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# Theater Facility Impact Study, Volume 1: Theater Facilities: Guidelines and Strategies

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Theater Facility Impact Study

Volume 1:

# THEATER FACILITIES: GUIDELINES AND STRATEGIES

Robert M. Beckley & Sherrill M. Myers

Milwaukee Repertory Theater Company  
929 North Water Street  
Milwaukee, Wisconsin 53202  
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Milwaukee, Wisconsin 53203

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THEATER FACILITY IMPACT STUDY, Volume 1  
THEATER FACILITIES: GUIDELINES AND STRATEGIES

Robert M. Beckley and Sherrill M. Myers

Abstract

The research summarized in this report formulates guidelines and strategies for the creation of regional theater facilities. This study creates a typology for a new building type based on the programmatic desires of regional theater as it has evolved through several generations. The research was funded by NEA and has received a research citation from Progressive Architecture and a research excellence award from the National Endowment for the Arts.

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A companion document is available from the Center for Architecture and Urban Planning Research.

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# PREFACE

This study would not have been instigated if building a theatre was free of problems and pitfalls. It is because the building process has resulted in both laughter and tears that we were asked to delve into the experience of companies who have recently built or adapted buildings for theatre so that the lessons which have been learned could be more widely shared.

Julius Novicks book, Beyond Broadway: The Quest for Permanent Theaters, documents the early years of regional theatre formation in this country and highlights some of the pitfalls of building theatres.

To illustrate the kind of events and incidents theatre companies have experienced and to establish a sense of why this study was initiated we begin with two scenarios. These scenarios, to the best of our knowledge, have not really happened. They are, like good drama, based upon real experiences, however. Any similarity to situations you have heard about is quite intentional.

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**SCENARIO ONE: COMING IN THE BACK DOOR**

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During the campaign for re-election, the Mayor of the City had promised to set up a Special Commission on the Arts to investigate the needs of the arts community in the City. True to his word, the Commission was established several months after his election. The Commission made its report a year and a half later after considerable delay centering on an argument over what Arts group should be included in a survey. The Special Commission recommended to the Mayor that the city build an Arts Center on land in the downtown area which had been cleared for urban renewal, but for which there were no developers. The Commission further proposed that the Arts Center should include a new home for the Symphony Orchestra, the Opera, the Chamber Orchestra, the Ballet, and a downtown center for the Art Museum.

The recommendation of the Special Commission were referred by the Mayor to the Finance Committee of the City Council, which in turn referred the recommendations to the Capital Improvements Subcommittee. The Capital Improvements Subcommittee held public hearings as it is required to do by law. There was a public outcry, supported by the local press, that such a facility would increase public taxes, and that the city could not afford such a facility. Since no one knew how much such a facility might actually cost, the matter was referred to the Department of Public Works. The Department of Public Works prepared preliminary plans which indicated that the cost of the facility would be in the neighborhood of 30 million dollars.

A City Councilman who was a member of the Capital Improvements Subcommittee and who had also served on the Special Commission, asked that the Special Commission be reconvened to discuss the Department of Public Works report. After several meetings with representatives of the Symphony, Opera, Chamber Orchestra, Ballet and Art Museum, it was recommended that the Symphony Orchestra and the Opera share a large hall and that the Chamber Orchestra and Ballet share a smaller hall and rehearsal space. The Department of Public Works then revised its cost estimate to 20 million dollars. After additional public hearings, the Mayor took a decisive step to include 20 million dollars for an Art Center as part of a 50 million dollar Public Improvement Bond, which included money for new highways and sewers. Upon recommendation of the City Treasurer the bond was reduced to 40 million dollars as "something the public could support". The bond referendum passed by a narrow 51% and some Councilmen threatened to have the issue placed on the ballot again.

