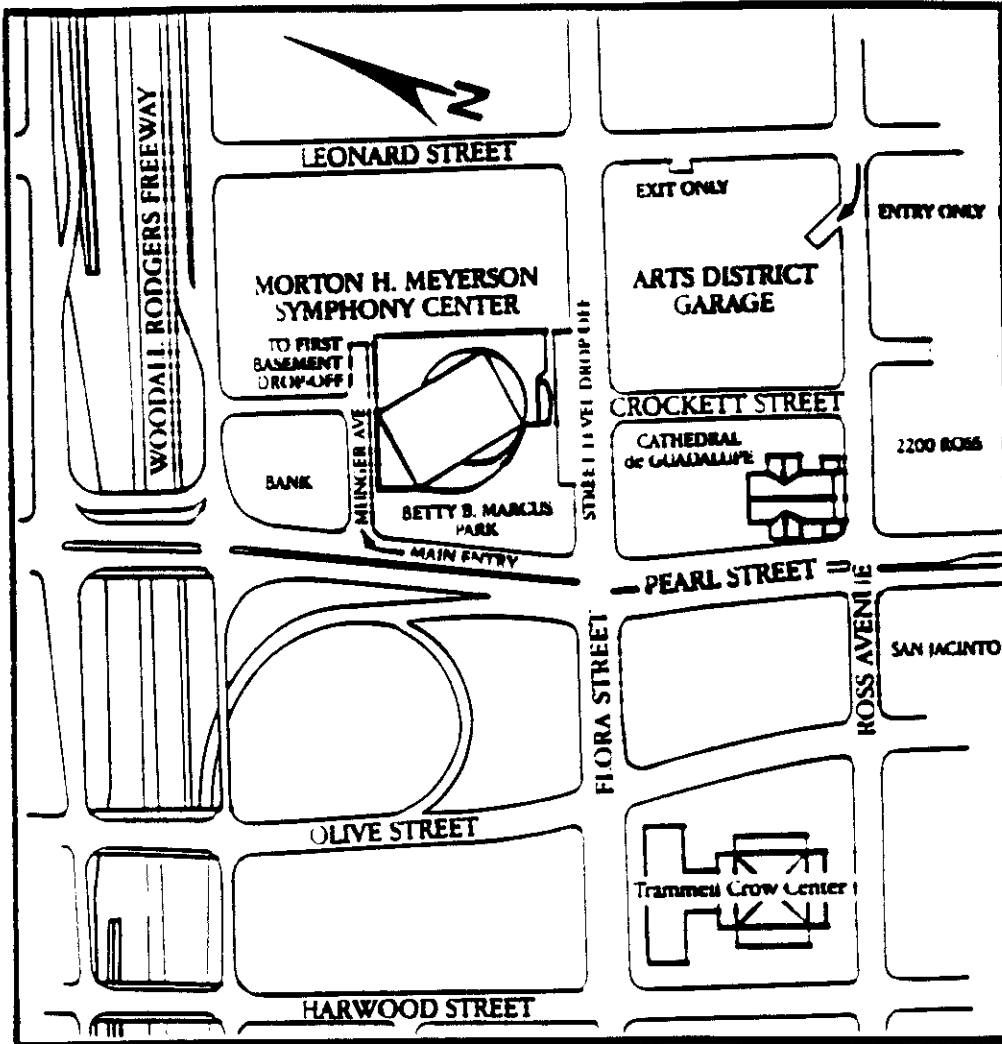


Figure 3 The Meyerson Symphony Center Location (Dallas Symphony Association)

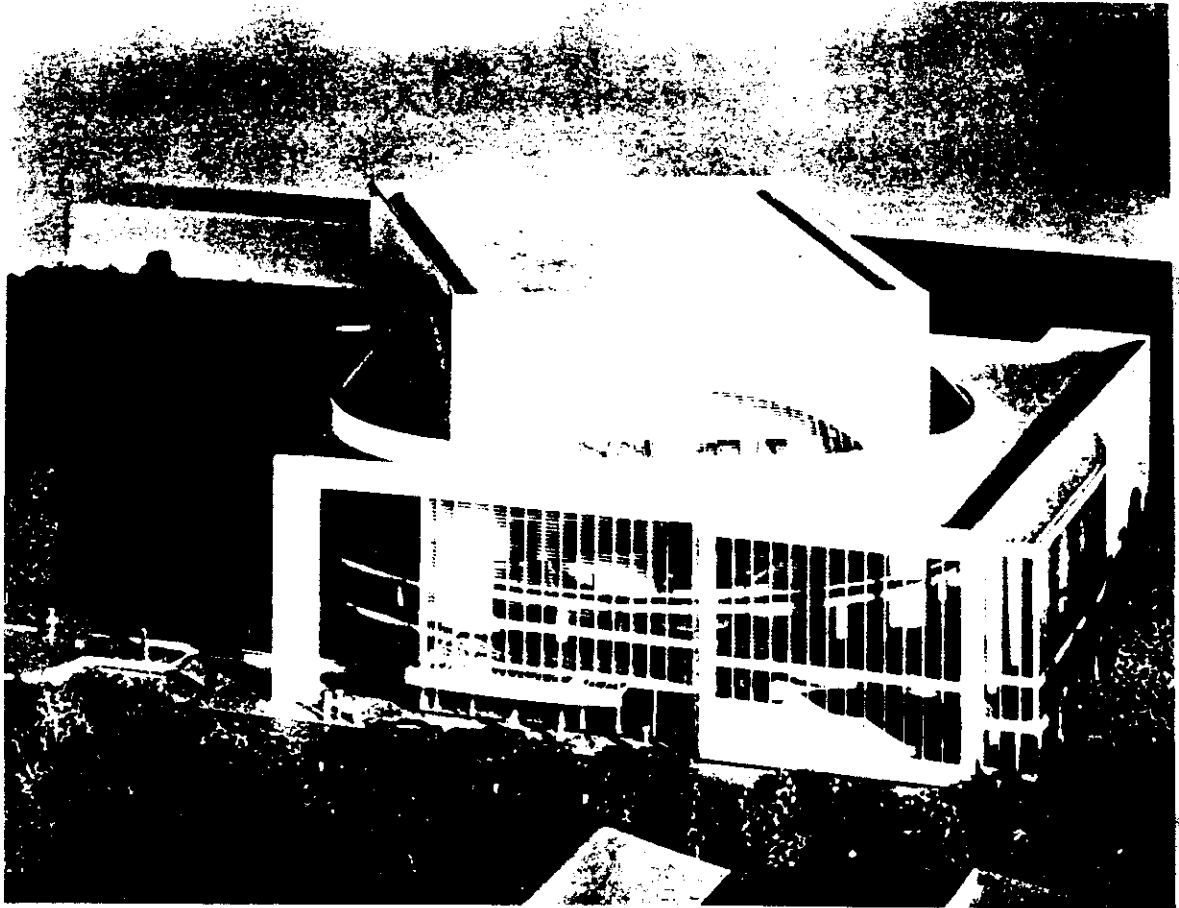


Figure 4 1982 Model
(Dallas Symphony Association)

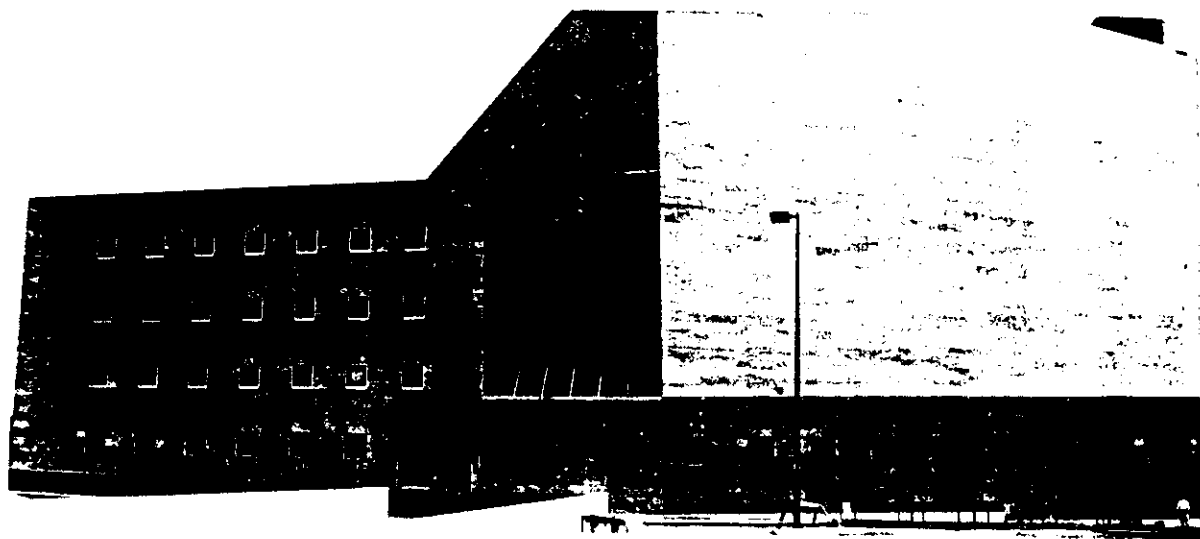


Figure 5 View of a Section of the North Wall
(Author's Photograph)

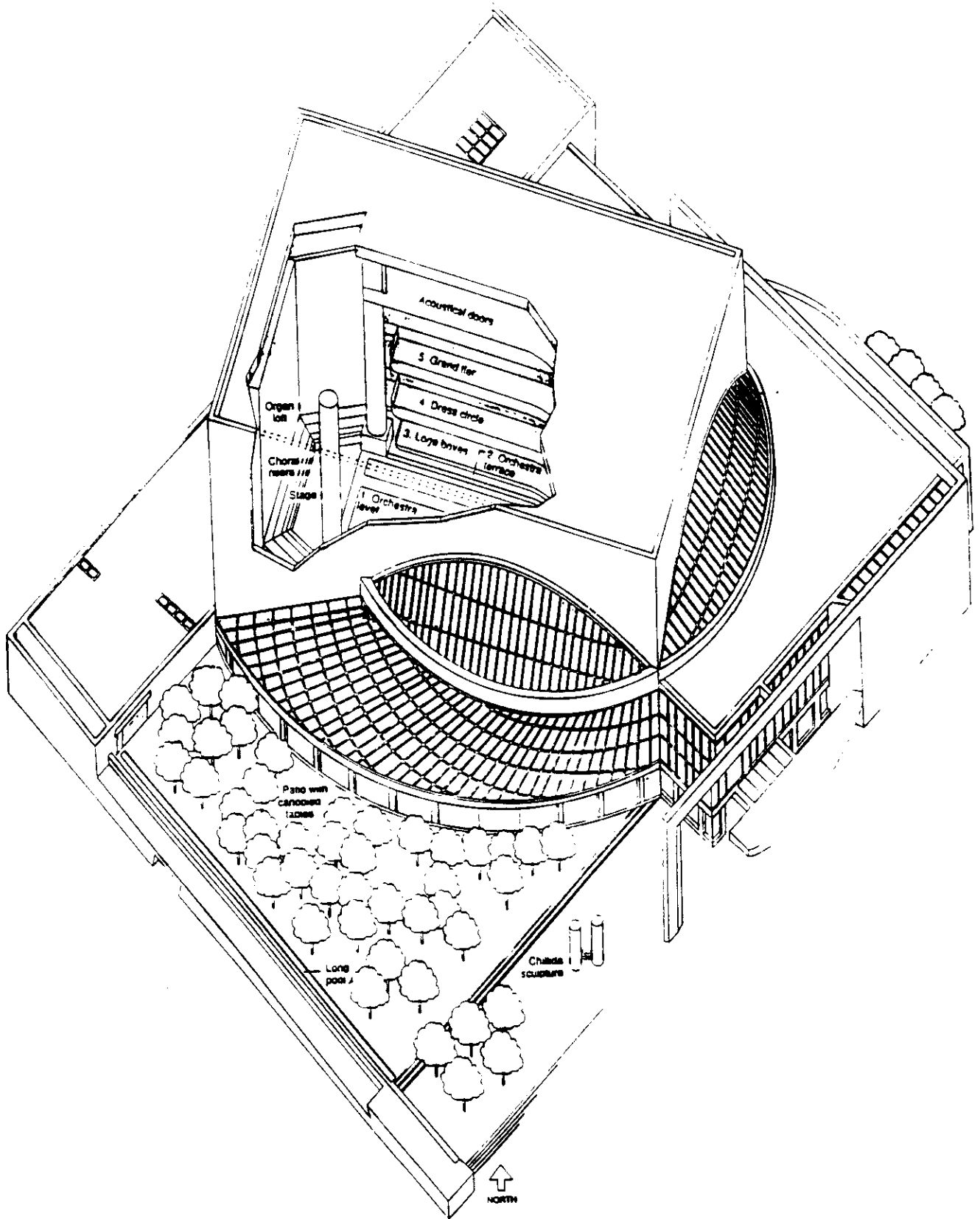


Figure 6 Axonometric Drawing
(Dallas Morning News)

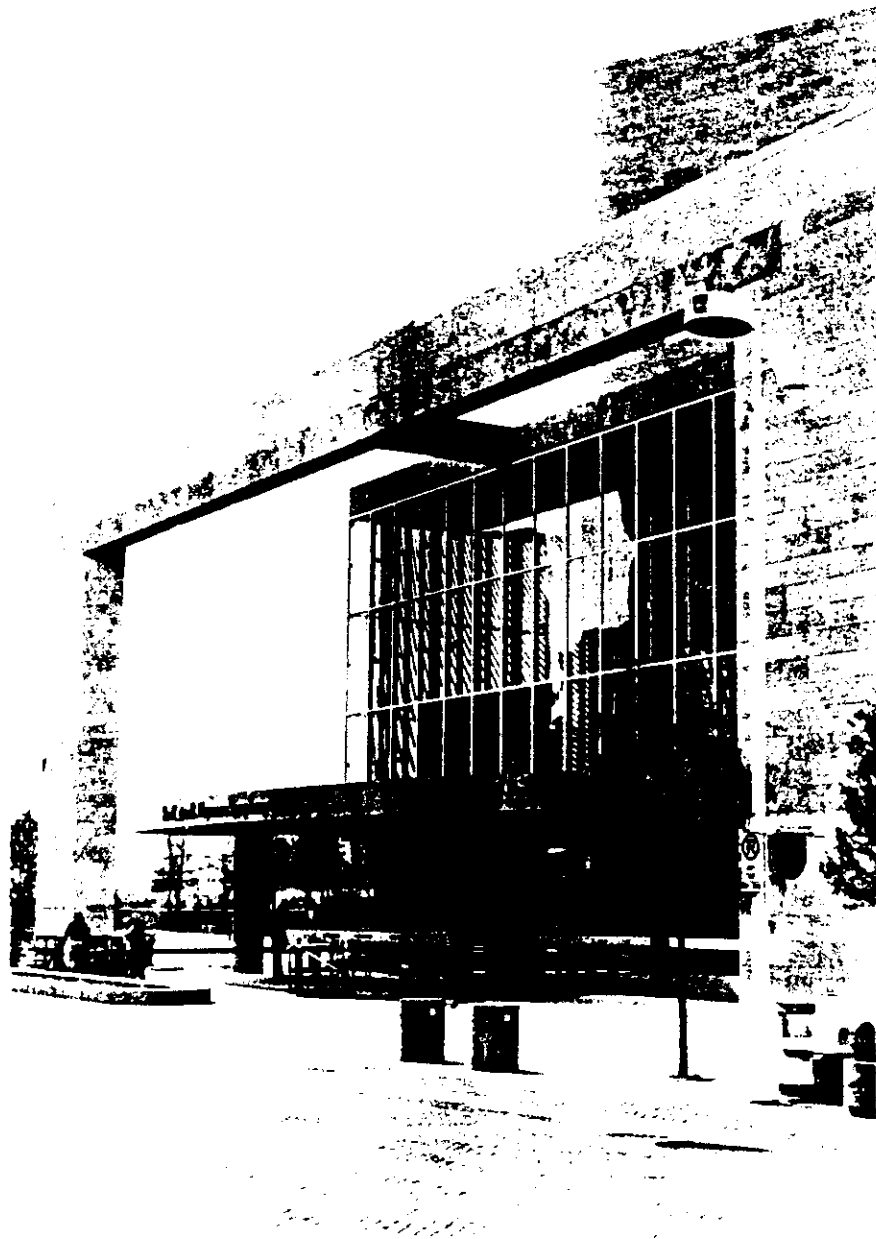


Figure 7 Facade
(Author's Photograph)

CHAPTER III

INTERIOR SPACES ACCOMMODATING TO THE PATRON

As indicated in the 1981 Draft Brief, reproduced in Appendix B, detailed listings for each area of the plan were recorded. The following is a discussion of the proposal and what became reality. The criteria, and this chapter, are concerned with two specific spaces for patrons: those in the front-of-house¹ and the concert hall. Also included is a discussion on the contrast in styles between the two spaces.

Front-of-House

In the criteria, the front-of-house is divided into two areas: the controlled public lobby and the audience lobby. The space designated as the controlled public lobby includes: display areas for coming attractions posters; entrance lobby space conveying the grandness and social aspects of the occasion; box office; sales space/shop with the possibility of an entrance from the outside as well as an outside display window; public restrooms; and promotional station.

Concerns in the audience lobby space, as listed in Appendix B along with specific considerations, include: cloak rooms, telephones, drinking fountains, public stairways, elevators and escalators, reception rooms, display areas for donor recognition, dining facilities, bars, restrooms, areas for comfortable movement of patrons, and gathering areas. And most unusual, a cry room--a small room adjacent to the auditorium available to individuals with infants or small children as well as other patrons' needs--was to be considered.

The center can be entered from two paths: the street-level drop off entrance on Flora Street and the underground parking. The latter contains a spacious limestone alcove for the dispersing of passengers. Display fixtures are evenly spaced on the curved wall containing promotional materials in the form of colorful posters. Patrons park in the five-level underground Arts District Garage adjacent to the Meyerson and connected by underground pathways.

One enters an entrance lobby, referred to as the lower lobby, through suspended glass doors. Due to the underground location, the primary design concern in this area was to bring natural light which was achieved by a very elegant limestone entry whose stairway leads to the main lobby directly one floor above.

The lower lobby contains the four-windowed box office, symphony boutique, and restrooms. According to Leonard Stone, the box office is convenient to those who will use it the most--car traffic.² Located in this space is the coat check, telephone alcove, drinking fountains, and elevators. The two public elevators, which are on either side of the circular facade of the box office provide access to each seating level in the auditorium. At these elevators tickets for performances will be taken.

In this public lobby space, the terracotta color of the carpet and walls intermixed with the cross-grained limestone--similar to the exterior of the building--displaces immediately the concrete garage feeling with warmth. The carpet also helps to absorb the garage sounds.

Not visible from the lower lobby, this underground floor also contains four corporate rooms, reception areas which form a U-shape behind the box office and can be used by patrons for private preconcert and postconcert gatherings. They can also be rented for other occasions. Accessible without entering the auditorium, each room will accommodate up to 50 people comfortably. However, there is no promotional station which was in the criteria as indicated in Appendix B.

One can sense the grandness of the building not only by the choice of material but also by the elegant width of the

stairway which fosters a sense of extreme space. Open to the lower lobby on the right side, a glass balustrade stairway abuts a limestone wall known as the Wall of Honor on the left. This wall contains donor names within a smooth and elegant circular indentation. The stairway pulls one into the lobby as the light from that space acts as a beam beckoning one up through a large circular opening. At the foot of the stairway are floating square glass panels which contain names of city officials and others involved in the planning and construction of the building.

The design of the main-floor lobby as well as the choice of materials and color are intended to add to the open feel created by the glass expanses. It features a grand staircase, three balconies and a high ceiling. One enters the main lobby with the restaurant to the left and the grand stairway just to the immediate right across the lobby.

Within the interior space of the lobby, the complex spatial relationships within the pure geometric form are breathtaking. The change of directions within one's journey throughout the space produces the highly dynamic effects likened to baroque architecture. One is simply not aware of how dominant the circular form is to the interior from the exterior. The curvilinear shape which produces the area's infinite vanishing points, plays against the clean lines and

hard edges. The airiness and transparency of the windows complements the heavy Indiana limestone of the interior walls and the ivory Navona travertine floors. It also provides the constant movement and animation (through people and light) which plays against the pared down surfaces.