Nonetheless, architects were hired to prepare plans for the Art Center using a revised estimate for the project of 17 million dollars because of the smaller bond amount which had been approved. The architect's preliminary drawings suggested that a facility could be built for 17 million dollars. The Art Museum, which had a new Director, however, insisted that a branch of the Art Museum located downtown would over-extend his staff, and add too much to the operating budget. He refused to participate in the project.

Since the inception of the Art Center, the Regional Theater Company had been enjoying great success in attracting an audience to the old vaudeville movie house they had hastily remodeled into a performing space. Seeing an opportunity to incorporate all the Performing Arts under one roof, the Mayor himself asked the Managing Director of the Theater if they might not like to become a part of the Arts Center which was to be renamed the Performing Arts Center. The Managing Director, after meeting with the Board, saw a grand opportunity to expand the size of the theater and to build decent shop and rehearsal space.

With the inclusion of the Regional Theater, the Mayor appointed a Performing Arts Center Board to carry on the planning for the facility. It was decided by the Board that the facility should be a "monument to the progressive thinking of the citizens of the City." After months of meetings with members of the performing groups, the architects developed a complete set of drawings. However, their estimates indicated that the project was 25% over the budget of 17 million dollars. The only way the project could be brought within the estimate was to reduce all the performing space accordingly. The Regional Theater's Board met to consider this prospect. They would still have 10% more seats than they presently had in a much nicer facility. There was little question that they stick with the project.

The revised project went out to bid with the architect confident that he had "cut the fat out of the project". Of course, everyone was disappointed when the project was still over budget. The Performing Arts Center Board met with the contractor and the architect. Everyone wanted to guarantee that the facility be "a monument...to the City" but it seemed to be a shrinking monument. It was proposed that the best way to achieve a handsome facility and at the same time achieve the necessary budget cuts was to cut the amount of support space - the shops, rehearsal space,

storage etc. to a bare minimum. The Regional Theater was forced to choose between keeping its shop space or its rehearsal space in the theater. It chose to keep the rehearsal space. The Regional Theater Board wished to reconsider the whole move, but it had already given up its lease on the space it was presently occupying. The project was finally brought into line with the budget, and construction proceeded. During construction, an Executive Director of the Performing Arts Center was hired. He found the amount of space given to his office inadequate since he expected to utilize large numbers of community volunteers for various activities. The Ballet, Chamber Orchestra, and Regional Theater were asked to share rehearsal space so that one of the rehearsal halls could be converted into additional office space.

The building opened to great public acclaim, though the critics said there were still problems with the acoustics in all the performance spaces, the mechanical systems were too noisy and the carpeting was not yet installed. The Artistic Director of the Regional Theater resigned shortly after the building opened in a dispute with the Director of the Performing Arts Center over scheduling the use of the rehearsal space. The Managing Director moved to another city to form a new company. The new Managing Director is currently trying to find adequate support space for the company to rent close to the theater.

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**SCENARIO TWO: TRAGEDY AS RESPONSE TO A TRAGEDY**

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It was 5 a.m. when the fire was noticed by a passing motorist. By this time flames were already licking through the roof of the Regional Theater. The fire chief said the job was apparently that of an arsonist. It was quite obvious the fire had more than one origin. Nothing was saved.

Even though the company had often complained about the scene and paint shops being a mile away from the theater they now felt blessed that these facilities were saved from the fire because of their distance. This would allow the company to finish its season using a hastily rented downtown theater in which to finish their productions. Space was made for the costume and prop shop in the scene and paint shop.

Community support was overwhelmingly in favor of rebuilding the theater and it did not take long for the board to decide to begin a major fund raising activity. Contributions were already being volunteered. The board created a building committee headed by a local contractor who estimated it would cost five million dollars to replace the facility. That was the goal established for the fund raising effort.

The company began working around the clock to make the transition to the rented theater. New rehearsal space was acquired and the season proceeded. At the same time the company had to make plans for the next year. It felt fortunate to acquire the same theater for its next season. The season was nearly over, however, before the theater management had time to begin thinking about new facilities. The fund raising committee had raised nearly four million dollars of the five which they thought were needed, and an architect had been engaged by the building committee to begin preliminary drawings.

At the first presentation by the architect, the managing and artistic director were shocked to find that the architect had prepared schematic designs for a proscenium stage. The architect defended himself by saying the building committee had thought it would be all right when he presented them with the problem of fitting a new theater on their rather narrow site. Both the directors were members of the building committee, but neither had attended the last several meetings because of the time they had to give to relocating their performances and planning for the next season. The building committee

could see little difference between the old proscenium which had been modified to a thrust and the proscenium which the architect had proposed. The architect stressed that it was important for him to get on with his work so that the bids could be taken or the theater company might have to rent space for two years. The artistic director said he could not possibly work with the stage that the architect had designed. The building committee, feeling that they were too far along with the architect's preliminary designs to turn to alternatives, accepted the architect's proposal. The artistic director resigned. The assistant director was asked to take the director's place. He began working closely with the board and the architect, and he was able to show how the stage could be modified to serve better as a thrust. He also showed how creating a balcony and lifting the theater slightly in the air could create enough room under and behind the house to provide space for all the shops on the same site. The board was delighted. The assistant director became the acting artistic director, and the architect was asked to proceed with his drawings.

The board waited anxiously for the opening of the construction bids. Four bids were received. The first bid of over eight million dollars nearly sent two board members into cardiac arrest. Two more bids were just below eight million, and the fourth bid was just under seven million. An emergency meeting of the board was held. The architect explained that the project had grown in size and complexity with the addition of the balcony and shop space. The original estimate by the head of the building committee had been a "ball park" figure and hadn't considered the additional cost of removing the old building foundations. The fund raising committee reported it had raised four and a half million dollars and predicted difficulty in raising more than five million. All the big givers had been contacted. That left nearly two million dollars difference between the money in hand and the lowest bid. The low bidder was asked to make recommendations on ways to cut their bid, and the building committee was asked to recommend a strategy for raising the rest of the money. The contractor recommended changes in the mechanical system and interior finishes. He suggested that a bay be cut off support space simplifying the foundations. His bid was reduced a half million dollars. The fund raising committee discovered an anonymous donor willing to give a quarter million dollars and were confident they could still raise another quarter million in the next several months. The bank which was providing the construction loan was willing to extend one

million dollars of the loan. The managing director anticipated that increased box office sales and extending the season by one play could pay this loan off in ten years. Construction was ordered to proceed.

The contractor went bankrupt half way through the project. His bond covered the cost of hiring another contractor but the project was delayed several months forcing cancellation of the first two productions. Subscription sales dropped dramatically. The first production opened to mixed reviews. The lobby wasn't carpeted yet, neither was the house. The air conditioning system produced a very high whining sound. One reviewer noted: "The production, what we could hear of it, was passable but uninspired. Perhaps that was due to last minute changes in cast because of the delayed season. The building was a real flop. Better luck next time."

# BACKGROUND AND ACKNOWLEDGEMENTS

Regional theaters have evolved over the last few decades. They have reached a level of maturity and sophistication which has made clear what these theaters have in common with each other. From remodeled warehouses and store fronts to commercial theaters adapted for resident company use, theater after theater has experimented with creating a facility unique to regional theaters needs. The premise of this research is that theater companies could learn a great deal from each other's building experiences. From these experiences a set of guidelines and strategies could be created which would help other regional theater companies considering new facilities avoid the problems encountered in building a new theater. To quote from the companion report of this research:

"The proposal (for this research) was written with the knowledge that many theater companies have faced traumatic experiences when acquiring new facilities. Programs have been compromised, budgets exceeded and staffs have been drained of energy in their efforts to achieve a better physical environment in which to practice their art."

In addition, it was expected that this research would formulate a program for regional theaters which could be used by the Milwaukee Repertory Theater, participants in this research, and other regional theaters.