The conoid window houses the restaurant. As seen in Figure 8, the framework which holds this window in place is on the inside of the glass and a major visual element. It is light and open and held in place by a series of vertical ribs which reflect the varying sizes of each of the 211 pieces of glass as well as reflect the gradual shifting curve of the window. Due to the amount of Texas heat, fixed horizontal sunscreens made of one-inch aluminum tubing have been installed. Motorized fabric shades will be added on the west side of the building below the conoid.

From the restaurant, suspended glass doors open onto the adjacent Betty P. Marcus Park. A ficus tree, cut to Mr. Pei's specifications, is the centerpiece of the restaurant bringing the feel of the park into the interior space. The restaurant is serviced by a dumbwaiter from the kitchen which is directly below on the lower level.

Following the curvature of the interior wall, a large bar is positioned between the restaurant and the main lobby. Directly behind the bar and up a slight ramp is a women's restroom. Across the ramp, are the men's facilities.

These are large facilities which service both the restaurant and the right half of the orchestra seating within the hall.

To the right of the grand staircase is the east lobby which can be entered from Leonard Street. The Ellsworth Kelly Dallas Pieces hangs on the limestone wall. The red, green, black and white rectangular panels are extremely long pieces in order to be viewed from all balcony levels of the concert hall. The art produces the only color in an architectural space of refined and sophisticated textures and reflections of glass, limestone and polished travertine. A second large bar of similar layout is located in this east lobby and there are restroom facilities behind it as well.

Some of Pei's influences came not from concert halls but from opera houses. The grand staircase was designed in the tradition of the Paris Opera, which had been a source of inspiration for Pei due to its sense of festive occasion. Flanking this staircase are two eighteen-foot lights of black stainless steel and California onyx spheres of Pei's design. These fixtures provide the accent colors within the dominant neutral scheme. Smaller versions of these lighting fixtures, as sconces, flank the side ramp entrances on the ground level into the concert hall.

Originally, directly over the grand staircase, a horizontal mural which spanned its width was to be displayed. At present there is only the smooth limestone.

A graceful arch of concrete voussoirs is inlaid within the limestone spanning above this smooth area. Rounded windows at each of its ends provide perfect symmetry over the grand staircase.

From the lobby, up the gracefully curved limestone grand stairway to the mezzanine level, visitors look down on the restaurant and through the glass into the garden court and out to the view of the downtown skyline and the Dallas Museum of Art.

These interior spaces were designed to be transparent by day and by night providing visual excitement and inviting a dialogue between interior and exterior. By day the light streams in, and by night the light glows out into the darkness. Either way it is an invitation for people to enter.

On either side on the mezzanine level are stairways marked by smaller versions of the black stainless steel and onyx spheres which lead to the dress circle. Part of the audience-gathering areas, portable bars can be placed here to facilitate service to the patrons on this level. There are audience-gathering areas for pre-concert and intermission purposes on both sides of the hall on all levels.

Stairways continue to the uppermost levels on the sides of the hall. With these open staircases one can see down

into the floors below as well as into the main lobby, outside through the glass, and above to the high ceiling. Between the Dress Circle and Grand Tier are beautiful perfectly elliptical spiral staircases. These stairways are like a hidden jewel for they are not open as the other stairways. Individually cut vertical pieces of shining plexiglass topped with brass form the balustrade. Above the elliptical stairways are grid openings of frosted glass which repeat the shape.

As indicated in Appendix B, restrooms were to be located on all floors and a sufficient number of facilities within each restroom was to be considered. Following this criteria, restrooms on the second level are located directly above those on the ground floor, while those on the third and fourth levels are at the north end of the hall and are again conveniently placed on either side of the hall. The women to men ratio of the facilities is 2:1. A single water fountain is placed outside each entrance. However, a cry room, which was mentioned in the criteria, does not exist.

Upon entering the inner lobby of the auditorium itself the mezzanine is ringed with onyx disc lamps that glow a soft light at night which reflects off the terracotta walls turning the space into a dramatic and warm area. The terracotta carpet helps to set the tone of the space about to be entered as one very different from the preceding area.

As of September 6, for the "A Tribute to Dallas" concert, several elements were incomplete. The sales shop consisted of only concrete flooring and unfinished walls and ceiling. Opening date is uncertain.

The four corporate rooms located on the lower level will be completed within the next three or four months. A restaurant accommodating kitchen, also located on this level, will cater these rooms as well as service the restaurant on the level above. It is scheduled to open by mid-October.

Neither the Carrara marble topped tables nor the small-scaled circular seated iron chairs to be used in the restaurant area had arrived. The restaurant which will seat 250 people and serve pre-concert, post-concert, and walk-in customers, is scheduled to open in mid-October.

Travertine benches are to be used in the main lobby. Their primary purpose is visual: certainly, not comfort. These had not arrived due to shipping delays, but are expected to be in place by November.

All floor surfaces outside the auditorium are to be of limestone. However, on opening night, only the main floor and Grand Staircase were of limestone; all other floor surfaces were of a limestone-colored carpet. In order to accommodate the depth of the limestone, the subflooring is one and one-half inch lower than the expected finished floor

height. At the last moment cement was poured in order to heighten the flooring for the laying of one-half inch thick carpet. If limestone is to be laid in the future, the cement will have to be chiseled out to drop the subfloor.

Regardless of the unfinished state of these components, over 200 national and international critics were in Dallas September 6 thru 12 opening week of the Meyerson Symphony Center to review the latest in the international culture scene. Responses to the Morton H. Meyerson Symphony Center were generally very favorable. "The Meyerson Center is a building at once typical of Mr. Pei's work and altogether different from it....a master of sleek, refined geometry...assert[s] a kind of modernist monumentality, and the...lobbies fit this mold....It is unashamedly sculptural...." says Paul Goldberger of The New York Times.³

"To walk through the foyer and see these continually changing circular and straight-edge forms disappearing into each others as if separate dimensions had somehow sliced into the same space, is to come as close as one can to the listening experience as music unfolds," commented Nancy Malitz of The Detroit News.⁴

Concert Hall

Under the area entitled Auditorium, as seen in Appendix B, the 1981 Draft Brief is concerned with various elements

of the seating area such as: number of seats, seating configuration, shape of hall, aisles, and audience floor. Because of the connotation of the word auditorium, referring to a large space with maximum seating capacity and multi-purpose, which this space is not, the term concert hall will be used.

The Statement on Acoustics which appeared as an Addendum in the 1981 Draft Brief is also included in Appendix B. Assigning a very high priority to the acoustics of the room, the criteria outlined very explicitly the acoustical objectives for the proposed hall to acoustician, Russell Johnson. The primary goal was to "provide a sound environment which will, as closely as possible, duplicate the acoustical properties heard by the Committee in the Musikvereinsaal in Vienna and the Concertgebeow in Amsterdam."⁵ The hall was to provide an ideal setting for "performances of the basic orchestral repertory composed between the late eighteenth and early twentieth centuries (Haydn and Mozart through Mahler, Strauss, early Stravinsky). The completed hall must have these three qualities: "excellent base resonance, which provides a rich and full foundation sound for the orchestra; a good blend and mixture of sound without excessive loss of clarity; and, brilliance in the high frequencies and good clarity of the various orchestra lines in combination.

"A sense of intimacy between the audience and the orchestra (both a visual and an aural intimacy),...excellent sight lines for the audience, ...a comfortable environment for experiencing music,...(and) an overall visual environment for the room that complements the source and creates a sense of physical pleasure and well-being"⁶ were other objectives to be considered in association with the acoustical conditions. The two-paged statement concluded: "since every element in the auditorium has some effect on its acoustics, the acoustician must have the authority to insist that all decisions be made within the framework of achieving the acoustical objectives of the hall."⁷

In contrast to the open feel of the transparent public spaces, the Eugene McDermott Concert Hall, which is the heart of the Meyerson Symphony Center, provides a hermetic sense of stillness and quiet. Two key characteristics of the auditorium were derived from great European and American nineteenth century concert halls: a rectangular shape of narrow width and high ceiling and a limited number of seats. Both are important factors for the acoustical excellence and intimacy which were required by the DSO. Its absolute quiet is achieved through several factors. A twelve-inch concrete block filled with mortar was used for wall construction; the roof consists of five and one-half inch thick lightweight concrete. The auditorium also contains a five and one-half

inch thick dense concrete and plaster ceiling topped by four inches of fiberglass soundproofing. The mechanical room which houses the machinery that operates and controls various functions for the building is placed on its own foundation; shock absorbers are used to minimize transmission of vibration to the performing area. Vents for air-conditioning and heating have no grates which eliminates hissing as moving air passes through.

But visually, what one first notices as an element used to control noise is a series of anterooms which extend around the auditorium and through which audience members must pass to enter the performing area. Called "sound and light locks" patrons, on the loge level, as seen in Figure 9, first enter these rooms through a two and one-fourth inch solid wood door; then, pass through the lock which has heavily padded velour covered walls and Pakistani alabaster lighting fixtures. An etched glass door which opens into the performing area is at the other end. These antechambers can be used for gathering areas while awaiting a concert performance as well as at intermission.

While paying his respects to nineteenth-century concert halls, Johnson added three adjustable acoustical features to the space: the suspended canopy, the reverberation chamber, and acoustical curtains. The first is a canopy system which is suspended, as illustrated in Figure 10, over the stage

and about 200 audience seats. Comprised of four separate pieces--a tiltable main section, four feet by sixty feet which weights forty-two tons, and three flanking pieces, each ten feet by forty feet--the canopy is concave at the back, left to right, and convex at the front. Constructed of concrete, wood and wood veneer, its purpose is to create different acoustical environments needed to accommodate different types of music.

Movable by a counterweight system, this canopy is four times heavier than any other in use. The motors are modest according to Johnson. The canopy moves slowly, about three feet per minute and has a travel range of thirty-five feet with seventy-five feet being its highest level. Organ recitals, which require the canopy in its highest position, will give a full view of the concert hall. For large scale symphonic works, the canopy is in a high position, to allow for a full, reverberant sound. For most works, it is in an intermediate position. Recitals and chamber works require crispness, articulation and low reverberance; therefore, the canopy is in the lowest position which focuses the sound more directly at the audience.

The canopy will not be used as frequently as the reverberation chamber, another feature designed by Johnson. Extending around three walls at the top level of the concert hall just below the ceiling, the reverberation chamber is

thirty-feet deep. Installed at the front of this large, hollow area of raw space are seventy-two concrete doors, which vary in size from twelve to twenty feet tall weighing as much as 2.5 tons each. Designed as a method of changing the size of the concert hall, the doors can be opened allowing sound to travel through the chamber and back into the hall, increasing fullness; closing the doors partially or completely will decrease reverberation.

And thirdly, at each level double hung curtains, one a thin gauze, the other a thick material, can be extended or retracted separately or as a unit, to adjust the reverberation factor. Their primary use is to act as the absorbing sound factor of the audience during rehearsal and recording sessions.

The shaping of the hall was the responsibility of acoustician Russell Johnson, whose chief concern was not architecture, but sight-lines and sound distribution. Upon formal approval by the committee of a set of sketches and a report submitted by Johnson, an acoustical diagrammatic model was produced. Although not a finished design, this established the size and dimensions of the hall, its seating count and aisle patterns, the shape of the stage, and the locations of sound-reflecting and sound-absorbing surfaces. Charles Young, Associate Partner at Pei, Cobb, Freed & Associates took the model and designed the visual aspects of

the interior of the concert hall. In charge of the Meyerson Symphony Center's Eugene McDermott Hall, Young set out to renew the visual glory which had been lost from earlier concert halls. As per the program, "...the acoustician was given the authority to insist that all decisions [concerning the auditorium] be made within the framework of achieving the acoustical objectives of the Hall." ⁸ Once the architectural design was developed, there was a period of modification and negotiation between the architect and the acoustician to achieve the best acoustics and aesthetic designs within the concert hall.

Russell Johnson had presented Young a complex space defined by a trapezoid, a short line, and a multi-trapezoidal shape. Young comments, "Normally our office is working with pure geometric form, but Russell produced a model...you would never think this is I.M. Pei's work...with splayed walls, a high ceiling, and a reverberation chamber running around three sides. We looked at it and wondered how in the world were we going to handle this architecturally." ⁹

In discussing the creativity of the visual aspects of the space, Young mentioned the Palladian theory of firmness (order, proportion, truth to materials and structure), commodity (form follows function, which was very true in this case), and delight (beauty in the pursuit of

creating an ambience).¹⁰ The first concern was to bring a sense of order to the space by finding the geometries that already existed in the room that would form a rational basis for decisions. The interior walls are arranged in a series of segments. From the edge of each wall a column extends up to the soffit where it meets a beam. This provides a sense of rational structure extending around the room as well as prevents the balconies from appearing to be just hanging there.

Two larger columns, whose bases house observation booths, flank the stage extending all the way to the ceiling where they appear to hold the massive reverberation chamber. These columns also define the stage area within the auditorium space. To make the reverberation chamber seem lighter, its front is covered with a grill and back-lighted to give it an airy, diaphanous look.

The supporting structure of columns and beams is painted a creamy off-white to distinguish it, according to Young, from the wood-paneled walls, which are somewhat dark and receding.¹¹ The paneling provides a sense of scale to the room and also creates a unifying grid that extends over the entire wall, top to bottom. Above the wood paneling, an open gridwork of two different scales--the larger of plaster, the smaller of wood--conceals the reverberation chamber. This grid is continued as a radial pattern on the

two large circles, one in the ceiling at the rear of the hall and the other in the acoustical canopy over the stage.

Back-lighted and gleaming against the dark grey-blue of the music room ceiling, these circles resemble great windows or domes, each with an oculus and a suggestion of blue sky beyond. Lending an air of eighteenth-century elegance to the hall, the circles were also created, says Young, to provide another visual cue to its twentieth-century geometry.¹² For acoustical reasons, the inner walls of the hall are splayed slightly, angled inward so that if they were projected beyond each end of the hall, they would converge somewhere in the distance. The circles stand at the focal points of these imaginary projections. The acoustical canopy was aesthetically designed by the architectural firm and, according to Young, was the hardest element with which to work for two reasons: it contains 400 lights and has no architectural precedent.¹³

Lighting was then used to define the elements of the performance hall. Whereas the Meyerson's exterior was intended to be a public building with light washing off the wonderful geometric forms, the interior is contemplative, romantic, dark, and suggestive. There is no natural light in the space. Young says, "Ideally a room like this would be lit by candlelight. You get somewhat the same effect by filtering light through onyx."¹⁴ Onyx, a veined, translucent

stone is used on sconces and lighting fixtures throughout the concert hall. The space is defined by light with onyx inserts which ring the third and fourth tier balconies as well as alabaster sconces on the back wall of the loge. Both of these lighting elements define the horizontal curvature of the hall. Onyx strips are placed next to the balcony supporting columns which accent the vertical. Moreover, the grids of the reverberation chamber are backlit. This brings the eye back to the grid pattern of the paneling by the brass grid-defining strips which reflect the dimmed lighting. With this lighting the room appears warm and intimate as it literally glows from the soften lights.

Within the space the appearance of the diagonal line is used to relieve the grid as well as function as an accent. As seen in Figure 11, on the back wall of the second, third and fourth tiers, a wooden panel positioned on the diagonal is centered. On the balcony fronts of the third and fourth tiers the grill on the onyx lights is also placed on the diagonal.

Visually, the room has a great variety and richness. When one is not looking at the orchestra, the eye can play off the primary, intermediate and smaller scale details of the room while still enjoying the music. Providing variety and richness, the materials in the concert hall were founded

on those used in the instruments themselves: wood from the violins, cellos, basses; brass from the trumpets, trombones. This provided the basis for the color scheme in the eighty-five foot high by ninety-four foot concert hall. Deep-pink terrazzo accented with grids of inlaid brass strips is to be used on all floor space within the concert hall. For the September 6 performance, terrazzo was only on the orchestra, orchestra terrace and loge levels, while the exposed concrete on the other seating levels was painted a dark brown. The seating throughout the room, which was made by JG Furniture, is upholstered in a dusty terracotta mohair framed by elegant African cherrywood. Known for its richly textured surface, often with a satiny, burlled appearance, this wood is also known as makore. Used on the walls of the room, 918 panels of makore are arranged so their symmetrical patterns would mirror one another. This material is also on the fronts of the balconies. Framed with American cherry wood, the squares of makore use brass metal stripping as an accent forming larger grills on the wood as well as in other areas of the design such as on the onyx lights and hard-surfaced floors. Alicante, a deep pink Portugese marble, follows the shape of the orchestra terrace balcony as well as the edge of the stage. To achieve the sensation of permanence within a modernist architectural style was Young's goal. The choice of materials and their treatments

all give the McDermott Hall the mellow glow of age similar to the great nineteenth-century halls.

There was an acoustical concern with the use of wood veneer in the concert hall. After many weeks of discussion between acoustician and designer, it was decided that a special method of application would be necessary for acoustical purposes. On the concrete wall was placed three-fourth inch plaster, then epoxy was added to adhere a half inch laminated wood panel. Lastly the one-thirtieth inch veneer was positioned. This procedure was to prevent the wall space from being sound absorptive.

The concert hall has a seating capacity of 2,066 on six different seating levels, as illustrated in Figures 12 thru 15. On the ground level where the orchestra seating is fixed and divided by two main aisles, is a raised semicircular or horseshoe-shaped platform at the sides and back, called the orchestra terrace. The remaining three tiers follow this shape.

On the first tier is the luxury loge. There are no boxes which affect sightlines and sound, but rather nineteen private, eight-seat divisions similar to that of La Scala in Milan. For better sightlines the seats in this area are not bolted to the floor so that they can be moved. Arranged in two rows of four seats, the second row is raised above the first to provide an enhanced vantage point. Glass panels

topped with brass separate the two rows. This area is illuminated by a ring of onyx sconces.

On the Dress Circle and the Grand Tier, seating is fixed; however the parallel sides, which are referred to as boxes, have non-bolted seating for better sightlines. Another seating area available is the Choral Terrace, a raised area on the stage behind and to the sides of the orchestra. When not in use by the chorus, the area is available for patron seating.¹⁶ This provides audience members a space in which to observe the players' movements and observe the conductor's face. The seating capacity includes: 1000 on ground level, 900 on the various levels, and 200 around the stage. This includes 1,808 fixed seats and 258 movable chairs.

Several problems are encountered in the space. Leg room might be a problem especially in the Dress Circle and the Grand Tier in the fixed seating area. These are also the most difficult seats to reach since aisles do not cut through. One has to pass over many pairs of knees in order to reach seats in the center of the two tiers. According to Johnson, in the concert hall the higher up the better the sound.

On the first row of seating in the Grand Tier, the balcony front is extremely low. Also, the banister is the same color of the surface on which it is placed. Due to the

height of the seating, it could prove to be a frightening experience having to pass many patrons in order to reach one's seat. But again, this low balcony front is due to the aim of perfect acoustics.

Seating in the box seats on the upper two tiers, is not impressive. Due to the severe narrowness of the concert hall combined with its height, and even with movable seating, only a fourth of the orchestra can be seen. There are no seats with lighting available to those who wish to follow scores.

Acoustically, the hall is still a work in progress. The nature of the hall appears to be one of a bright sound. The softest of sounds can be distinguished, that means sounds coming from all places within the auditorium not just the stage. Audience members must acclimate themselves to the acoustics of the room. Any sound which results from a moving chair to gain a better sight-line or a program accidentally dropped occurs on a hard surfaced floor and can be heard around the concert hall. This may be annoying, however, it is a result of the hall being a much more intimate space than what had been experienced at Fair Park. Sitting in the concert hall during a performance is exciting due to the closeness between musicians and audience. Originally, the orchestra level appeared to be acoustically inferior to the upper tiers. In an attempt to address this

problem, the canopy has been altered to direct the sound from the stage into this area of the concert hall.

According to some critics, the acoustics are fine. "On the evidence of what I heard," wrote Richard Morrison of The Times (London), "the hall has an excellent warmth and clarity, with an especially fine bass resonance."¹⁷

"...the room displayed clarity, presence and, most important, a warmth that many overly bright space-age halls lack," wrote Katrine Ames of Newsweek.¹⁸

Nancy Malitz of The Detroit News wrote, "It [the concert hall] affords the physical intensity of sound--the kind you literally feel in you bones...."¹⁹ According to William Albright of the Los Angeles Times, "The sound produced...was bright but not strident, warm if not mellow....The lower strings boasted assertive resonance. The brasses blared keenly but not fiercely, and they didn't swamp the woodwinds."²⁰

"The bass sounds full, the middle range of the orchestra is mellow. I find the hall is generous in the way it projects the orchestra's sound; yet it also gives voice to individual instruments," commented Howard Reich of the Chicago Tribune.²¹ Willard Spiegelman in The Wall Street Journal, wrote that, "the most delicate pianissimi are perfectly audible...one could hear the balance between soloist and ensemble even in the biggest passages."²²

Morton Meyerson, for whom the center is named, stated, "I have heard it [the Dallas Symphony Orchestra] hundreds of times, but I felt like I was hearing it for the first time."²³

Local critics agreed. "It was hard to believe that this was the Dallas Symphony of old..." said Olin Chism of the Dallas Times Herald.²⁴ John Ardoin wrote for The Dallas Morning News, "The sound of each instrument in the section sailed out into the hall and had a feeling of cushioned space about it....the DSO's brass had a heightened quality and ring, and there is more awareness of character and individuality in the various percussion instruments than ever before."²⁵

The acoustics are so fine, in fact, that it is now the orchestra's turn to play catch up with its new world-stature home. Daniel Webster of the Philadelphia Inquirer said, "How well does it work? ...all too well, for its resonance, spring and clarity exposed mercilessly the conductor's inability to inspire ensemble playing or much sign of life in an orchestra that badly needs leadership and high standards."²⁶ Wrote Scott Cantrell for the Rochester Times-Union, "It's clear the orchestra needs some major tuning-up and refining. The hall is pretty merciless in exposing the imperfections."²⁷ It will take time for the orchestra to become familiar with its new surroundings.

Contrast in Styles

The lobby and the concert hall exemplify differences in style, each having its own sources and criteria based upon its usage. The lobby was Pei's and reflects his late-modernistic ideals. The concert hall, on the other hand, was the responsibility of Charles Young, associate at Pei, Cobb, Freed & Partners, along with acoustician Russell Johnson and demonstrates the use of historical references. The contrast in style between these two areas, through space and materials, is the greatest surprise in the entire interior. What is constant, however, is that geometric shape is dominant throughout the two areas.

As an architect, Pei's design concerns deal primarily with space and how it is experienced. It seems only natural then, that a painting by Al Held, an American twentieth-century painter concerned with the illusion of space and spatial movement, would be in Pei's office. In typical Held fashion, the work consists of a group of geometric forms placed to create the illusion of three-dimensional space on the flat surface of the canvas. But Pei admits to being influenced by the eighteenth-century Venetian architect and draftsman Giovanni Battista Piranesi, particularly his Carceri d'invenzione (Imaginary Prisons), which present large vertical space with multiple vanishing points. The curves of the Meyerson Symphony

Center are traced, by Pei, to his experiencing of European Baroque architecture.²⁸

The lobby, which serves as a public space, encourages and invites the city and its inhabitants to participate and become involved in the Meyerson's activities through the use of glass which opens up the interior to the exterior. Within the lobby, one has a sense of space over a sense of structure; the awareness is not so much of the building itself, but where one is positioned within the space. The awareness is achieved through the following: the extensive use of glass, the exaggerated use of the geometrical form of the circle, the vanishing points which the circle produces and the use of multiple levels. Pei demonstrated the use of exaggerated geometrical form in the inverted triangular shape of the Dallas City Hall. Again, using the three-sided geometrical shape, but this time within a logical system of related triangles, Pei experimented with perspective at the National Gallery, Washington D.C. The interior of the Meyerson lobby is dominated by the curvilinear form which is a new geometrical shape for Pei. It is the combination of the circle with the straight-edge forms which provides the challenge of fresh perspectives within the lobby.

The public space within and around the concert hall has a look of continuous animation, which is produced by the

endless modulations of natural light as well as the constant movement of people. David Dillon wrote, "His [Pei's] geometry puts us in an exploratory mood by not revealing everything at once. As we wander through the lobby, we wonder what's around this corner, or at the top of that stair." ²⁹ Each level opens to the monumental lobby accenting the vertical space within the interior as well as providing an excellent people-watching arena. Even the uncontrolled sounds of people within the space convey energy and excitement. Pei experimented with spatial animation at the National Gallery, but here the animation is on a larger scale and circular pattern.

Extreme articulation is not only displayed within the creation of the space itself, but also in the materials. Within the austere images of the modernist traditions, Pei's materials possess a luxurious quality. A trademark of Pei's designs is precisionist concrete, and this building is no exception. Reinforced concrete is refined to the point of visual richness and extreme quality as exemplified in the columns on the main floor which support the mezzanine's circular promenade. All materials used within the interior of the lobby have a smooth surface and most have a high reflective quality. The combination produces a very refined, yet somewhat cold, feeling within the space. The choice of materials--concrete, limestone and glass--provide

the lobby with a neutral color scheme. It is people who give the space its warmth and provide its color.

Within the grandiose interior of the lobby, ornamentation is the structure and construction itself. The expanse of empty surface forces one to confront the material of the building and its finish. The most obvious blank surface within the lobby is the horizontal space over the grand staircase. The surface adds to the crisp formality of the staircase. The effect is quite impressive and majestic. Willard Spiegelman said, "[The] lobby is a grand public space...which prepares the concertgoer with a sense of the magnitude of the experience that awaits within the hall itself."³⁰

The concert hall is an intimate space in which to listen to music. Rich with a simple elegance that is never plush or unrefined in either material and color, the concert hall provides a space that is warmer than the lobby. It is conducive to contemplation and meditation, listening and relaxation. Movement is now confined to the eye and there is great pleasure in the revealing of the various details while enjoying the performance.

Within the basic rectangular shape of the hall, vertical and horizontal lines dominate in the ordering of the architectural ornamentation as symmetry replaces the asymmetry of the lobby. From the two large columns framing

the stage to the secondary columns which visually support the tiers, the vertical is emphasized. The tiers present the horizontal element within the space.

The walls of the concert hall are not blank surfaces as those in the lobby, but are full of details and multiple design. The use of pattern in the form of grids is prevalent within the space. Developed in the wall-covering paneling which form grids within grids, this pattern is extended to ceiling height by the open gridwork of the reverberation chamber. The grid pattern is continued on the ceiling in a radial design in the canopy and at the back of the hall in diagonally placed panels.

The influence of Josef Hoffman and the Vienna Secessionists, as seen in the grid panels, has been noted. Paul Goldberger wrote, "He [Pei] wisely realized that in these Viennese geometries lay both the modernist rigor he has always pursued and the sensuous pleasures a concert hall requires; it was the ideal stylistic direction to permit him to enrich his palette and stay true to his traditional priorities."³¹

Charles Young credits the Atlanta Fox Theater, a 1930s movie palace which he frequented growing up and nineteenth-century European opera houses which he studied as an architectural student, as influences he brought to the interior of the concert hall.³² Elements of Art Deco are seen

in the diagonal grill on the onyx lights on the outside of the tiers as well as in the fan-shaped alabaster sconces on the loge level. The onyx and the alabaster produce a light which casts a golden glow giving the concert hall a sense of age.

The textures of the different materials and the colors used within the concert hall are more varied than in the lobby because the interest in the room becomes the space's visual purpose. The extensive use of wood, the terracotta mohair on the seating and the blue of the plaster ceiling produce the ardor which the concert hall exudes.

The contrast in style of the lobby and the concert hall is unexpected. The lobby is an open, monumental, stark, public space which is combined, at the Meyerson Symphony Center, with an intimate, colorful and warm concert hall.

Endnotes

1. An encompassing term which is specifically defined by individual theatres, auditoriums and halls. Generally, the term refers to those areas between the entrance of a building and the performing area.
2. Leonard Stone, Executive Director of the Dallas Symphony Orchestra, media tour of the Center, 8 September 1989, Dallas, Meyerson Symphony Center, Dallas.
3. Paul Goldberger, "Modernism Meets Grandeur in Dallas," New York Times, 8 September 1989, 13 [Y].
4. Nancy Malitz, "A Music Box Fit For Well-heeled Texans," The Detroit News, 12 September 1989, 5[C].
5. 1981 Draft Brief.
6. Ibid.
7. Ibid.
8. Ibid.
9. Charles Young, interviewed by author, 6 September 1989, Dallas, Meyerson Symphony Center, Dallas.
10. Ibid.
11. Ibid.
12. Ibid.
13. Ibid.
14. Ibid.
15. Ibid.
16. Since the nineteenth century in the Concertgebouw, the chorus seats around the orchestra have been sold when the performance required no choir.
17. Richard Morrison, "The Texas Showboat," The Times (London), 11 September 1989, 5[B].
18. Katrine Ames, "The Perfectionist," Newsweek, 60.
19. Malitz, 5[C].
20. William Albright, "Dallas Concert Hall Opens, Day Late and Dollar Short," Los Angeles Times, 11 September 1989, 1[D].
21. Howard Reich, "Staging For Sound: Dallas Symphony Gets its Dream Home--Maybe," Chicago Tribune, 14 September 1989, 7[5].
22. Spiegelman, 14[A].
23. Mort Meyerson, media luncheon, 8 September 1989, Dallas, Farimont Hotel, Dallas.
24. Olin Chism, "Meyerson Acoustics Strike Positive Chord," Dallas Times Herald, 2 September 1989.
25. John Ardion, "Today's Orchestra, Tomorrow's Concert Hall Must Be Served," Dallas Morning News, 17 September 1989.

26. Daniel Webster, "The Morton H. Meyerson Symphony Center; Dallas' New Home of Music," Philadelphia Inquirer, 11 September 1989.
27. Scott Cantrell, "Dallas' New Hall Sounds Some Themes For Rochester," Rochester Times-Union, 13 September 1989.
28. Bill Marvel, "Composing a Classic Art and Craft in the Morton H. Meyerson Symphony Center," Dallas Life Magazine, Dallas Morning News, 3 September 1989.
29. David Dillon, "A Sound Beginning," Dallas Morning News, 17 September 1989.
30. Willard Spiegelman, "Big D Inaugurates Pei Symphony Hall," Wall Street Journal, 13 September 1989, 14 [A].
31. Goldberger, 13 [Y].
32. Young, interviewed by author.

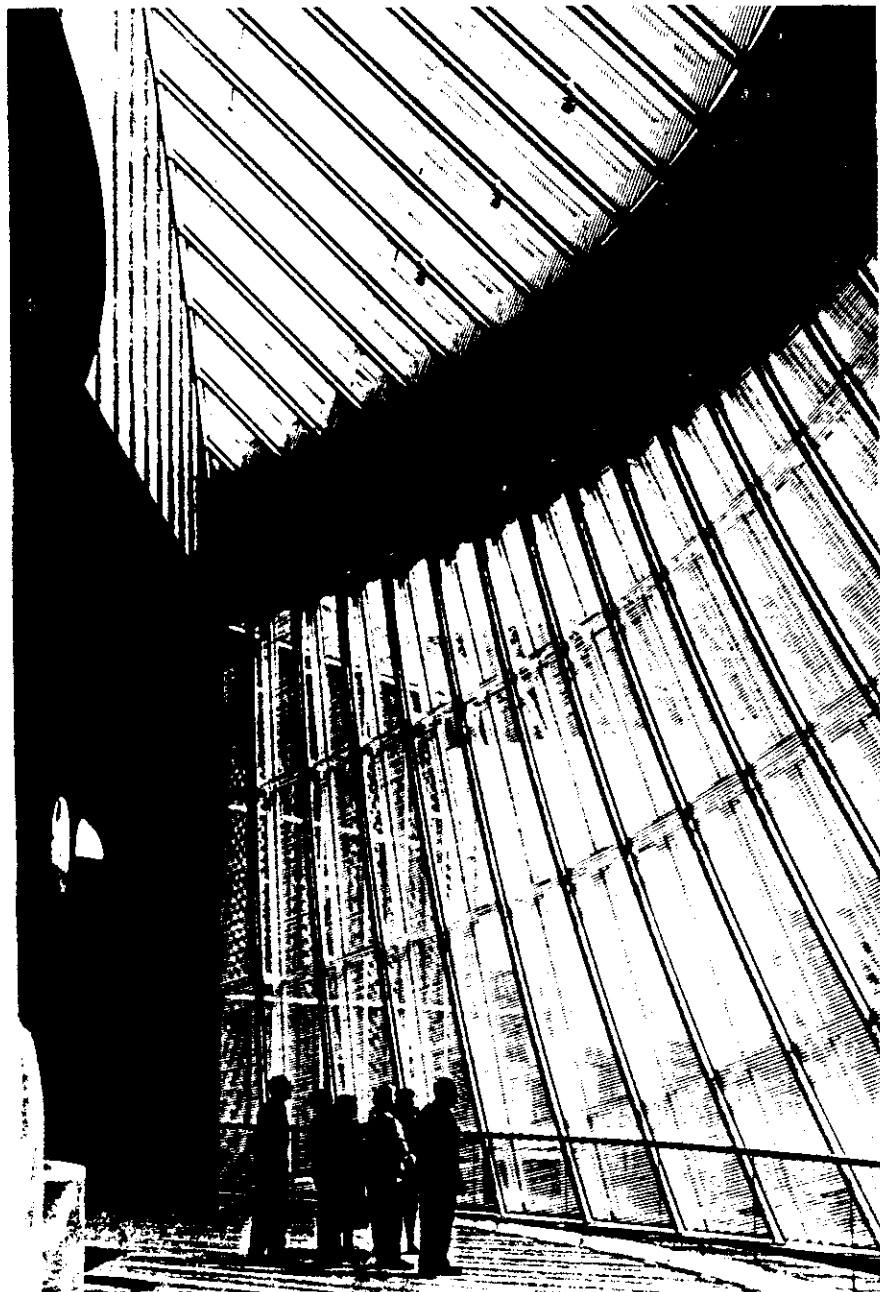


Figure 8 Interior of Lenses and Conoid
(Author's Photograph)

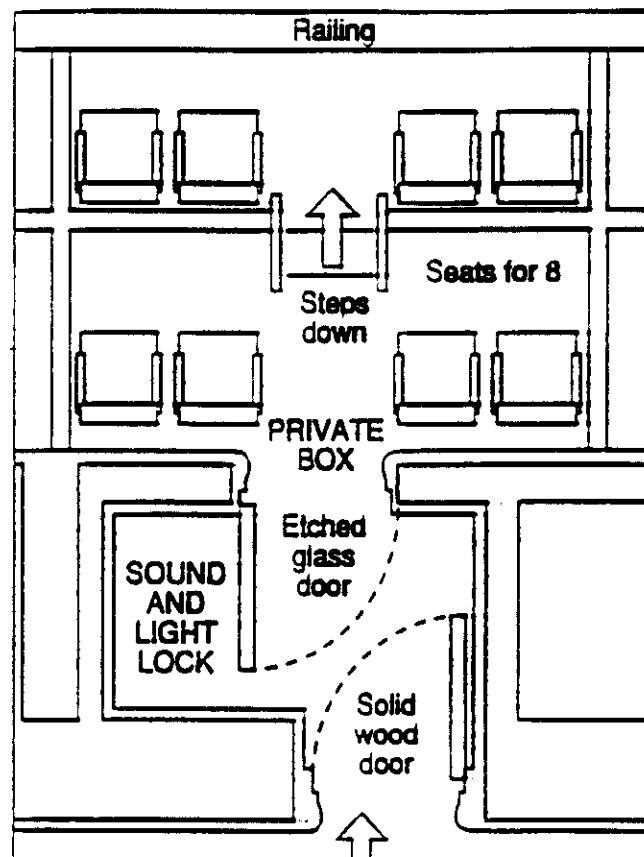


Figure 9 Loge Boxes
(Dallas Morning News)

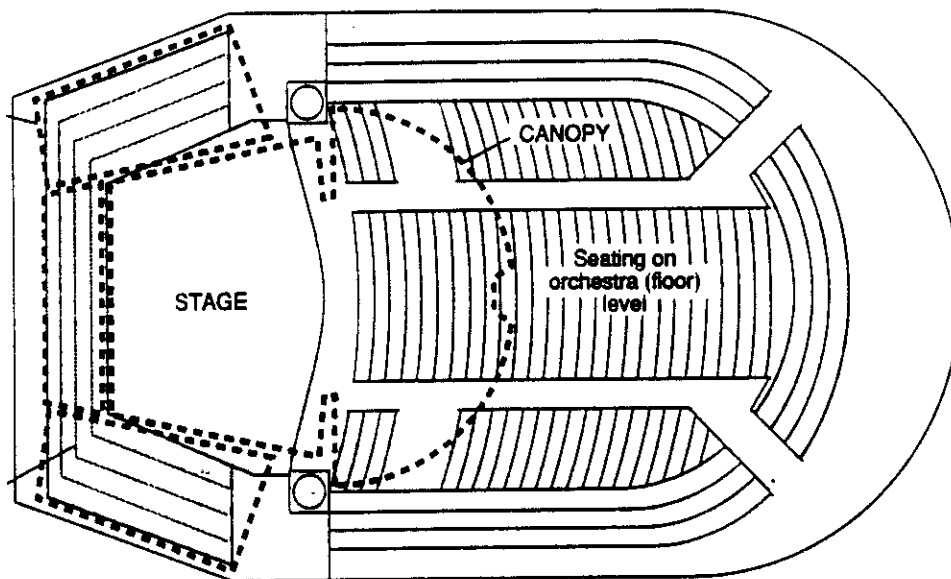


Figure 10 Canopy Location
(Dallas Morning News)

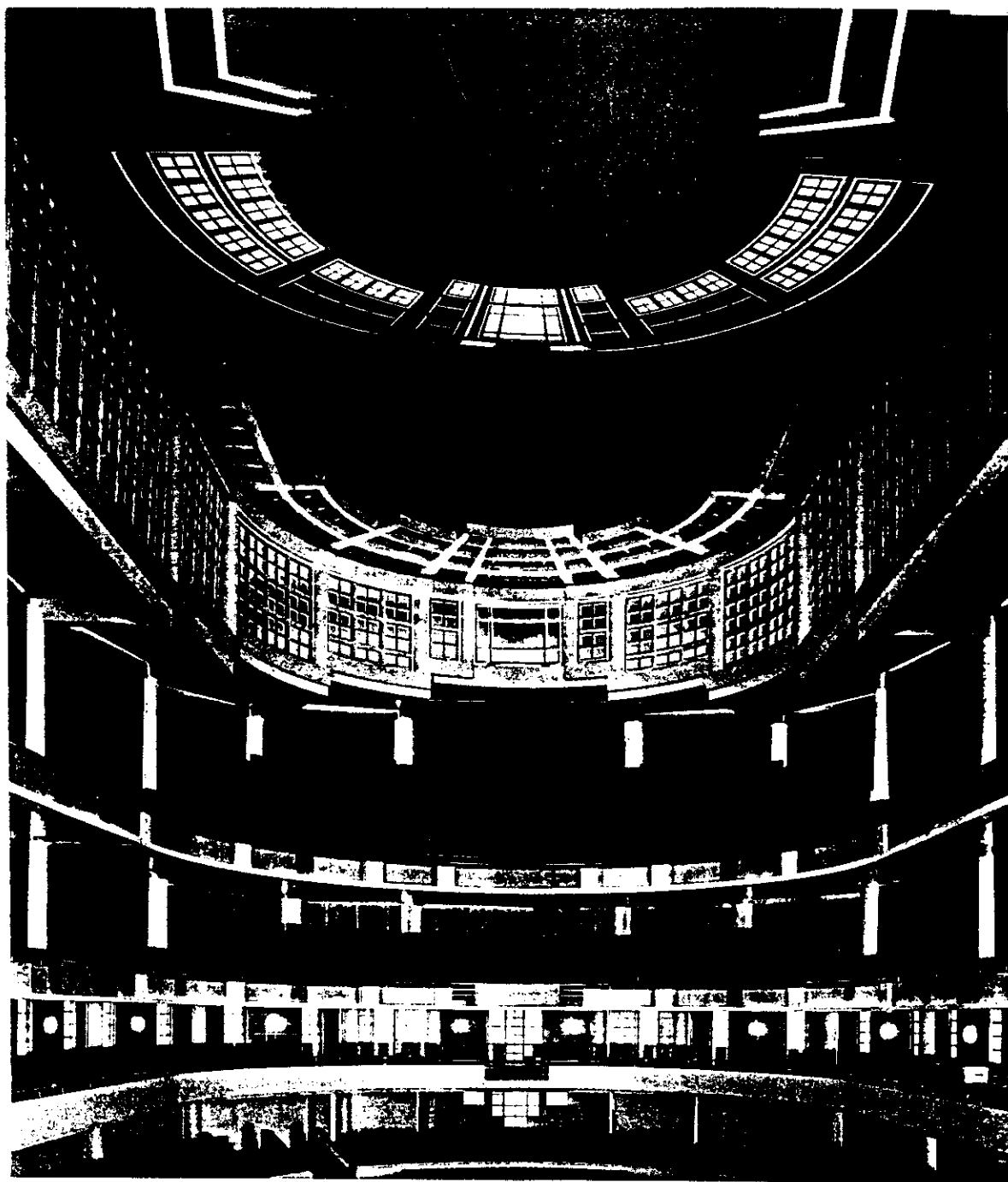


Figure 11 Interior of the Concert Hall from the Stage
(Dallas Symphony Association)