This study has been supported by the National Endowment for the Arts, Design Arts Program under their design exploration/research program. The research has been a collaborative effort of the architects Beckley/Myers and the Milwaukee Repertory Theater Company.

Two reports have been produced from this research. This report is addressed to theater companies, their architects and consultants as they contemplate the development of a regional theater. It contains guidelines and strategies for creating a facility based upon an analysis of the experience of nine theater companies, a survey questionnaire to ascertain the characteristics of regional theaters, and collaborative efforts with the Milwaukee Repertory Theater company to formulate a model which we have called a third generation regional theater.

A companion report is addressed to the Milwaukee Repertory Theater Company and its board. It contains the specific application of these guidelines in assessing MRT's facilities and exploring alternative ways they might achieve the objectives of a third generation theater.

We are particularly indebted to Sara O'Connor, Managing Director of MRT, for her conception of the study and her continuous support of its objectives. We are equally indebted to other members of the Milwaukee Repertory Theater company and its board of directors, who gave their time to explain theater operations, who shared their experiences, and who helped to formulate the ideas presented here. Deserving special recognition are John Dillon, Artistic Director; Greg Murphy, Production Manager; Sue Medak, Director of Audience Development and Services; Colleen Muscha, Costume Designer; Sandy Struth and Ian O'Connor, Properties Director and Artisan; Dan Mooney and Rose Pickering, Actors; and Peggy Rose, Business Manager.

We also wish to give special recognition to Benjamin Mordecai, who served as consultant to the study, helped to formulate the research proposal, and who served as a model of inspired leadership in his creative efforts at the Indiana Repertory Theater.

Special tribute also needs to be given to the many cooperative people we interviewed at the nine theater companies we visited. Their candor, and willingness to share their experiences, opinions and expertise has lent much to the substance of this report. We wish to especially thank the following individuals.

Arena Stage; Washington, D.C.  
Tom Fichandler, Executive Director

Berkeley Repertory Theater; Berkeley, California  
Michael W. Leibert, Producing Director  
Mitzi K. Sales, General Manager

Center Stage; Baltimore, Maryland  
Peter Culman, Managing Director

Cincinnati Playhouse: Cincinnati, Ohio  
Robert Tolan, Managing Director

Hartford Stage Company; Hartford, Connecticut  
William Stewart, Managing Director

Indiana Repertory Theater; Indianapolis, Indiana  
Benjamin Mordecai, Producing Director

Old Globe Theater; San Diego, California  
Robert McGlade, General Manager  
Thomas Hall, Managing Director

Seattle Repertory Theater; Seattle, Washington  
 Peter Donnelly, Producing Director  
 Robert Scales, Technical Production Director

Trinity Square Repertory Theater; Providence, Rhode  
 Island

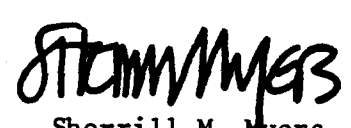
Timothy Langan, Managing Director  
 Marion Simon, Director of Development and Public  
 Relations

Finally, we wish to thank the forty-seven theater  
 companies who were kind enough to respond to our written  
 questionnaire.

It would be impossible to include all we have learned in  
 this report. A narrative of the experiences of each of  
 the theater companies we visited could fill several  
 volumes. What is included here is a summary of those  
 experiences and insights which appear to be most useful to  
 other companies. Those insights have been winnowed in our  
 work with the Milwaukee Repertory Theater to create a  
 program for them. What is included here is not a  
 handbook. It is a guide, intended to help steer a theater  
 company through the treacherous path of building. Each  
 theater company will have to add its own specific  
 objectives, space needs, etc., to create a complete  
 program. We are firmly committed to the notion that such  
 participation in programming is essential to the creation  
 of good theater. We found many theaters who developed  
 stronger artistic beliefs because they were forced to  
 choose among several alternative possibilities. In  
 addition, such participation made the theater company  
 understand and develop the ideas that served as the  
 foundation for the building they had built.