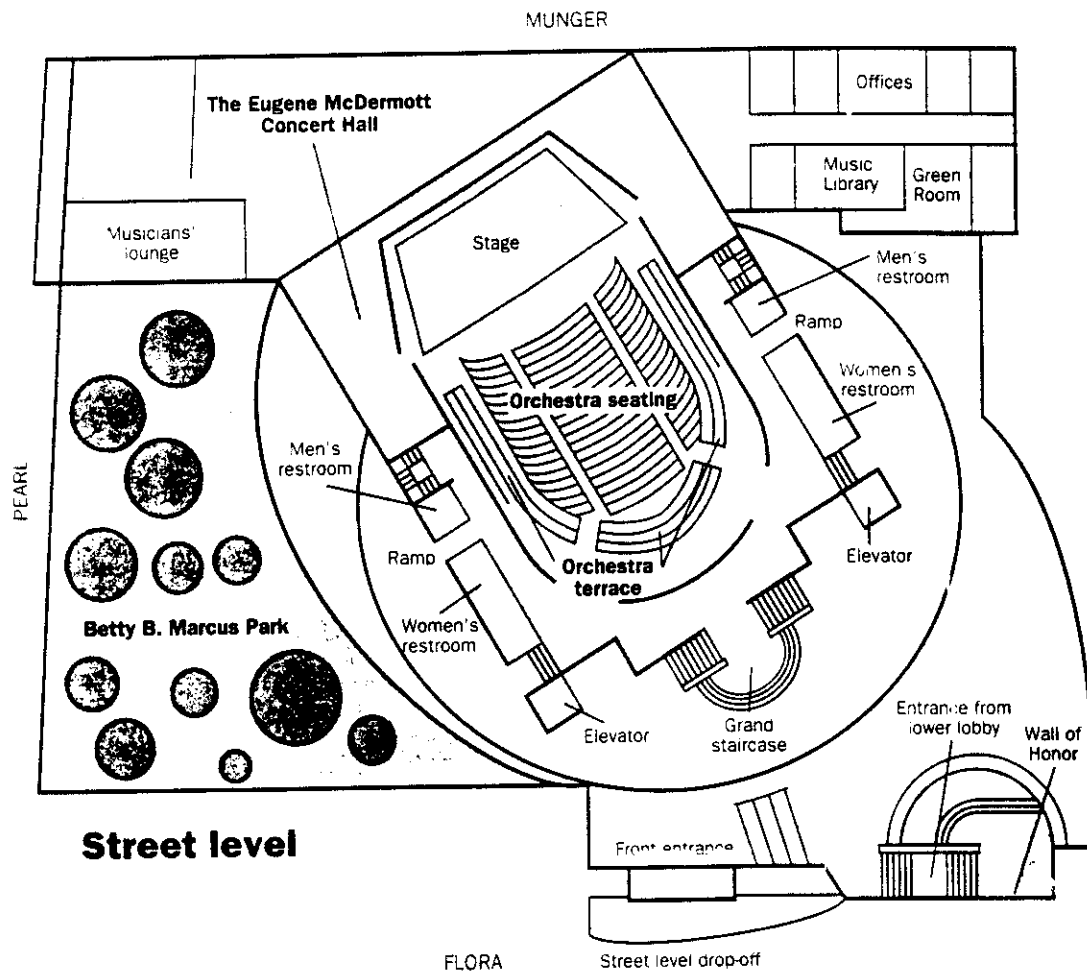


Figure 12 Seating Area - Orchestra Level
(Dallas Times Herald)

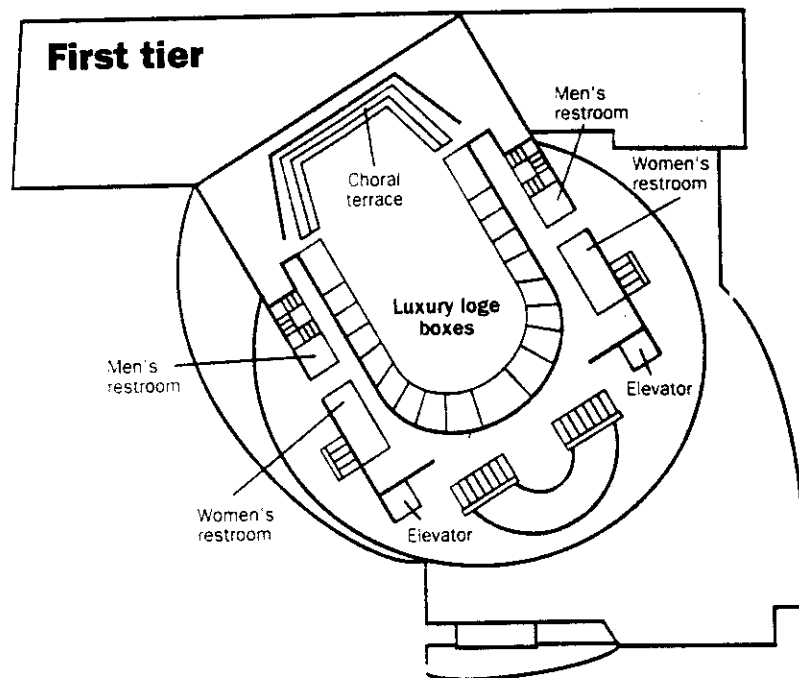


Figure 13 Seating Area - First Tier
(Dallas Times Herald)

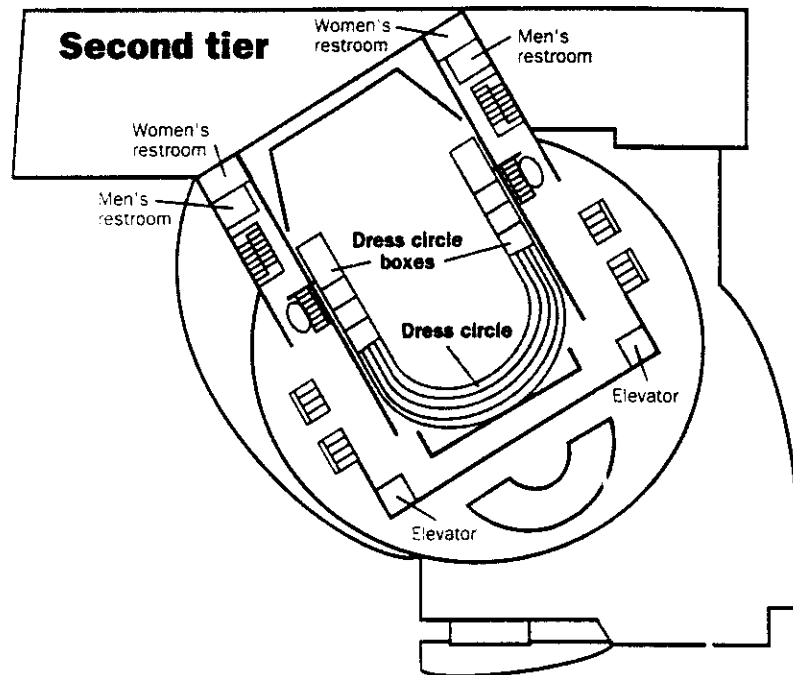


Figure 14 Seating Area - Second Tier
(Dallas Times Herald)

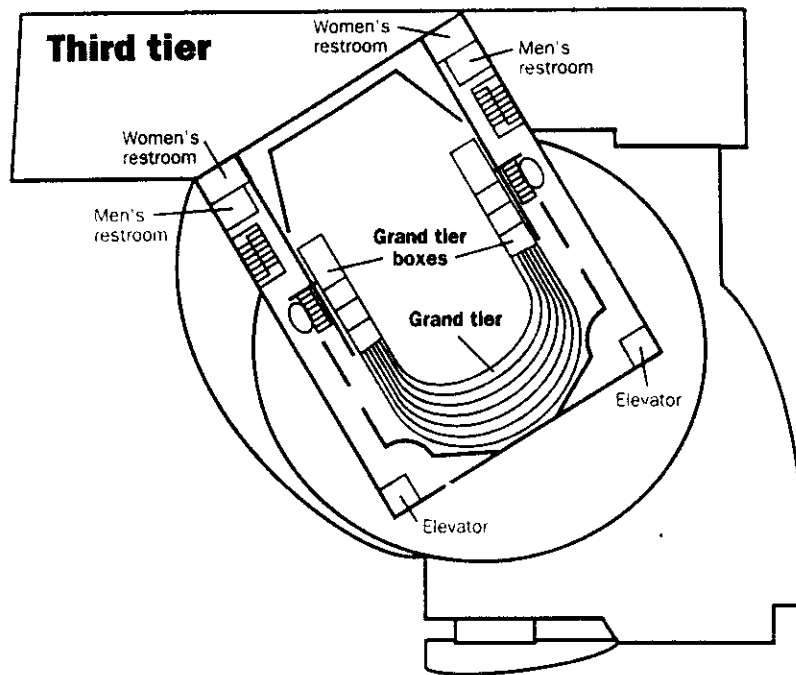


Figure 15 Seating Area - Third Tier
(Dallas Times Herald)

CHAPTER IV

INTERIOR SPACES ACCOMMODATING TO THE MUSICIANS

The parts of the 1981 Draft Brief which set out the criteria for the interior spaces accommodating the musicians was based on a survey of members of the orchestra. The musicians were more concerned with what was wanted in the spaces, such as particular facilities and the backstage desires, rather than the acoustics. However, since the latter does concern the musicians, their comments will be noted. The special areas for the musicians, designated as back-of-house, are divided into four main spaces: the stage, the general backstage areas, the music director's space, and the musicians' areas.

Stage

The criteria, as seen in Appendix B, for the stage stated that the performance platform was to be designed for a 100-piece orchestra and a 250-member choir. The stage also had to be accessed from the dressing rooms, especially those of the conductor and guest artist. To

be considered was the resonance and durability of the flooring, the possibility of an orchestra pit, limited ability to change shape mechanically, plus a few other brief, non-specific items. A pipe organ was merely listed without any specific considerations. But there is a difference between the criteria of the Draft Brief and the existing building. The following is a description of the stage, uses of the stage, and musicians' responses to the canopy and acoustics of the concert hall.

The Eugene McDermott Concert Hall stage which is flat and fan-shaped, extends the width of the hall and is thirty-six feet deep. Johnson's philosophy is that the orchestra needs to be as compactly placed as possible for better onstage hearing which enhances the ability to play together.¹ The consensus of interviewed musicians was that the space was too shallow, forcing them into tight, somewhat confining, playing situations. Realizing that the Fair Park stage to which they were accustomed was so large that many times partitions were used to scale down the performing area, they stated Johnson was probably right and that they were adapting quickly.²

In order to prevent sound absorption, the stage had to be made of a hardwood. Made of maple, the stage is seven layers thick with a sound reflection material in between. As seen in Figure 17, under the right section

of the stage is a 500 square foot hollow area or "drum" to enhance bass resonance in the stringed cellos and double basses. However, according to Johnson, the use of risers which increases the stage's flexibility, deletes any positive effects which result from this hollow space.³

The risers themselves were often mentioned as a problem by the musicians. After performing at Fair Park on a flat stage, the musicians were not accustomed to performing on risers. The riser system is inflexible forcing the musicians to become flexible instead. The use of risers was an acoustical and artistic decision made by Johnson and Matta. The result is those stringed musicians located on the edge of the apron--the violins and fourth, fifth and sixth cello stands--must position themselves so that the risers do not restrict their side-to-side moving of the bow and then try to see the conductor.

Originally the stage plans called for a hydraulic lift system to carry the heaviest instruments from the basement to the upper most riser.⁴ Because of the expense, the system was deleted. Now, the performers themselves must carry their instruments up to the riser which is six feet above the conductor.

Concerning the performance of musicians, according to Johnson, the ability to see aids the ability to hear.⁵

Due to the usage of the risers, there is plenty of vertical room allowing adequate sight-lines between musicians and conductor. The percussion section on the upper most risers have been able to lower their music stands because of looking down at the conductor instead of having a high stand to look under due to a flat performing floor as was their experience.

The performers share space with the patrons. Percussionist Doug Howard made the comment that he had eye contact for the first time ever with a member of the audience and called it "an amazing thing." He continued: "You feel like communication is going on...and that's what it's all about." ⁶ This sharing of space plus the extraordinarily sensitive acoustics of the hall makes the performers feel that the focus is on them.

The sound the musicians hear on stage is quite different from that heard by the audience in the hall. The music on stage is louder, less well blended, and not subject to the same standards of judgement as out in the hall. Around the back of the orchestra on the front of the choral terrace, are solid doors. These doors, which are faced with grid panels covered with scrim--a cotton or linen fabric of widely spaced weave--open and close to control sound on the stage in the same manner as the reverberation chamber controls sound in the hall.

The Choral Terrace is a raised area on the stage behind and to the sides of the orchestra. Members of the Dallas Symphony Chorus can hear the orchestra very well because the elevated seating allows a clear vision of the conductor. The singers can hear themselves even at the most pianissimo level. Squeezed into their space at Fair Park, the chorus, on the McDermott stage, has had to accustom themselves to the long distance from stage left to stage right.

Acoustical adjustability can be achieved for particular works by performance time with the movement of the canopy, the positioning of the reverberation chamber doors and the arrangement of acoustical curtains. Also from the conductor's standpoint, there can be a controlling of the selections of works to be performed. However, in the amount of time the conductor takes to wipe his brow or take a bow, changes to some settings can be made. The ceiling design above the musicians' stage, which is the canopy, allows not only the musicians to hear themselves as well as each other, but also allows the conductor to hear the musicians. Since the hall's opening there have been changes made daily in both the canopy position and the doors of the reverberation chamber. The musicians can hear and literally feel the change of any acoustical member. Melvin Baer, fifth

chair violinist, has the impression that the canopy is four to five feet lower than originally thought was needed.⁷ There is no electronic enhancement in the concert hall.

The prime difference between this and other halls is due to what Johnson refers to as audible tail.⁸ It takes six seconds for a played note to die away. But the impressive element is that this feature does not compromise the clarity of the hall. Between the stage and the ceiling of the hall is 200,000 square feet of air space. This, in combination with the canopy which keeps the sound down, produces this audible tail. The musicians are greatly impressed with the very evident audible tail which is not gained at the expense of clarity.

The musicians are also pleased with the hall sound.⁹ The hall produces a warmer, less brilliant and darker sound than most new halls which are built to typify the clean and clear sound of a compact disc. This hall produces a richness through its elegant and intimate sound and ambience, which force one to acknowledge that it is an actual performance not a recording.

Although the criteria is ambiguous in the uses for the stage, it can be adapted for recording purposes. The first and second rows of the chorus seating are portable

and can be moved through a door which exists under the third and fourth rows. This produces a large flat area necessary for recording.

In a media conference after three performances in the hall, Matta called the space, "...a true temple which projects to the world that Dallas was indeed a cosmopolitan city."¹⁰ Howard stated, "[that we were] hearing ourselves in a way we were unaccustomed to in this city."¹¹

The canopy contains 400 lights. These provide lighting for the orchestra as well as for solo performers. On the afternoon of the first public performance in the hall, workers were on hands and knees with steel wool in an attempt to dull a highly polished stage which was feared to be too reflective under all the lights.

As noted in the criteria, no specific requirements for an organ were listed. However, in order to hold its own against the sound of the orchestra, the organ had to be a large instrument. At Fair Park when an organ was required, an electric organ was used. It proved to be embarrassing because it sounded just exactly like it was made to sound.

All but filling the wall behind the stage, the organ includes sixty-nine show pipes. In all, the organ

contains 4,463 pipes which are made of raw lead and tin, and is arranged in seven divisions: La Resonance, Great, Positive, Swell, Pedal, Solo and Pedal Solo. Being built by C.B. Fisk of Gloucester, Massachusetts, the organ itself is fifty feet tall, forty-four feet wide and six feet twenty-three inches in depth. It contains four manual keyboards, each with sixty-one keys made of ebony and cow bone, and one pedal board with thirty-two keys. To achieve a broader dimension of sound, two pipe divisions can be played either on manual or pedal keyboards.

It will be installed during 1991, after which an organ recital series is being planned. Because very few halls have pipe organs, the presence of this one will be impressive to the international musical community.

General Backstage Areas

As per the 1981 Draft Brief, as seen in Appendix B, the general backstage areas include: a first aid station, viewing booths, backstage corridor as well as wider corridors to accommodate larger instruments, storage areas, lockers, cabinets, padding shelving and built-in lockers around the stage and a Green Room.

Orchestra members enter the Center from the 150 assigned-spaced employee and musicians' underground

parking garage. That entrance, which is the security lobby, is on the north end of the underground drop-off alcove for patrons and can be seen through glass suspended doors. Passing through this area to reach the elevators which go to the upper floors of the four-storied section of the building, will be the individual mail boxes, message center and official bulletin board.

The building contains no first aid station anywhere in the center. Building management stated first aid equipment was available upon request for both musicians and patrons, and a call to paramedics would be made if that was necessary. There are no viewing booths.

A backstage corridor, which has thirteen equally spaced windows, exists connecting the four storied northeast corner with the extension of the first floor on the northwest. As indicated in the criteria in Appendix B, extra wide corridors were needed for the movement of large instruments. These corridors are located between the percussion storage, stage and loading elevator, all of which are located in the northwest section of the building, as seen in Figure 20.

Even the faintest backstage sounds can be heard in the concert hall; consequently extreme caution must be exercised during a performance. Therefore, backstage

storage will be minimal. Storage for risers and orchestra traveling trunks will be on the lower level.

There is a locker room at stage left for one piano. Since opening, there has been the installation of lockers, also at stage left, for double basses. More lockers and cabinets for instrument storage will be built as well as shelving to be used for opening instrument cases such as violins, flutes and other smaller instruments.

The Green Room, whose function is primarily for after-concert gatherings where selected patrons can meet the conductor, visiting conductor, and/or visiting artists, is located on the ground level of the four-storied northeast end of the building. There are two sets of double doors in the room: one which provides access to the east lobby and one opens to the corridor directly across from the music directors' suite. Because it is not accessible to the kitchen, the Green Room has a hidden pantry which houses a small refrigerator and a bar sink.

Leonard Stone, Executive Director of the DSO, awarded Trisha Wilson & Associates the design job of the Green Room in April 1989. A local Dallas firm involved with the Dallas Symphony Show houses--a method of fund raising by the DSA--over the past several years, Trisha Wilson

has a staff of fifty with branch offices in New York City and Los Angeles.

Carolyn Miller was placed in charge of the co-ordination of the Green Room which is only twenty-six feet by twenty-four feet. From the beginning, Miller was working within a color restriction because the terracotta carpet and makore paneling used in the McDermott Concert Hall was to be used in this space as per the architect's choice. By the sharing of color and material, a connection to the space was created with the concert hall. Miller did describe the paneling as being very rich and impressive.¹²

Because of the function of the Green Room, Miller's major concern was making the room a low contrast space. For this reason, the room serves as a backdrop to the personalities. To compensate for the room's size, Miller made two major decisions; selection of few furniture pieces and maintaining a neutral color scheme.