Our strongest hope is that this document will find its way  
 into the hands of theater companies who wish to advance  
 the art of the regional theater, and that it will help  
 them produce better theater facilities.

  
 Robert M. Beckley, AIA

  
 Sherrill M. Myers, RIBA

August 1, 1982

# INTRODUCTION

The objective of the research summarized in this report is to formulate guidelines and strategies for the creation of regional theater facilities. The research has been necessitated by the fact that traditional theater facilities do not accommodate the artistic objectives of regional theater companies which have grown in sophistication over the last several decades.

This study has sought to create a new building type based on the programmatic desires of regional theater as it has evolved through several generations. At a time when architects are looking at traditional building typologies to find solutions to problems, this research holds forth the axiom that architectural solutions must be responsive to changes in the nature of institutions and their programs.

Regional theater is a changing institution. After nearly thirty years of sustained growth, regional theater has created a set of artistic objectives and possibilities, which distinguishes it from other types of theater. The primary difference of this theater type is that it houses a community of people who share in the creation of theater. The shared experience of creating theater is viewed as an integral part of the theatrical performance. Few traditional theaters accommodate or enhance the sense of community which regional theaters try to achieve.

A new theater type has emerged by synthesizing the "collective wisdom" of theater people who have, by necessity or choice, struggled with the idea of appropriate facilities for regional theater. Three different approaches have been used to gather this information.

First, several months were spent with the staff of the Milwaukee Repertory Theater, a major regional theater company, developing an analysis of their goals, objectives and needs. A program was created to address the necessary changes to fulfill aspects of the company's programmatic desires. This process included extensive participation in group and individual sessions by members of the company and their board of directors. Secondly, nine regional theater companies in various stages of facility construction were visited. Individuals were interviewed regarding the why, what, and how of their facility development. Each of these companies, in their own way, had struggled with the concept of creating a facility for regional theater. Finally, a questionnaire was mailed to members of the Theater Communication Group (TCG). Over 50 responses to this extensive questionnaire were studied and compared.

The conclusion of this study was that each regional theater is similar in regards to artistic goals, objectives, purpose and motivation. On the other hand, it is equally clear that each company is different because of its context, the nature of its support, resources, and specific artistic personalities.

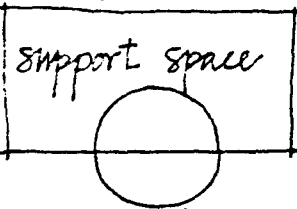
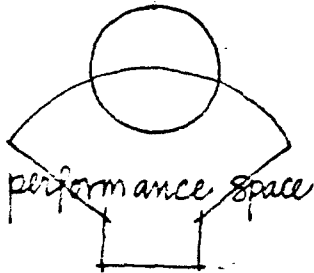
For that reason the typology we have created is intended to be general and schematic. It is intended to provide a framework which can be used by regional companies to guide the creation of their own facilities. Emphasis has been given to those aspects of theater design which are particularly important to regional theater. Conclusions are drawn to be useful to people of differing artistic viewpoints. Where there is a clear choice as to a best alternative we have pointed that out. Where there are clearly choices to be made based on artistic viewpoints, we have tried to point that out as well.

We feel confident that the model presented here can help regional theaters achieve the sense of community which has so enlivened theater across the country.

# SPECIAL ATTRIBUTES OF REGIONAL THEATER

Regional theater has attributes which makes it different from other types of theater. The single most important realization that has emerged from our work is that a regional theater is a community of people who come together to produce theatrical performances. This community, like other communities, is constantly changing. The sense of identity of the regional theater and the space and location it identifies remain constant, even though the people in this theatrical community may change from time to time. One might say that the stronger this sense of identity between people and place, the closer a regional theater comes to fulfilling the essential attributes which regional theater seeks to support. The physical form of this relatively new theater type is still emerging.