Therefore, the room will have only one seating area which will be comprised of a two-cushioned sofa and a cocktail table flanked by upholstery chairs and end tables. Diagonally opposite from this grouping is to be placed a writing table with two armchairs. All wood furniture has a black laquer finish with black granite top, except for the metal cocktail table which has rojo

alacante marble, also used in the concert hall, for its surface. Furniture is presently being stored awaiting the finishing of the space which should be by the end of 1989.

Miller worked closest to the Meyersons and to Stone throughout the project. Once the design was completed three separate presentations were conducted: one, by Miller to Ted Amberg, I.M. Pei on-site representative; another, by Jim Rimelspach, Design Director of Trisha Wilson & Associates, to Margaret McDermott, widow of Eugene McDermott to whom the hall was named; and, thirdly, by Wilson, Rimelspach and Miller to Stone.¹³

Music Director's Space

The criteria requested that the music director's dressing room, which could be a suite with his office, be placed with a degree of seclusion from the orchestra, but near or adjacent to the Green Room, the music library, and a nonpublic entrance and exit to the building. Ideally, the dressing room should be suitably furnished and equipped with a piano, have a full washroom, and an ante-room. In addition, Eduardo Matta, director of the DSO, had several requirements concerning his suite: no full-fledged desk, a comfortable sofa large enough to lie down on and nap, a small secretarial space, and a baby grand piano.

The space for this room actually exists directly accessible to a nonpublic door and is across the corridor from the Green Room. Having complete washroom facilities with a shower, the room serves as both office and dressing room. There is no ante-room.

Local designer Richard Trimble was hired to design this space as well as the musicians' lounge and the guest artist and guest conductor suites. Involved for several years with the Dallas Symphony Showhouse, Trimble is presently serving on the Board of Governors of the Dallas Symphony Associations. Abbey Suckel, design assistant to Charles Young was Trimble's primary contact with the Pei firm.

Working within the criteria, Trimble's approach to the space was to maintain the integrity established by the interior of the concert hall. The color scheme of the director's suite carries through the terracotta of the hall and is accented by neutrals and wood tones. The walls are painted cream with maple stripped flooring. The sofa, which Trimble designed himself, is an overscaled sectional covered in a neutral leather. Both the cocktail table and Matta's table desk are in rippen mahogany, a reddish tinted wood. A small table and chair will be used by Matta's secretary for dictation and note-taking purposes only. Trimble feels the space is

too small to handle a baby grand piano, and Matta, so far, appears to be satisfied with the idea of having only a spinet; that is what he has had in the past.¹⁴ The doorway into the space is a single doorway which prohibits the moving of large instruments into the room. However if the room were large enough to accommodate a baby grand, arrangement could be made to move one into the room. At present, the floor is covered with terracotta carpet because although the maple flooring arrived, it did not satisfy Trimble's specifications.¹⁵

Musicians' Space

Whereas the criteria of the stage was general, that concerning the musicians' space became specific. The musicians' extensive requirements filled nine pages of the 1981 Draft Brief, as seen in Appendix B. This criteria included: restrooms near both sides of the stage, a musicians' lounge with a kitchenette, dressing rooms which were divided into six categories each with its own specifications and quick change rooms located near the stage, three various sized warm-up/tune-up rooms, four rooms for sectional practicing, twelve to over twenty private practice rooms, and a rehearsal hall as well as a library and a percussion storage room.

The actual building did not fulfill all of the needs

of the musicians. This is the part of the criteria which was slighted the most. It appears the primary concern for the entire space was the patron and not the musician.

As seen in Figure 20, the building does provide restrooms located on the left side of the stage only. These facilities are shared by the musicians' lounge which is across the hall.

The musicians' lounge, which is in the northwest corner of the Meyerson Center, is at the opposite end as well as on a different level from the dressing rooms and library and is connected to them by the thirteen windowed backstage corridor. From the exterior of the building, the lounge is the extension of the first floor which creates the cul-de-sac on the Pearl Street side. Natural light is an important feature of this room just as it is in the public spaces. The musicians on break from rehearsals can look out at the Betty P. Marcus Park from floor to ceiling glass panels facing south. The feeling of expanded space is continued in this southwest corner of the room with a glass suspended door opening out into the park. At the opposite end, which is the room's double-doored entrance, is a band of skylights or lenses in an elevated section of the ceiling which also allows natural light into the space.

Again in this space, the basic colors are taken from

the concert hall. Within the terracotta carpeted floors and cream painted walls, three conversational areas will be placed, each composed of a sofa with two chairs. Three tables, of Trimble's design, will be used for dining and game and card playing purposes. These tables will be placed in close proximity to the kitchenette which provides all necessities. The space will be equipped with several vending machines and a bill changer. There will be an official bulletin board for memos, notices and nonpublic communications. Considerations for a pool table in the space will be studied as it becomes apparent as to how the room will be actually used by the musicians. Furniture is in storage awaiting the finishing of the space which should be by the end of 1989.¹⁶

On the second floor are located two dressing rooms for solo performers, two large dressing rooms, and across the hall on the same corridor, two dressing room with lockers. Full washroom facilities are provided in the solo dressing rooms as well as in the two larger non-locker rooms. In the men's locker dressing room there are five sinks, two showers, and three stalls. The women's dressing room also has two showers, but has six sinks and six stalls.

In this corridor are two public telephones and a

single water fountain. All dressing rooms have a single doorway. There is no smoking allowed anywhere in the Meyerson Symphony Center. There is no soundproofing in these rooms for two reasons: expense and being acoustically separated from the concert hall. There are no quick-change rooms.

As indicated in Figure 21, adjacent to Matta's suite and toward the direction of the concert hall, is the concert master's dressing room. Next to that is the guest conductor's suite and the one guest artist suite. All three of these spaces have single doorway entries and complete washroom facilities with a shower. As of this writing, only leather sofas, have been selected for the guest suites.

At present, there is no provision for warm-up/tune-up rooms or private small practice rooms. There is no rehearsal hall.

The music library is located on the ground level near the stage with easy access for both conductor and musicians. Adjacent to the Green Room, a library was built, but at the present is full of boxes of unpacked scores, used furniture and has no copy machine.

The percussion storage is located directly behind the musicians' lounge. At stage level and near the loading elevator, the room's double doorway and

surrounding hallways accommodate the larger instruments which use this space. Not soundproof, this room will also double as a percussion warm-up room.

For the chorus, a space directly under the concert hall in the lower level will be finished out to be used as a gathering room prior to performance as well as for rehearsals. The only other specific accommodation for the chorus in the building is the inclusion of restrooms on the loge level near the entrance to the choral terrace.

Endnotes

1. Russell Johnson, interview by author, 6 September 1989, Dallas, Meyerson Symphony Center, Dallas.
2. Telephone interviews with Chris Runk, John Kitzman, Melvin Baer, Doug Howard and Carmen Chapa.
3. Russell Johnson, tour of the concert hall, 8 September 1989, Dallas, Meyerson Symphony Center, Dallas.
4. John Kitzman, interview by author, 20, September 1989.
5. Russell Johnson, tour of the concert hall.
6. Doug Howard, interview by author, 21, September 1989.
7. Melvin Baer, interview by author, 20 September 1989.
8. Russell Johnson, interview.
9. Interviews with Baer, Howard, Runk and Kitzman.
10. Eduardo Matta, media luncheon, Dallas, 10 September, 1989, Sheraton, Dallas.
11. Howard, interview.
12. Carolyn Miller, interview by author, 11 September 1989, Dallas, Trisha Wilson & Associates, Dallas.
13. Actual design time was thirty hours. With the exception of the two desk chairs which were acquired at cost, all materials and furniture were donated.
14. Richard Trimble, interview by author, 2 September 1989, Dallas.
15. All furniture is in storage awaiting the finishing of the space which should be by the end of 1989.
16. Forty hours of design time was donated. The furniture was paid for from raised funds by the DSA.

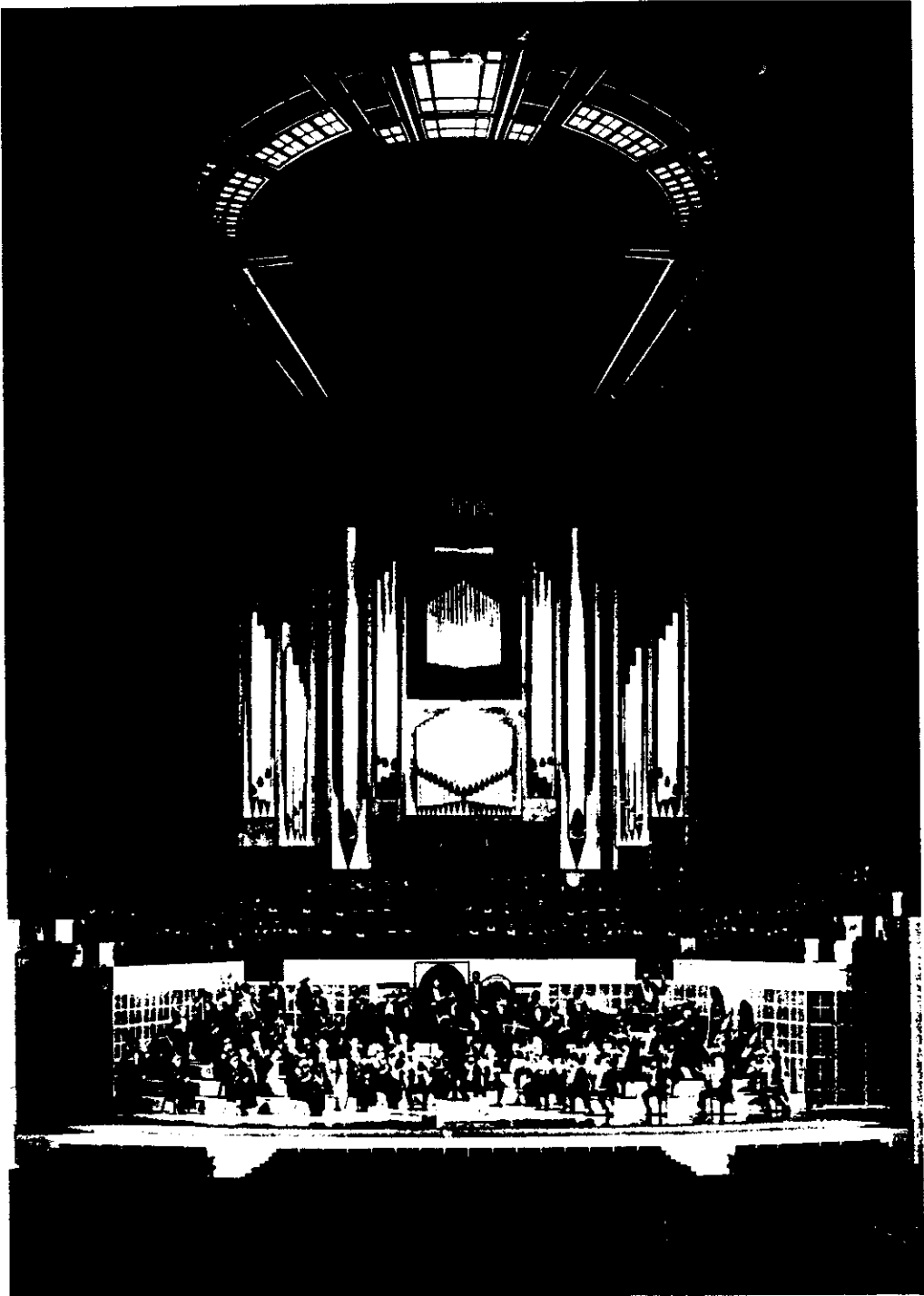


Figure 16 Stage
(Dallas Symphony Association)

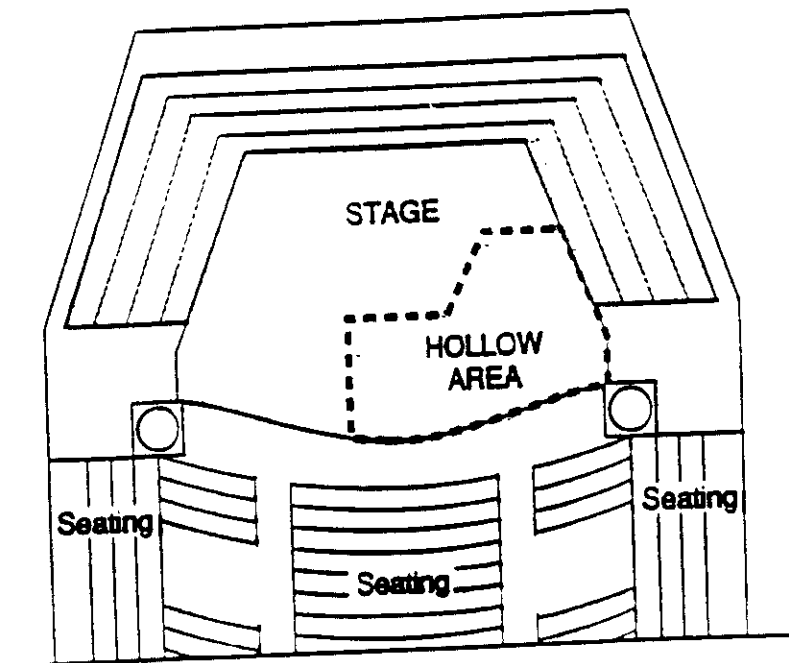


Figure 17 Diagrammatic Representation of the Stage
(Dallas Morning News)

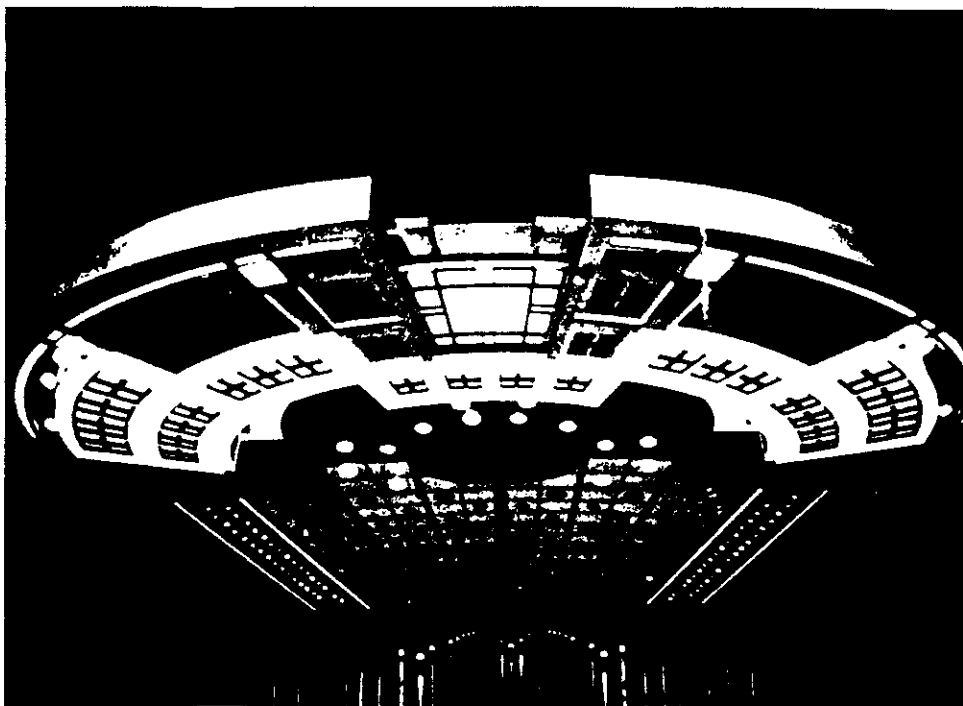


Figure 18 Canopy Lights
(Author's Photograph)

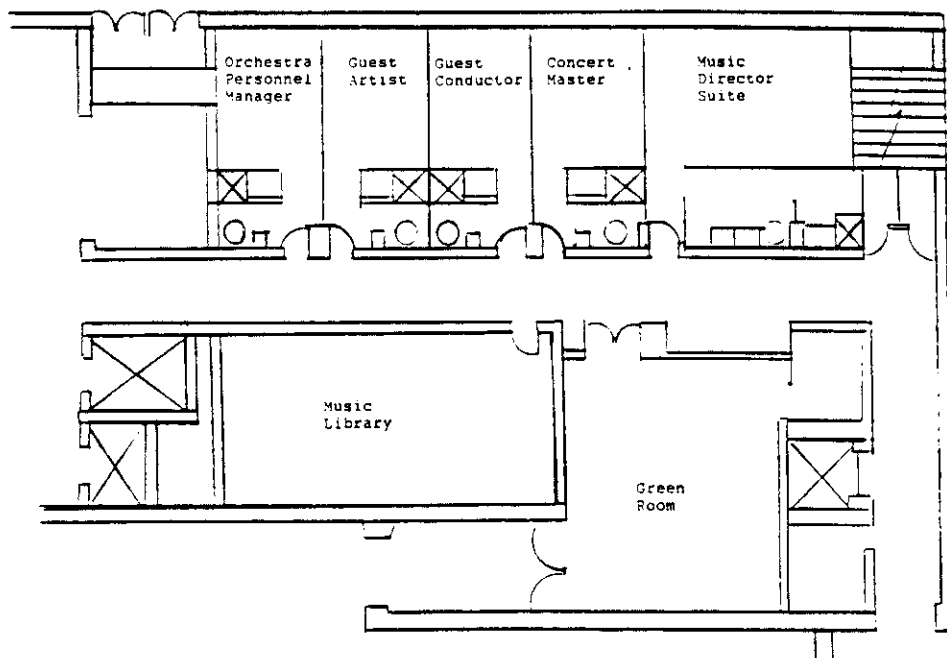


Figure 19 Floor Plan of the Northeast Corner
Ground Level
(Author's Material)

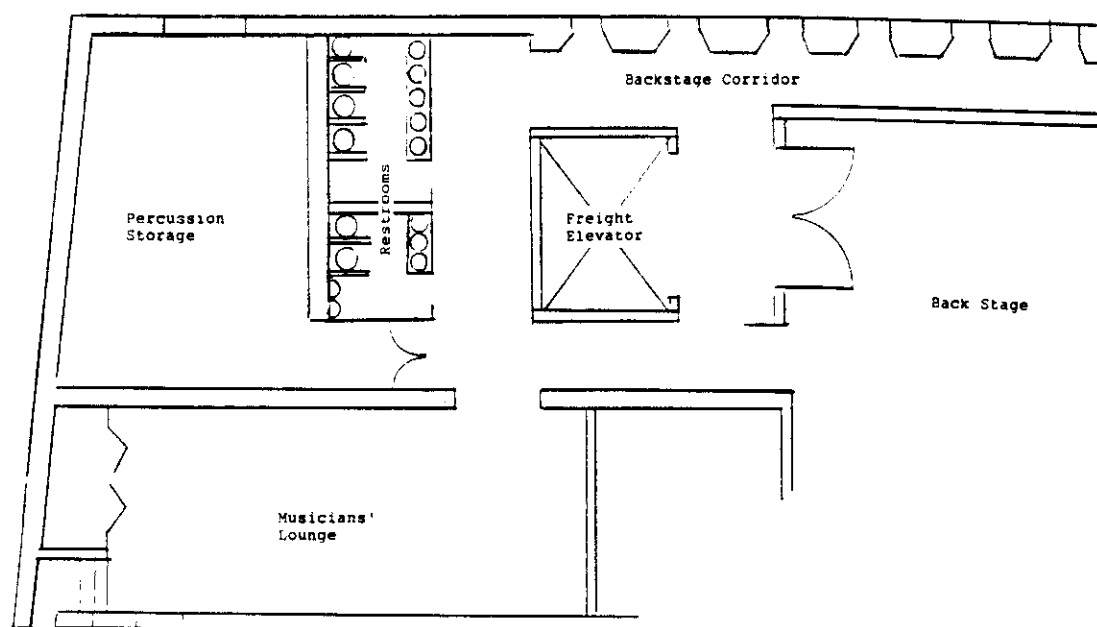


Figure 20 Floor Plan of the Northwest Corner
(Author's Material)

CHAPTER V

INTERIOR SPACES ACCOMMODATING THE ADMINISTRATIVE STAFF

The primary goal of orchestra administration was the unification of a scattered staff. The operation of the Dallas Symphony Association took place in four different buildings: Fair Park Music Hall, The Crescent, Trammel Crow Tower, and NorthPark Mall.

The 1981 Draft Brief for the Orchestra Management Office, which is included in the area designated as back-of-house, included: a reception area, office space for the Executive Director and Administrative Director as well as thirty to forty staff members, two separate conference rooms, a kitchen, office restrooms located near the offices, and drinking fountains.

For the interior design of the administrative space, the Dallas Symphony Association selected Donna Vaughan & Associates. I.M. Pei personally approved the choice, and the job was awarded in late 1987. Vaughan had worked with Pei on such previous Dallas projects as One Dallas Center (1978) and Fountain Place (1982). Senior Designer Joe Pereira, who comes from a long line of architects and

had been with Donna Vaughan for three and a half years, was in charge of the design. According to Pereira, the Dallas Symphony Association was the ideal client in that they themselves were creative as well as receptive.¹ Given a great deal of design freedom, Pereira received approval of his first scheme. Pereira's contact throughout the project was Ted Amberg, I.M. Pei on-site representative. However, his main connection was with the construction firm of J.W. Bateson and Company.

Pereira was given an area of space in the north corner of the Meyerson Symphony Center. The 10,000 square feet, designated as the Administrative Area, is equally divided between the third and fourth floors. This does not include the Board Room located on the fourth floor. The administrative offices are reached by elevator from the 150 assigned-spaced employee and musicians' underground parking garage directly under the concert hall.

With a copy of the general plans of the center in hand, Pereira began to conceptualize the space. Pereira stated that he was most entranced by the angle of the hall itself and began to study it formulating the bases for his design.² Measuring the angle of the hall, Pereira found it to be turned $26\frac{1}{2}^{\circ}$ from its base. Using this measurement, all offices were turned to this degree within the straight rectangular space Pereira was given.

Also, Pereira stated that he wanted the space to be more than just a new office for the some fifty employees.³ His concern was to create a dramatic, prestigious space that would be a reflection of the grandness of the hall itself. But at the same time, Pereira realized that in no way could it compete with the materials or the details of the hall due to the purely economic factor.

Besides the concern of maintaining a relationship of a shared space with the opulence of the hall, Pereira was concerned with light. Unlike the hall which has no natural light, Pereira's goal was to get as much natural light into the space as possible.⁴ And that proved to be the challenge, for on each floor there are only seven windows, all of which face north.

Selected as the Executive area, the upper level also includes the Development and Finance Departments. Marketing and Public Relations, computer, tele-marketing and operations departments are on level three. On both floors, the space which connects the angle of the concert hall to the administrative space contains a reception area where elevators, restroom facilities and drinking fountains are located. The space is open to the second floor as well as to the exterior by the glass which serves as a relief from the masonry of the north wall.

Throughout both areas carpet and walls are grey.

According to Pereira the intent was to create a space in which the environment was to be preceeded by the people in it.⁵ Unlike the concert hall with its detailed and varied interests within a basically flat walled space, the administrative area, as seen in Figures 21 and 22, is the opposite. Pereira contends that the walls in the space, being placed on the angle, are sculptural and active; however, through the choice of color, the physical aspect of the walls are minimized.⁶

Each floor has its own conference room. On the executive floor, this room, which connects to the Executive Director's cornered suite, can be entered through a glass door from the waiting area. The larger of the two conference rooms is located on the third floor where the offices are more or less centered around it.

Located in the center of the fourth floor is the executive waiting area. The space is flooded with natural light which enters through a twelve foot by twenty-four foot pyramid shaped skylight, recalling the "lenses" in the public spaces of the center. The area is defined by two short columns on the east side which is part of a built-in planter in front of the suspended glass wall and door of the conference room, and a full-length column at the opposite end. Inlaid St. Thomas marble, which also defines the area, is used in a

graphic interpretation of the square within a circle. The inspiration for this design was an aerial view of the center.

To optimize the light on both floors, Pereira's design included two major factors: glass walls on the fronts of those offices which did have windows, and three quarter walls on those offices throughout the remainder of the space. The fourth floor--in combination with the large skylight, glass walls and doors--is very open and light yet quite and elegant in the executive waiting area. The elimination of the three-quarter walls, due to requests of more privacy by the occupants, is not missed. Original renderings also include a clerestory on the wall of the Director of Finance's office which is directly across from the windowed offices. This wall is seen from the executive waiting area and a clerestory would have been not only visually attractive but also very indicative of the design. However, this element was deleted due to economic factors.

On the third floor, the glass walls were eliminated due to budgetary reasons; consequently, Pereira was forced to increase the use of ceiling fixtures in order to have adequate light. The three-quarter walls are a design element which was used on this floor.

All wood furniture including desks and task oriented chairs to be used on both floors will be of rosewood. Pereira chose this warm, reddish-tone wood to serve as an accent within the entire space. Upholstery pieces will continue the rich warm red tones of the burgundy veining in the marble of the executive waiting area.

Instead of the multiple interior finishes and detailing found in the concert hall, art is used for interest on the fourth floor. Due to the staggering of the walls, there exists, and purposely so, adequate wall space for the hanging of art. Pereira sees office space as a kinetic space with people always moving about in order to do the work required.⁷ Therefore, every two months the art will be rotated to provide a fresh look. Local gallery owner Beverly Gordon is contracted to select the art. At first only art by Texas artists was to be placed in the space. However, to follow the wider appeal of the center both architecturally and musically, the decision was made to show international artists with an emphasis on Texas artists.

In the plan, as indicated in Figures 21 and 22, both floors were to have a kitchen with the Executive Office having a somewhat semiprivate kitchen which would also service the adjoining conference room. There is an executive office kitchen, but the fourth floor space

designated for the kitchen was taken over by the Director of Finance and assistant. Therefore, the third-level kitchen must accommodate all staff. A small room with a refrigerator, dishwasher, trash compactor, microwave and a limited number of cabinets, it has no seating area.

On August 29, the staff moved into the space. The reactions were generally positive except for one disagreement on who was scheduled to have a particular windowed office. Of course, that was to be expected among lateral co-workers. The staff was very pleased and excited at being housed under one roof.⁸

The furniture moved into the space came from the various office locations. Administrator Director Fred Hoster, whose office had doubled in size, commented that there was enough space left over for a king-sized bed.⁹ Ordered by Pereira, the furniture to be used in the space, which is being purchased from donations and at cost from Knoll, will be delivered sometime in December 1989. This furniture should bring to an end the complaints made by a staff member that the right angled furniture, particularly filing cabinets, did not fit in the 26½° angled offices.¹⁰ The new desks will have built-in vertical files.

The Executive Director suite is scheduled to have a private washroom. However, at this time it is still raw space. Completion date will depend on funds.

Also yet to come is the centerpiece for the executive waiting area, a sculpture entitled Piping Hot Jazz by Texan artist Stanley E. Marcus. This piece, which is eighty-four inches by twenty-seven inches by fifteen inches, has a swirling sensation of welded cast aluminum out of which hands appear holding a French horn.

Since the move into the new space, changes have already occurred in the usage of some areas. On the third floor the copier and file room was commandeered by Matta's secretary who decided that it was essential to her work. The copier was placed against a wall in the traffic path; there has been no decision made as to where to locate the files. The changes and relocations within the space began the day the staff moved into their new quarters.

Endnotes

1. Joe Pereira, interview by author, 22 June 1989, Dallas, Donna Vaughan & Associates, Dallas.
2. Ibid.
3. Pereira, interview by author, 10 September 1989, Dallas, Meyerson Symphony Center, Dallas.
4. Pereira, interview 22 June 1989.
5. Ibid.
6. Ibid.
7. Ibid.
8. Comments obtained by author 29 August 1989.
9. Fred Hoster, interview by author, 29 August 1989, Dallas, Meyerson Symphony Center, Dallas.
10. Obtained 29 August 1989, from a staff member who prefers anonymity.

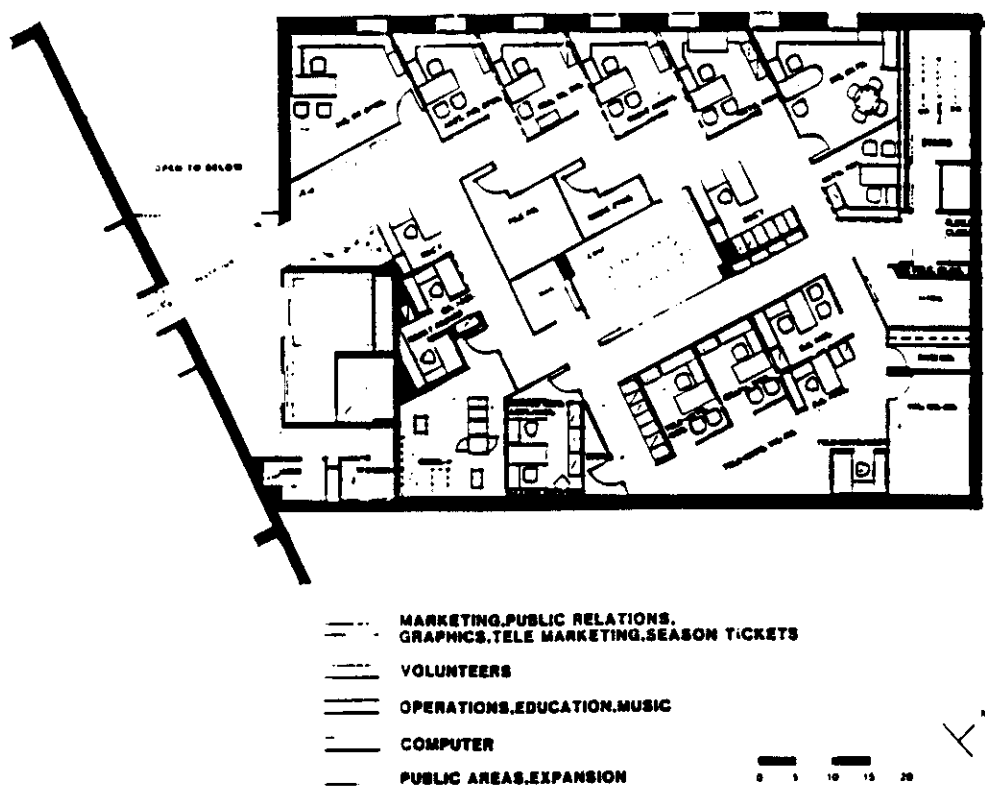


Figure 21 Administrative Area Third Floor
(Donna Vaughan & Associates)

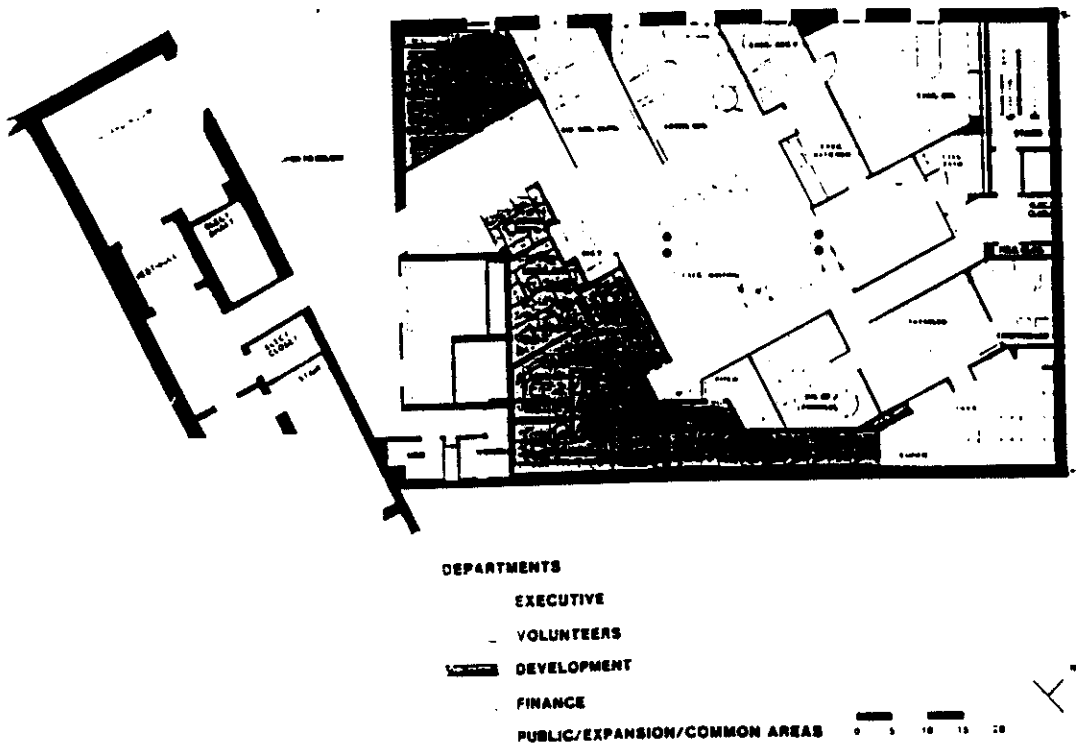


Figure 22 Administrative Area Fourth Floor
(Donnas Vaughan & Associates)

CHAPTER VI

CONCLUSION

According to Julian Long in "Oh Lord, Won't You Build Me A Symphony Hall?", "As Americans, we are unsure what we are building for, because we are unsure what value we place upon the arts. We are still a people very much on the make, impelled and afflicted by upward mobility, unsure of our goals,"¹

The Dallas Symphony Association knew what they wanted in a concert hall and they set out to get it. Their selection of I.M. Pei as architect netted them not only a world-stature building design but also a world-stature concert hall. Their selection of acoustician Russell Johnson proved a somewhat traditional approach to acoustics with an edge of innovation. That is just what they wanted.

Due to technological advances in building materials and techniques around the turn of the twentieth century, the general trend has been away from the rectangular hall. A period of experimentation in size, shape and acoustics continues through particular schools. However, the Eugene McDermott Concert Hall is steeped in an historical past

based on its acoustical success. Built in what has become known as the Leipzig tradition--the rectangular shoebox-shaped hall with curved interior walls having a narrow width and high ceiling--the concert hall has a platform at one end with seating around the perimeter. The stage is again a part of the audience, and unlike the contemporary circular designs, has the acoustical balance needed by the musicians in the presence of the back wall. There is direct, immediate contact, both acoustically and visually, between the musicians and the patrons. In size it accommodates 2066; 134 less than the Concertgebouw in Amsterdam and 400 more than the Musikerveinssaal in Vienna, the hall's models.

Visually, Young was influenced by the glory in materials, color, and ornamentation of nineteenth-century European halls which give the space a sense of warmth and permanence. The intimate feel of aged wood, soft light, and the subdued color of the terracotta upholstery of the seating and the blue of the plaster ceiling prepares one to listen to symphonic music in a room with the appearance of great permanence.

Despite the feeling of age within the concert hall, in many ways it is revolutionary, both in its means to acquire the best of acoustics and the best of aesthetics. Although it does not look high tech, computers plotted the ideal

configuration of the concert hall. Designed as a place for the performance of symphonic music, the room itself is an instrument. Within the rectangular shape are three mechanically driven acoustical devices Johnson has designed for the space: the canopy, the ceiling-height reverberation chamber, and the double-hung retractable curtains. Because of the acoustical advantage of a hard-surfaced floor, terrazzo was used in the concert hall; a revolutionary step away from the carpets of most twentieth-century halls.

Pei's public spaces with their vistas and various view points are likened to Baroque architecture but also present a parallel to the acoustical ideal that sound is better in a room with slight curves and undulating surfaces. The sense of festive occasion and the adage "to see and be seen" is expressed in the grand staircase as well as the multiple and opened audience gathering areas. The openness of the highly energetic and sound frenzy of these spaces gives way to the hermetic, compleplative and controlled, both acoustically and visually, of the concert hall.

Robert Commanday in the San Francisco Chronicle wrote, "If the musical and architectural success count, it's well worth it, for decades to come in Dallas and as a national example. America can build a great concert hall....Dallas has gone and really done it...produced a symphony hall that may turn out to rank with the best." ²

Willard Speigleman commented, "...the Meyerson may very well be the last great American piece of architecture for music for a long time to come."³

A major asset of the center is its full accessibility for the handicapped. Concern for these special patrons begins even before they enter the center. The Arts District Garage has reserved parking spaces available for them on five of the six levels. The center's underground driveway/drop-off is ramped and elevators provide access to all levels of the building. Wheelchair positions are available in virtually all areas of the audience chamber in all price ranges. Eight fixed-in-place audience seats are designed so that disabled persons can move easily from their wheelchair into regular seats if they choose. Unique to the Meyerson Symphony Center, this was designed by Artec Consultants.

Moreover, the center is designed with sensitivity for the visually impaired as well. Signage is tactile. Elevator signage appears in Braille and a bell-ring indicator has been provided to announce the various floor levels. For those patrons who are hearing impaired, a state-of-the-art infrared hearing system is available.

However, there are several issues which need to be addressed concerning the spaces which accommodate the patron as well as those accommodating to the musicians and to the

administrative staff. Within the lobby areas, there is difficulty in one's ability to maneuver. This is due to the lightness in color of both the carpet and limestone flooring in combination with the even lighting which produces no shadows. Ushers, who are frequently placed near the main floor entrance steps, request patrons to watch their footing. Also, the lower steps of the grand staircase, which are circular and whose surface matches the limestone flooring, have no balustrade and could prove to be unsafe.

Not all patrons' needs were met in a practical manner. For example, far from being handicapped, not all music enthusiasts are capable of climbing the stairways because of age or health. Each elevator at the center can handle comfortably one wheelchair with two standing patrons or a small group of patrons. Besides the inconvenience of waiting for the elevator, lines form which complicate the movement of people within the space.

Inside the concert hall itself, several problems are encountered. Patrons' needs were ignored as the fixed center-seats in the Dress Circle and the Grand Tier are difficult to reach due to the absence of multiple aisles. Also, the leg-room is very limited in these tiers. The concern of the Dallas Symphony Association, from the very beginning of this project, which is supported by the Draft Brief, was the acoustical properties of the concert hall.

The public must play catch-up with this group's interest in obtaining an acoustically world-class hall in which to hear music instead of obtaining the comforts of a living room easy chair. However, one does pay for a performance with the anticipation of seeing as well as hearing the musicians. Even with movable chairs, the box seating on the parallel sides on the upper most tiers has a limited view of the orchestra: only about one fourth to one third of the total stage area can be seen. This is a great disappointment to ticket-holders since these are not inexpensive seats.

The biggest losers in the concert hall were the musicians. Although their desires appear in the criteria, they were slighted: no rehearsal room, no warm-up rooms, not one private practice room, and no lift for heavy instruments onto the risers. When the choice was between travertine for the lobby floors or an extremely useful aid for the musicians, the flooring came first. The center was definitely built with the patron in mind. Unfortunately, it is at the expense of the musicians who are left practicing in vacant solo dressing rooms and guest suites hoping that in the future an area in the basement will be converted into small practice rooms. But that space could easily be used for more storage.

The administrative area is visually appealing, and it is important to have the entire staff housed together. But

within the three weeks that the staff has occupied the space it is evident that at some point in the future--perhaps the near future, it could prove to be too tight. Right now, these two floors could provide the space necessary for private practice rooms so desperately needed by the musicians, if the administrative staff had to abandon them by moving to another location large enough to accommodate that entire staff.

As Morton Meyerson stated, "a building of permanence for the enjoyment of music not only by us, but by those in the twenty-first century...our grandchildren's grandchildren...was the desire [of the Dallas Symphony Association and the Smaller Unit]."⁴ We know its acoustics are good, but is the building's space adequate for the ages to come? It will be interesting to reappraise the space and its usage in future years.

Endnotes

1. Julian Long, "Oh Lord, Won't You Build Me A Symphony Hall?" Symphony Magazine, December 1983, 35.
2. Robert Commanday, "Dallas' Symphony Hall," San Francisco Chronicle, 19 September 1989.
3. Speigelman, 14 [A].
4. Morton Meyerson, media luncheon, 8 September 1989, Dallas, Fairmont Hotel, Dallas.