*communal space*



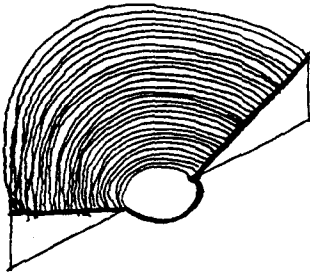
*communal space*

This document, which has resulted from a collaboration between architects and people dedicated to producing regional theater, presents a profile of the regional theater which is distinctly different from other theaters. In the literature of theater architecture one finds a great focus on the performing space. In regional theater performing space is only one of three very important categories of space needed by the theater company. These other kinds of space have, until now, not been clearly identified. Consideration of the design of these spaces, therefore has been mostly ad hoc. This section of our report has been divided into three parts to articulate as clearly as possible the three physical elements of regional theater. The three categories of space we will discuss are: Performance Space, Support Space and Communal Space.

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## PERFORMANCE SPACE

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*greek theater*

Traditionally, concern with theater design has focused on the performance space - the place where actors perform and the audience witnesses the performance. Performance space has evolved over time. Its genealogy extends at least as far back as classical Greece where a performance space was created with wooden bleachers set in an open area.

Further development saw the wooden bleachers evolve to beautifully sited stone amphitheaters. Still later, these were to be covered by a velarium, - a canvas awning. As an architectural form, the theater disappeared with the decline of Rome and did not emerge again in Europe until the late 1500's. From the Renaissance to the present there has been a wide range of theaters. They have attempted to suit the needs of different cultures, widely differing artistic forms and architectural capabilities of the moment.

Regional theater can be viewed as a part of the general evolution of the theater. It is indeed possible to find every conceivable configuration of stage and seating, serving the performance of regional theater. As more regional theaters have an opportunity to build, the special characteristics of regional theater are gradually emerging.

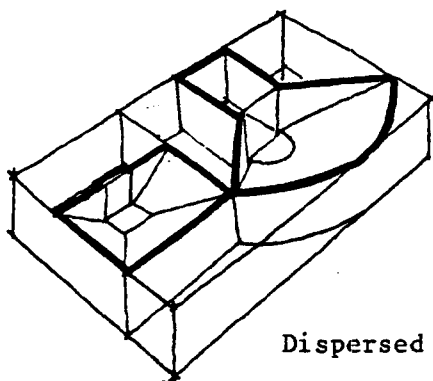
## PROGRAM AND PERFORMING SPACES

The kind of house or mix of houses, establishes the essential physical character of a theater. For that reason the critical question for a regional theater company to ask itself is whether or not performances are preferred in proscenium, thrust, or arena settings. The answer to that question obviously has answers in the history of the company, the expectations of the audience, and the artistic goals of the company. Some companies have created a complex which can accommodate all three types of stages with varying seating capacities. Then the question becomes which type of theater, if any, will be used as the "main" stage?

Obviously few regional theaters have had the luxury of asking that question. But an important issue does emerge from this. That is the need that most regional theaters feel to have both a major performing space and other space, which can be used for performances for smaller audiences even if it is ad hoc. This smaller performing space is where experiments occur - it is the regional theater's laboratory.

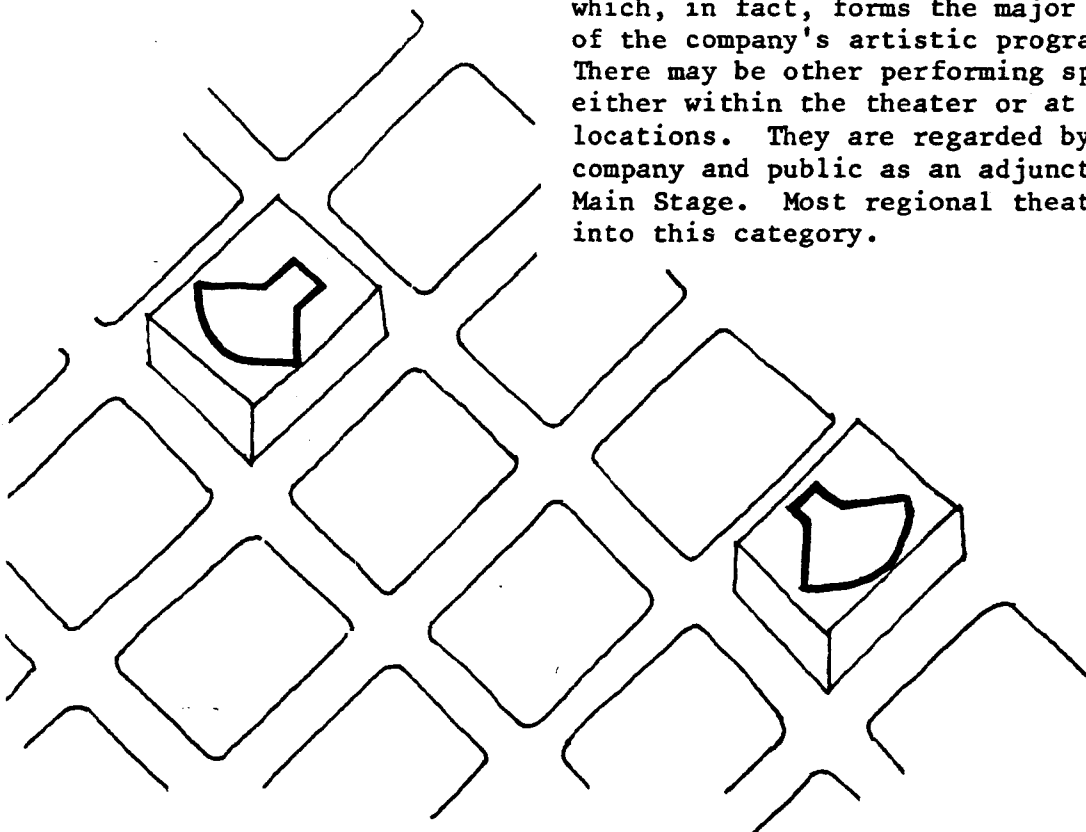
As the regional theater has become more complex with various performing options, there have appeared four distinct arrangements of the regional theater complex.

#### Clustered Stages



Multiple stages form a complex in one location. Most often two sometimes three stages are identified as the Theater. One stage may be regarded by the public as the primary stage and may be the setting for the largest number of performances. The stages ideally share a roof, a lobby, box office, etc. Most newly built regional theaters have aspired to this model.

#### Dispersed Stages

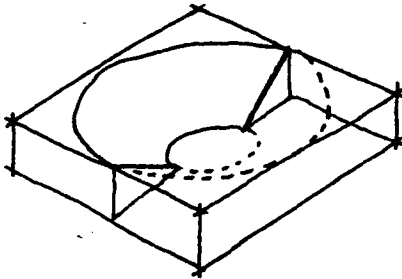


A main stage serves as the principal performing space which the audience and public identify as The Theater, and which, in fact, forms the major portion of the company's artistic program. There may be other performing spaces either within the theater or at other locations. They are regarded by the company and public as an adjunct to the Main Stage. Most regional theaters fit into this category.

### Performance Center

The third model, is the theater which is within an Art Center. In this case the theater can identify with a larger segment of the arts-going public. Rarely in this situation does the theater own its facility and certain functions are often shared with other artistic endeavors. In many cases the theater has less independence, flexibility, and self destiny. Building a new regional theater in this context usually means the theater's objectives will have to come second to the larger concerns of the Center. This is not a model most regional theaters aspire to, but is often a marriage of convenience.