APPENDIX A
DALLAS CITY ORDINANCE NUMBER 17710

830596

2/8/83

ORDINANCE NO. 17710

An Ordinance amending CHAPTER 51, "DALLAS DEVELOPMENT CODE," of the Dallas City Code, as amended, and Ordinance No. 17340, as amended; establishing Planned Development District Nos. 145 and 145-H/18 (the Dallas Arts District) for certain property presently zoned Central Area-1 and Central Area-1 Historic District No. 18; providing special conditions; providing a penalty not to exceed \$200; providing a saving clause; providing a severability clause; and providing an effective date.

WHEREAS, the City Plan Commission and the City Council of the City of Dallas find that the property described in Exhibit A, attached to and made a part of this ordinance, is the site for the Dallas Arts District and an area of great cultural importance to the citizens of the city; and

WHEREAS, the City Plan Commission and the City Council, in compliance with the Dallas City Charter, State Law, and applicable ordinances of the city, have given the required notices and have held the required public hearings regarding the rezoning of the property described in Exhibit A; and

WHEREAS, the City Council finds that it is in the public interest to grant the Dallas Arts District, subject to the certain conditions; Now, Therefore,

17710

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BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

SECTION 1. That CHAPTER 51, "DALLAS DEVELOPMENT CODE," of the Dallas City Code, as amended, and Ordinance No. 17340, as amended, are hereby amended insofar as they apply to the property described in "Exhibit A," attached to and made a part of this ordinance. The portion of the property described below is presently zoned as Central Area-1 Historic District No. 18, to-wit:

Being all of Lot 5 in City Block 305, located at the east corner of Routh Street and Munger Avenue, fronting 174 feet on the northeast line of Routh Street and fronting 92 feet on the southeast line of Munger Avenue and containing 16,008 square feet of land.

That portion of the property is hereby designated as Planned Development District No. 145-H/18. The remainder of the property is presently zoned as a Central Area-1 District, and is hereby designated as Planned Development District No. 145. All of the property described in "Exhibit A" shall be known as the Dallas Arts District.

SECTION 2. That the Dallas Arts District is granted upon the following conditions and subject to the following procedures:

(a) Development standards.

(1) Sasaki Plan: The Dallas Arts District Design Plan prepared by Sasaki Associates, Inc. in August, 1982 ("Sasaki Plan") shall serve as a guideline for development in the Dallas Arts District. The Sasaki Plan has been approved by the property owners and the city plan commission and is attached to and made a part of this ordinance as "Exhibit B."

(2) Uses Permitted: The following uses are the only uses permitted in the Dallas Arts District:

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- (A) Residential uses.
- (i) Multiple-family.
 - (ii) Hotel and motel.
- (B) Transportation uses.
- (i) Passenger bus station and terminal.
 - (ii) Bus passenger shelter.
 - (iii) Heliport.
 - (iv) Helistop.
 - (v) Railroad passenger station.
- (C) Community service uses.
- (i) Post office.
 - (ii) Community, welfare, or health center.
 - (iii) Day care center.
- (D) Medical uses.
- (i) Medical clinic.
 - (ii) Optical shop.
- (E) Religious uses.
- (i) Church.
 - (ii) Rectory.
 - (iii) Convent or monastery.
 - (iv) Establishment of a religious, charitable or philanthropic nature.
- (F) Educational uses.
- (i) Public, denominational or private school.
 - (ii) Institution for special education.
 - (iii) Business school.
 - (iv) Technical school.
 - (v) College, university or seminary.
 - (vi) Library, art gallery, or museum.
- (G) Recreation and entertainment uses.
- (i) Public park or playground.
 - (ii) Private recreation club or area.
 - (iii) Inside commercial amusement.
 - (iv) Theatre.
 - (v) Carnival or circus (temporary).
 - (vi) Wax museum.

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(H) Bar and restaurant uses.

- (i) Bar, lounge, or tavern.
- (ii) Restaurant without drive-in service.
- (iii) Restaurant with alcoholic beverages and/or entertainment.
- (iv) Private club.
- (v) Catering service.

(I) Professional, personal service, and custom crafts uses.

- (i) Office.
- (ii) Temporary construction or sales office.
- (iii) Bank or savings and loan office (without drive-in).
- (iv) Trade center.
- (v) Barber and beauty shop.
- (vi) Health studio.
- (vii) Custom cleaning shop.
- (viii) Self service laundry or dry cleaning.
- (ix) Laundry or cleaning pickup and receiving station.
- (x) Key shop.
- (xi) Shoe repair.
- (xii) Tailor, custom sewing, and millinery.
- (xiii) Travel bureau.
- (xiv) Broadcasting or recording studio.
- (xv) Instructional arts studio.
- (xvi) Handcrafted art work studio.
- (xvii) Handcraft bookbinding.
- (xviii) Photography studio.
- (xix) Safe deposit boxes.
- (xx) Commercial wedding chapel.

(J) Retail uses.

- (i) Antique shop.
- (ii) Retail food store.
- (iii) Bakery or confectionary shop.
- (iv) Book and stationary store.
- (v) Camera shop.
- (vi) Cigar, tobacco, and candy store.
- (vii) Clothing store.
- (viii) Drug store.
- (ix) Beverage store.
- (x) Florist store.
- (xi) Pet shop.
- (xii) Furniture store.

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- (xiii) Second hand store.
- (xiv) Hardware or sporting goods store.
- (xv) Hobby and art supplies store.
- (xvi) Paint and wallpaper store.
- (xvii) Retail stores other than listed, except that the following retail uses are not permitted: Feed store; Pawn shop; Home improvement center; and Swimming pool sales and supply.

(K) Motor vehicle related uses.

- (i) Commercial parking garage.

(L) Commercial uses.

- (i) Job printing, lithographer, printing, or blueprinting plant.
- (ii) Duplication shop.
- (iii) Custom print shop.
- (iv) Gummed label printing.
- (v) Computer service center.
- (vi) Custom commercial engraving.
- (vii) Diamond and precious stone sales (wholesale only).
- (viii) Design or decorative center.

(M) Accessory uses.

- (i) Game court (private).
- (ii) Swimming pool (private).
- (iii) Home occupation.
- (iv) Community center (private).

(3) Definitions: In this ordinance:

(A) FLORA STREET CENTERLINE means the centerline of the projected 100-foot wide Flora Street right-of-way shown on the map attached to and made a part of this ordinance as "Exhibit C"; and

(B) FLORA STREET FRONTAGE AREA means the area of each building site within 50 feet of the projected 100-foot wide Flora Street right-of-way shown on the map attached to and made a part of this ordinance as "Exhibit C".

(4) Flora Street Frontage Area Uses: On each building site, the following uses are the only uses permitted in the Flora Street frontage area:

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- (A) Residential uses.
 - (i) Multiple-family.
 - (ii) Hotel and motel.
- (B) Transportation uses.
 - (i) Bus passenger shelter.
 - (ii) Railroad passenger station.
- (C) Community service uses.
 - (i) Post office.
 - (ii) Community, welfare, or health center.
 - (iii) Day care center.
- (D) Medical uses.
 - (i) Optical shop.
- (E) Religious uses.
 - (i) Church.
 - (ii) Rectory.
 - (iii) Convent or monastery.
 - (iv) Establishment of a religious, charitable or philanthropic nature.
- (F) Educational uses.
 - (i) Public, denominational or private school.
 - (ii) Institution for special education.
 - (iii) Business school.
 - (iv) Technical school.
 - (v) College, university or seminary.
 - (vi) Library, art gallery, or museum.
- (G) Recreation and entertainment uses.
 - (i) Public park or playground.
 - (ii) Private recreation club or area.
 - (iii) Inside commercial amusement.
 - (iv) Theatre.
 - (v) Carnival or circus (temporary).
- (H) Bar and restaurant uses.
 - (i) Bar, lounge, or tavern.
 - (ii) Restaurant without drive-in service.

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- (iii) Restaurant with alcoholic beverages and/or entertainment.
- (iv) Private club.
- (v) Catering service.

(I) Professional, personal service, and custom crafts uses.

- (i) Office uses, subject to the following restriction: On the ground floor of each building site, no more than 25% of the linear frontage along Flora Street, nor more than 25% of the ground floor area within the Flora Street frontage area may be occupied by office uses.
- (ii) Temporary construction or sales office.
- (iii) Trade center.
- (iv) Barber and beauty shop.
- (v) Health studio.
- (vi) Custom cleaning shop.
- (vii) Laundry or cleaning pickup and receiving station.
- (viii) Key shop.
- (ix) Shoe repair.
- (x) Tailor, custom sewing, and millinery.
- (xi) Travel bureau.
- (xii) Broadcasting or recording studio.
- (xiii) Instructional arts studio.
- (xiv) Handcrafted art work studio.
- (xv) Handcraft bookbinding.
- (xvi) Photography studio.
- (xvii) Safe deposit boxes.
- (xviii) Wedding chapel.

(J) Retail uses.

- (i) Antique shop.
- (ii) Retail food store.
- (iii) Bakery or confectionary shop.
- (iv) Book and stationary store.
- (v) Camera shop.
- (vi) Cigar, tobacco, and candy store.
- (vii) Clothing store.
- (viii) Drug store.
- (ix) Beverage store.
- (x) Florist store.
- (xi) Pet shop.
- (xii) Furniture store.

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- (xiii) Second hand store.
- (xiv) Hardware or sporting goods store.
- (xv) Hobby and art supplies store.
- (xvi) Paint and wallpaper store.
- (xvii) Retail stores other than listed, except that the following retail uses are not permitted: Feed store; Pawn shop; Home improvement center; and Swimming pool sales and supply.

(K) Commercial uses.

- (i) Lithographer or printing shop.
- (ii) Duplication shop.
- (iii) Custom print shop.
- (iv) Gummed label printing.
- (v) Computer service center.
- (vi) Custom commercial engraving.
- (vii) Diamond and precious stone sales (wholesale only).
- (viii) Design or decorative center.

(5) Height restrictions on Flora Street: Within the Flora Street frontage area, the height of any portion of a structure must be equal to or less than the shortest distance of that portion of the structure from the vertical plane extending through the Flora Street centerline.

(6) Construction in Flora Street Frontage Area: On each building site:

(A) at least 50% of the linear frontage along Flora Street and at least 50% of the Flora Street frontage area must be covered by a structure of at least two stories; and

(B) an average of at least 50% of the area of the street wall along Flora Street for the first two stories must be of transparent material and used for display or merchandising. At least 50% of the area of the street wall on the ground floor along Flora Street must be of transparent material and used for display or merchandising.

(7) Woodall Rodgers Freeway Service Road Sidewalk Requirements: All sidewalks fronting the Woodall Rodgers Freeway Service Road must have a minimum width of 10 feet.

(8) Parking: All permanent parking must be either underground or concealed within a building with a facade that is similar in appearance to the facades of non-parking buildings.

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(9) Loading: Off-street loading and maneuvering areas must be screened in accordance with Section 51-4.602(b) of the Dallas Development Code. Vehicular ingress or egress to a loading facility is not permitted from Flora Street. Off-street loading is not permitted on Flora Street.

(10) Residential use requirements: The yard, lot, and space regulations for residential uses in the Dallas Arts District are the same as for other permitted non-residential uses in the district.

(b) Development plan review.

(1) A person desiring to develop property in the Dallas Arts District shall consult with the director of planning and development to discuss whether the project is consistent with the Sasaki Plan and the requirements of this ordinance. The consultation shall occur at the schematic plan stage.

(2) Upon receipt of an application for a building permit for the construction of, or modification to, any building or structure in the Dallas Arts District, the building official shall refer the permit application and plans to the director of planning and development for review to determine whether the project complies with the requirements of Sections 2(a)(2) through 2(a)(10) and Section 4 of this ordinance. The director shall conduct his review so that his decision on issuance of the permit can be made within 30 days from the date the completed application is submitted to the building official.

(3) If the director determines that the project complies with the requirements of Sections 2(a)(2) through 2(a)(10) and Section 4 of this ordinance, he shall refer the permit application and plans back to the building official, who shall issue the permit if all requirements of the construction codes and all other applicable ordinances have been met.

(4) If the director determines that the project does not comply with the requirements of Sections 2(a)(2) through 2(a)(10) and Section 4 of this ordinance, he shall direct the building official to deny the permit.

(c) Board of adjustment.

(1) The board of adjustment may grant a special exception to the following requirements of this ordinance if the special exception will not adversely affect appropriate development of the Dallas Arts District:

(A) The Flora Street frontage area use requirements contained in Section 2(a)(4), except that the board

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may not allow a use not permitted in Section 2(a)(2).

(B) The Flora Street height restrictions contained in Section 2(a)(5), but only if the portion of the building exceeding the maximum height permitted in that section is occupied exclusively by multiple-family uses.

(2) The board of adjustment may not provide a termination date for a nonconforming use in the Dallas Arts District under Section 51-4.704(a)(1) of the Dallas Development Code unless there has been a change in ownership of the property since the effective date of this ordinance.

SECTION 3. That the provisions of Section 51-4.702 of the Dallas Development Code, as amended, do not apply to the Dallas Arts District.

SECTION 4. That unless otherwise expressly provided in this ordinance, all regulations in the Dallas Development Code, as amended, applicable to the Central Area-1 District shall apply to all property within the Dallas Arts District.

SECTION 5. That the Building Official shall not issue a Building Permit or Certificate of Occupancy for a building in the Dallas Arts District until there has been full compliance with the requirements contained in Sections 2(a)(2) through 2(a)(10) and Section 4 of this ordinance and with the construction codes and all other applicable ordinances of the City of Dallas.

SECTION 6. That the Director of the Department of Planning and Development shall correct Zoning District Map No. J-7 in the offices of the City Secretary, the Building Official, and the Department of Planning and Development to reflect the changes in zoning made by this ordinance.

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SECTION 7. That a person, who violates a provision of this ordinance, upon conviction, is punishable by a fine not to exceed \$200.

SECTION 8. That CHAPTER 51 of the Dallas City Code, as amended, shall remain in full force and effect, save and except as amended by this ordinance.

SECTION 9. That the provisions of Ordinance No. 17340, as amended, pertaining to the property designated as Planned Development District No. 145-H/18, shall remain in full force and effect, save and except as amended by this ordinance.

SECTION 10. That the terms and provisions of this ordinance are severable and are governed by Section 1-4 of CHAPTER 1 of the Dallas City Code, as amended.

SECTION 11. That this ordinance shall take effect immediately from and after its passage and publication, in accordance with the provisions of the Charter of the City of Dallas and it is accordingly so ordained.

APPROVED AS TO FORM:

ANALES LIE MUNCY, City Attorney

BY 
Assistant City Attorney

Passed and correctly enrolled FEB 16 1983

Zoning File No. 2812-369/5926-N

7846K/wp

DALLAS ARTS DISTRICT EXHIBIT "A"

DALLAS ARTS DISTRICT

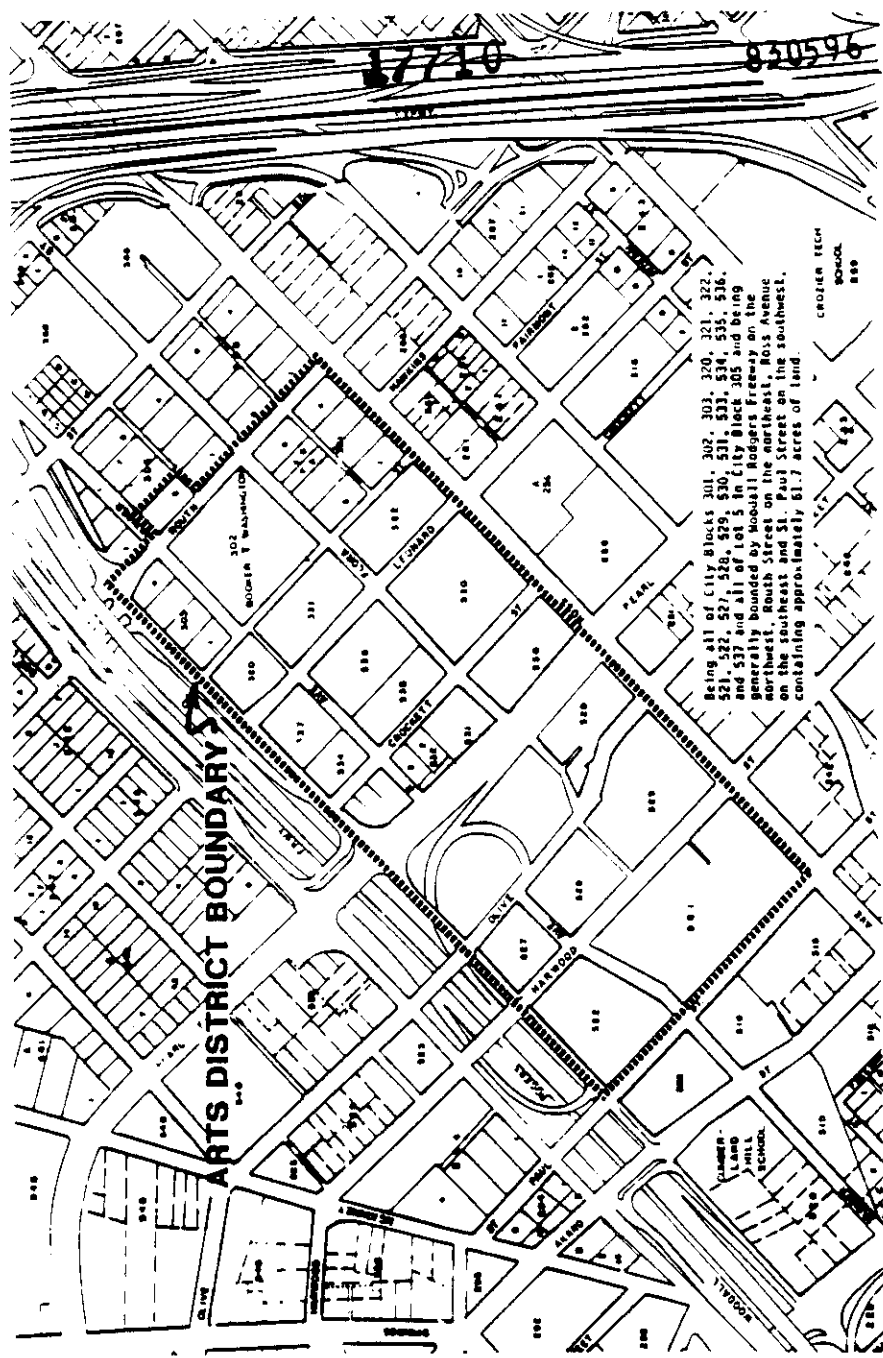


EXHIBIT "B"

SEE FULL REPORT ATTACHED



Dallas Arts District Urban Design Plan Dallas, Texas

Submitted to

Dr. Philip O'Bryan Montgomery
Arts District Coordinator
Dallas Arts District Consortium
and
The City of Dallas

Prepared by

Sasaki Associates, Inc.
64 Pleasant Street
Watertown, Massachusetts 02172

Planning/Architecture/Landscape Architecture
Urban Design/Civil Engineering/Environmental Services

Hakyon Ltd.

55 High Street
Hartford, Connecticut 06103

Commercial Concepts

Lockwood, Andrews & Newnam, Inc.

2710 North Stemmons Freeway
Suite 306
Dallas, Texas 75207

Civil Engineering

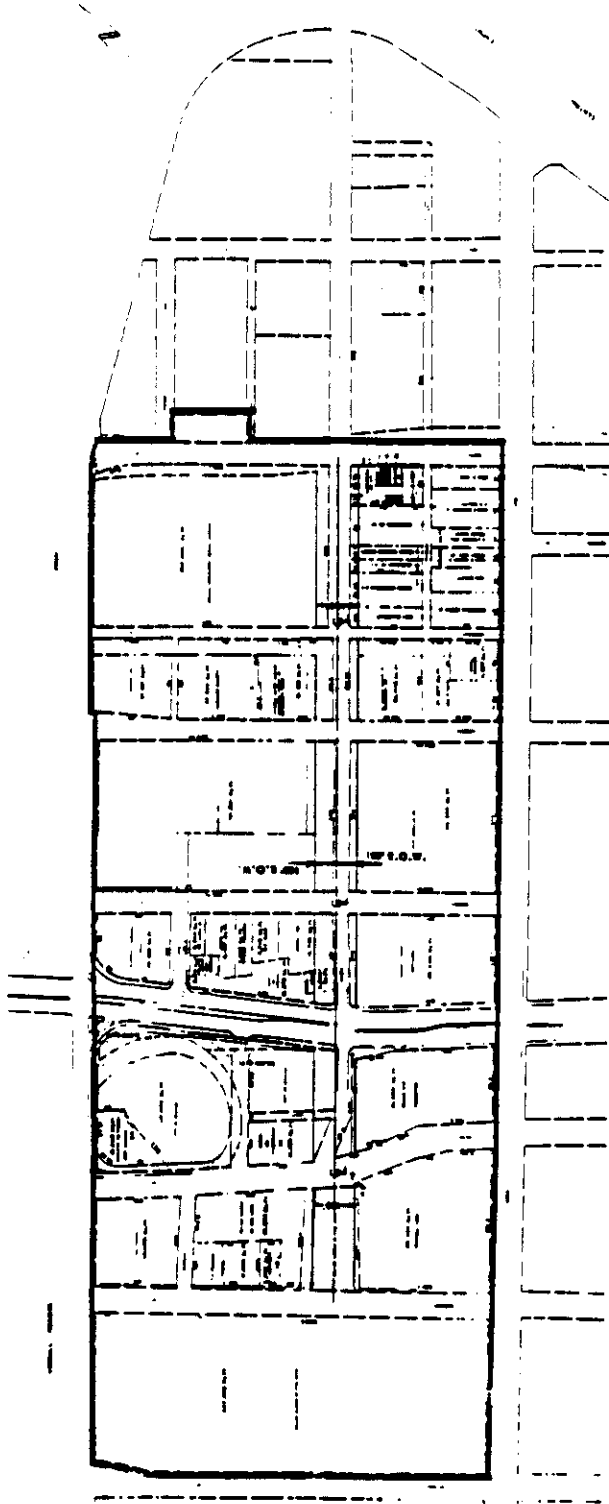
August 1982

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EXHIBIT "C"

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— DALLAS ARTS DISTRICT

NOTE:
 For full scale (1" = 100ft.) of this map see
 City Secretary's Office, Dallas City Hall
 Planned Development District No. 145 -

APPENDIX B
1981 DRAFT BRIEF

AREA: Front-of-House

SPACE DESIGNATION: Controlled Public Lobby Spaces

<u>Space Name</u>	<u>Considerations</u>
1. Entrance Lobby Space	1. Limited seating required.
	Convey sense of occasion
2. Box Office	2. Positioned in lobby so that congestion in ingress to the Hall, lines for ticket sales and lines for ticket-taking do not present a problem.
. Front Room	. Must be adequate size to man multiple ticket windows and accommodate computerized ticketing equipment.
	. Special security required.
	. Consider drive-up window
. Back Room	. Large enough to handle staff of 10 processing large quantities of orders.
. Offices	. For Director and Assistant Director

AREA: Front-of-House (continued)

SPACE DESIGNATION: Controlled Public Lobby Spaces (continued)

<u>Space Name</u>	<u>Considerations</u>
2. Box Office (continued)	
. Phone Room	. Space for 12 phones used throughout the year.
. Restroom	. One for use during concerts
3. Ticket Taking Stations	3. Properly spaced and adequate number with adequate signage for good flow of patrons into the inner lobby.

(continued)

AREA: Front-of-House (continued)

SPACE DESIGNATION: Controlled Public Lobby Spaces (continued)

<u>Space Name</u>	<u>Considerations</u>
4. Sales Space/Shop	<p>4. Adequate size for sales counter, shelves, and displays for music books, records, posters, small antiques, specialty clothing, etc.</p> <p>Consider: entrance from outside</p> <p>Consider: Outside display window</p> <p>Consider portable sales stations in other lobby areas</p>
. Storage area	
5. Display Areas	<p>5. For attractions posters</p> <p>Consider permanent and portable display units</p>

(continued)

AREA: Front-of-House (continued)

SPACE DESIGNATION: Controlled Public Lobby Spaces (continued)

<u>Space Name</u>	<u>Considerations</u>
6. Promotional Station	6. For public promotional materials and tour station
7. Daytime Security (Guard) Station	7. May be portable. Requires view of front doors and Box Office May view closed circuit TV
8. Controlled Public Restroom	8. Smaller facilities for Concert Hall visitors to have access to.

AREA: Front-of-House

SPACE DESIGNATION: Audience Lobby Spaces

<u>Space Name</u>	<u>Considerations</u>
1. Audience Flow Areas	<p>1. Adequate to handle ingress and egress of people (equal to number of seats in Hall) to and from their seats.</p> <p>Consider space for pre- and post-concert entertainment.</p>
2. Audience Gathering Areas	<p>2. Multiple spaces for audience to gather before concerts and at intermissions located on all floors.</p> <p>Convey sense of occasion.</p> <p>Consider: relationship to bars.</p> <p>Consider: distribution throughout lobby areas.</p>
3. Cloak Room(s)	<p>3. Adequate size, number, and location required to distribute people.</p> <p>Review acoustics implications of coats in seats in audience vs. in cloakroom.</p> <p>Consider mild Texas weather and amount of underground parking.</p>

(continued)

AREA: Front-of-House

SPACE DESIGNATION: Audience Lobby Spaces

<u>Space Name</u>	<u>Considerations</u>
4. Audience Restrooms	4. <u>Sufficient</u> number of restrooms and toilets within restrooms, and located on all floors. Handicapped facilities required
5. Bars	5. Adequate number on all levels to distribute people, and provide maximum use for revenue generation.
6. Dining Facilities . Dining Room(s)	6. May not need dining facilities; dependent on site and neighboring facilities. . Consider formal and informal restaurants.

(continued)

AREA: Front-of-House (continued)

SPACE DESIGNATION: Audience Lobby Spaces (continued)

<u>Space Name</u>	<u>Considerations</u>
6. Dining Facilities (continued)	
. Kitchen	<ul style="list-style-type: none"> . Consider location for catering to reception rooms as well as dining rooms. . Dumbwaiter/elevator may be needed for transporting to reception rooms, VIP rooms, Green Room.
. Kitchen and Bar Storage Areas	
7. Reception Rooms	<p>7. Several rooms to accommodate various sizes of groups, and located on various levels, proximate to best seats.</p> <p>One room should be a Patron Room.</p> <p>Should be close to kitchen.</p> <p>Should have bar facilities</p> <p>Access for public without entering auditorium.</p> <p>Will be used by groups who purchase a block of tickets and want to have a reception.</p>

(continued)

AREA: Front-of-House (continued)

SPACE DESIGNATION: Audience Lobby Spaces (continued)

<u>Space Name</u>	<u>Considerations</u>
8. Display Areas	8. For donor recognition. For displays such as educational displays for children, and for occasional displays of art and photography.
9. Ushers' Changing Room	
10. Storage Room for Programs	
11. Janitorial Rooms	11. On every level
12. Cry Room	12. Small room adjacent to auditorium for individuals with infants or small children and other audience needs

(continued)

AREA: Front-of-House (continued)

SPACE DESIGNATION: Audience Lobby Spaces (continued)

<u>Space Name</u>	<u>Considerations</u>
13. Drinking Fountains	13. Adequate placement and number. Handicapped fountains required.
14. Public Telephones	14. Adequate placement and number. Handicapped telephones required
15. Public Stairways, Elevators, and Escalators	15. Adequate number and size

AREA: Auditorium

SPACE DESIGNATION: Seating Area

<u>Space Name</u>	<u>Considerations</u>
1. Number of Seats	<p>1. Consider 2,000 - 2,200 - 2,400 and 2,600 seats from acoustic and economic standpoint.</p> <p>Design must accommodate wheelchairs.</p> <p>Seats must be comfortable.</p> <p>Must be able to remove seats for sound and light console.</p> <p>Adequate knee room</p> <p>Seats must be removable for alternative uses</p>
2. Seating Configuration	<p>Strongly prefer multiple aisles to continental seating.</p> <p>Suggest approximately 70% orchestra seats, 30% tier seating</p> <p>Suggest loge instead of box seating (similar to Carnegie Hall)</p>

(continued)

AREA: Auditorium (continued)

SPACE DESIGNATION: Seating Area (continued)

<u>Space Name</u>	<u>Considerations</u>
3. Shape of Hall	<p>3. Do not want total surround.</p> <p>Consider semi-surround (fan) and shoe box, with embrace of stage by audience, depending on the best acoustics for number of seats selected.</p> <p>Consider some seats on sides and behind stage (with modesty panels)</p> <p>Want musicians to feel in the same room with the audience (e.g., Concertgebouw and Musikvereinsaal).</p>
4. Aisles	<p>4. To be determined by shape of hall and seating configuration.</p> <p>Must meet all handicapped, O.S.H.A. and fire safety requirements.</p>
5. Audience Floor	<p>5. Floor must be able to accommodate projected uses.</p> <p>Rake of floor under seats and on aisles should be such that it is safe and comfortable to walk on and sit in seats.</p>
6. Standing Room	

ADDENDUM:
STATEMENT ON ACOUSTICS

The goal is to provide a sound environment which will, as closely as possible, duplicate the acoustical properties heard by the Committee in the Musikvereinsaal in Vienna and the Concertgebouw in Amsterdam.

Specifically, the music room should provide the most ideal possible setting for performances of the basic orchestral repertory composed between the late 18th and the early 20th centuries (Haydn and Mozart through Mahler, Strauss, early Stravinsky).

In order to accomplish this objective, the room must have the following qualities:

- Excellent base resonance which provides a rich and full foundation sound for the orchestra (a reverberation time of from 2 - 2.10 seconds at middle frequencies).
- A good blend and mixture of sound without excessive loss of clarity (the time delay gap is important in creating this feature and is influenced by ceiling height, proximity of side walls, and reflecting surfaces around the orchestra).
- Brilliance in the high frequencies and good clarity of the various orchestral lines in combination (an effective balance between reverberation and clarity and between the various orchestral choirs and solo instruments, as well as chorus when appropriate).

High priority is also given to achieving the following objectives in combination with the acoustical environment:

- A sense of intimacy between the audience and the orchestra (both a visual and an aural intimacy).
- Excellent sight lines for the audience.
- A comfortable environment for experiencing music.
- An overall visual environment for the room which complements and enhances the sound and creates a sense of physical pleasure and well-being.
- Stage acoustics which will allow the musicians to hear each other well and to play without forcing (this is essential to the long-range artistic development of the orchestra).

ADDENDUM:
STATEMENT ON ACOUSTICS

These objectives must be accomplished within the framework of the number of seats and the performance flexibility needed to keep the Symphony fiscally viable in present and future years. In addition to the Classical season, the Symphony's Hall will be used for Pop concerts with guest artists, 20th century compositions and Baroque music which are ideally heard in a less resonant room, solo recitals and chamber music performances.

In the process of designing the Hall, the Music Director, General Manager, the Concert Hall Committee, the Director of Concert Hall Planning, the architect, and the acoustician must collaboratively reach decisions on the design of the room in relation to the flexibility required in the future. Some of these issues are:

- . The need for and desirability of flexible acoustics.
- . Flat floor capabilities for cabaret or rug concerts
- . Permanent chorus seating.
- . Lighting.
- . Simple drops.
- . A performance platform with some capability for flexible configurations.
- . A pipe organ in the stage area
- . Recording capabilities

Since every element in the auditorium has some effect on its acoustics, the acoustician must have the authority to insist that all decisions be made within the framework of achieving the acoustical objectives of the Hall.

AREA: Back-of-House

SPACE DESIGNATION: Stage

<u>Space Name</u>	<u>Considerations</u>
1. Performance Platform	1. Designed for up to 110 piece orchestra and 250 member chorus. Some limited ability to change shape mechanically. Small elevators to create risers. Piano lifts. Orchestra pit possible Access from dressing rooms, especially conductor's and guest artist's rooms.

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Stage (continued)

<u>Space Name</u>	<u>Considerations</u>
1. Performance Platform (continued)	Stage extension. Consider resonance vs. durability of flooring.
2. Rigging	2. Enough lines and pipes to accommodate projected uses of Hall. Cable lifts may be required.
3. Scenery	3. Basic scrim drops (black, blue, white). Projection screens (front and rear). Basic masking and screens for chamber music concerts.
	(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Stage (continued)

<u>Space Name</u>	<u>Considerations</u>
4. Lighting	4. Stage height must be adequate for portable lighting towers required for projected uses of Hall.
5. Pipe Organ	

AREA: Back-of-House (continued)

SPACE DESIGNATION: General Backstage Areas (continued)

<u>Space Name</u>	<u>Considerations</u>
4. Backstage Corridor	<p>4. To permit tour groups and others to move from front-of-house to backstage without interfering with a rehearsal or performance</p> <p>Need additional backstage corridors which will accommodate pianos, bass fiddles, etc.</p>
5. Green Room	<p>5. Easily accessible to conductor, artists, and the general public.</p> <p>Properly furnished and flexible enough for meetings, small parties, etc.</p> <p>Easily accessible from catering facilities.</p> <p>Consider flow in and out of room after concert. Have separate entrances in and out of room, and separate entrance for conductor and guest artists.</p>

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: General Backstage Areas (continued)

<u>Space Name</u>	<u>Considerations</u>
6. Storage Areas	<p>6. Adequate space for stage extensions, risers, orchestra chairs, audience seating, cabaret tables, lights, sound equipment, orchestra traveling trunks and cases, pianos, draperies in carts, scrim, scaffolding.</p>
	<p>May include cabinets and shelving for instruments.</p>
	<p>Highly secured area close to stage</p>
	<p>Must be dry and properly lighted.</p>
	(continued)

AREA: Back-of-House

SPACE DESIGNATION: Music Director's Requirements

<u>Space Name</u>	<u>Considerations</u>
1. Music Director's Office	
2. Music Director/Conductor's Dressing Room	<p data-bbox="705 793 1071 825">2. May be suite with office.</p> <p data-bbox="728 900 1213 953">Placed with degree of seclusion from orchestra.</p> <p data-bbox="756 1091 1310 1144">Ideally, equipped with piano, full washroom, and ante-room.</p> <p data-bbox="756 1304 997 1336">Suitably furnished.</p> <p data-bbox="756 1464 1151 1495">Near or adjacent to Green Room.</p> <p data-bbox="756 1623 997 1655">Near Music Library.</p> <p data-bbox="756 1761 1325 1793">Near nonpublic entrance and exit to building.</p>

AREA: Back-of-House

SPACE DESIGNATION: Musicians' Requirements

<u>Space Name</u>	<u>Considerations</u>
1. Individual Mail Boxes and Message Center	1. Should be located near backstage security desk.
2. Musicians' Lounge and Reception Area	2. Comfortable, spacious, well lighted, well vented, soundproof.
	Equipped with:
	<ul style="list-style-type: none"> . several full sized sofas . tables (including some card tables) . chairs . vending machines (including a bill changer) . kitchenette, with: <ul style="list-style-type: none"> .. sink .. refrigerator .. small stove .. microwave oven . private bulletin board . telephones and intercom . space for ping pong, TV, etc.

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
3. Official Bulletin Board	3. For office memos and notices, and other nonpublic communications.
4. Dressing Rooms	4. Located near musicians' lounge.
a. Male and female for orchestra members	a. Suggest 4 moderate sized rooms rather than 2 large ones for flexibility in male/female mix and smoker/nonsmoker mix. <ul style="list-style-type: none"> . Equipped with locked lockers with large double doors for clothes and instrument storage. . Restrooms and showers contiguous to dressing rooms. . Close to stage . Soundproofed

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
4. Musicians' Dressing Rooms (continued)	4. (continued)
b. Guest Artist	b. Four rooms (some with pianos) properly sound proofed.
	. Large doorways for transport of pianos.
	. Comfortable.
	. Close to stage
	. Proper lighting and security
	. Washroom adjacent.
c. Guest Conductor	c. One room similar to Guest Artists' Dressing Room
d. Concertmaster	d. One room similar to Guest Artists' Dressing Room

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
4. Dressing Rooms (continued)	4. (continued)
e. Chorus and Visiting Orchestra Members	e. Adequate size and separate from DSO musicians' dressing rooms. . Consider male/female requirements . Contiguous restrooms with showers . Soundproofed
f. Quick Change Rooms	f. Adjacent to stage

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements

<u>Space Name</u>	<u>Considerations</u>
5: Warm-Up / Tune-Up Rooms	5.
. Large Warm-Up Rooms	<ul style="list-style-type: none"> . Provide 4 separate rooms (for strings, woodwinds, brass, percussion). . Can double as rehearsal rooms for chorus, chamber music. . Equipped with tuning devices and pianos. . Note percussion storage room on page 41.
. Small Warm-Up Rooms	<ul style="list-style-type: none"> . From 12 to over 20 small, private, well lighted soundproofed practice rooms. . Some located near conductor's dressing room for use by Concert Master and other soloists. . Could be used for teaching.
. Piano Practice Rooms	. Two to 3 small rooms.
(continued)	

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
6. Rehearsal Hall	<p>6. With capability to use as a small recital hall, and chamber music hall.</p> <p>Can double as warm-up room for dance companies and visiting orchestras.</p> <p>Can be set up for dining, for lectures.</p> <p>May best be located in the front-of-house.</p>
7. Recording Technicians' Room	<p>7. Small room very close to stage, sound proofed, equipped with proper conduit (which, when brought from stage area into room, will not interrupt soundlock).</p>

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
8: Library	<p data-bbox="725 591 1318 646">8. Located near stage (at stage level) with easy access by the conductor and musicians.</p> <p data-bbox="774 776 1284 832">Adequate space for growing collection of scores and parts.</p> <p data-bbox="774 963 1318 1019">Need large music storage cabinets, shelving with proper cases or covers for music.</p> <p data-bbox="774 1236 1305 1338">Several long work tables for rebinding and mending scores, desks, index file for location of music on shelves, copy machines.</p> <p data-bbox="774 1504 1241 1559">Approximately 35' x 50' at Cincinnati Orchestra.</p> <p data-bbox="774 1691 1264 1719">Proper ventilation, lighting, security.</p>

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
9. Percussion Storage Room	9. Located at stage level or near a loading elevator.
	Serves double function as storage for larger percussion instruments and warm-up or practice room for percussion section.
	Soundproofed.
	250 - 400 sq. ft. minimum space required.
	Consider doorway size requirements needed to accommodate largest timpani (approximately 40 in.).

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Musicians' Requirements (continued)

<u>Space Name</u>	<u>Considerations</u>
10. Restrooms	10. Male and female restrooms required near the stage on both sides for use from the stage.
11. Cabinets and Shelving	11. Built-in bass lockers located just off stage left.
	Built-in cabinets for smaller percussion instruments just off stage right.
	Padded shelving around backstage areas for resting violins, violas, cases, etc. when not in use.
<u>NOTE</u>	<u>NOTE</u> Humidity and Temperature control are of top priority for the musicians.
	Must be uniform throughout the facility, not just onstage, at 45% to 55% humidity level.

AREA: Back-of-House

SPACE DESIGNATION: Management Offices

<u>Space Name</u>	<u>Considerations</u>
1. Concert Hall Management Offices	1. Reception area Manager's office and secretary. Promotional office and secretary Four associate offices with secretary (Security Chief, Maintenance Chief, etc.) File room, photocopy facility, coffee, kitchen, etc.

(continued)

AREA: Back-of-House (continued)

SPACE DESIGNATION: Management Offices (continued)

<u>Space Name</u>	<u>Considerations</u>
2. Orchestra Management Office	<p>2. Reception area</p> <p>Office space for:</p> <ul style="list-style-type: none">. Managing Director. Associate Managing Director. 30 - 40 staff members <p>Small and large conference rooms.</p> <p>Office supply room.</p> <p>Work room</p> <p>Photocopier room.</p> <p>Kitchen.</p> <p>(continued)</p>

AREA: Back-of-House (continued)

SPACE DESIGNATION: Management Offices (continued)

<u>Space Name</u>	<u>Considerations</u>
3. Office Restrooms	3. Located near offices. Adequate number
4. Drinking Fountain(s)	

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