### Flexible Theaters



The idea of a totally flexible theater seemed for a time to be an answer to resolving the variety of productions which became imaginable for contemporary theater. The flexible theater was one which would allow different arrangements of stage and auditorium as productions might demand. Most regional theaters which have tried flexible seating in houses over 200 seats have found it very expensive to build, to maintain and to operate. Even in smaller houses the cost of moving seating between productions is a formidable production cost. For that reason the much touted "flexible" theater remains a dream except for a few University based laboratory theaters.

Of the four models, most regional theaters fit the dispersed stages category. However, clustered stages offer the clearest advantages to regional theater companies. Much of the rest of what we have to say will serve to illustrate why.

### THE QUESTION OF STYLE

The question of house style cannot be separated from company style, and it might be more accurate to say director's style. Although there are probably more, we know of only two theaters (other than some within Arts Centers) which are not the brainchild of a director or a group of directors within a company. Theaters get built because of the determination and energy of these people and invariably they have a very clear vision of the theater they want.

Obviously the basic stage type most affects what a company can perform. It would be an error to suggest that directors and other company personnel should not affect the style of the theater in this regard. Care should be taken, however, that style, in the best sense of the word, is not replaced by capriciousness, either on the part of the director(s) or the architect. Those concerned with theater design should be forewarned that the most fundamental issues of theater design, i.e. seating configuration, circulation, sightlines, acoustics, etc. should remain paramount. Those are the issues we will discuss.

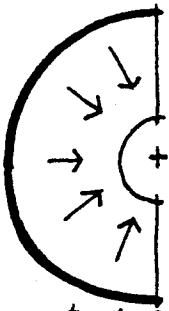
A most irksome question which often pits directors against architects is the issue of whether the building is conceived in a passive or an active role. That is, does the building serve to affect the tone, character and style of a performance or is the building benign, simply a curtain against which the performance takes place? Both approaches have produced good theaters. The architect and director are in for a miserable experience, however, if a clear understanding is not reached regarding an approach upon which they mutually agree.

While many of the performance characteristics of regional theater apply to all other theater types, i.e., sight lines, acoustics, seating dimensions, entrance and exit requirements, etc., one attribute is commonly recognized as being most important and unique to the artistic goals of regional theater. That attribute is "intimacy", the special quality of space that binds the performer and the audience together.

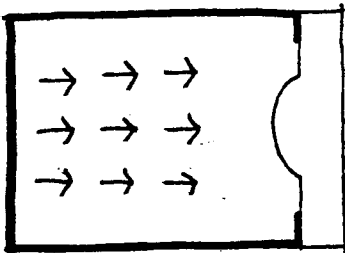
#### INTIMACY:

The notion of intimacy is culturally based and also related to the psycho-physiological characteristics of the individual (Kuller, 1977). To achieve an intimate theater, one must be aware of both phenomena. The desire for intimacy in regional theater has many bases, ranging from the type of material to be performed, to the development of an atmosphere which is different from the more impersonal opera house, concert hall, movie/vaudeville palace or high school auditorium where so much theater is performed. In this regard, regional theater is a closer kin to off-Broadway theater than it is to the larger house, large production Broadway "show". But, sheer size of a house is not the lone determinant of intimacy. Two other characteristics stand out as more important subjective determinants. They are the focus of the audience on the stage and the distance of the actor from the audience.

## Focus:

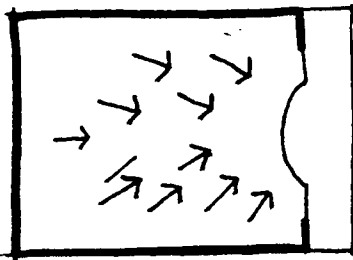


central focus seating

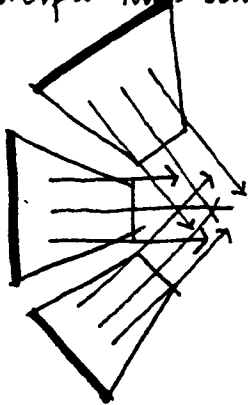


auditorium style seating

audience assumes correct focus



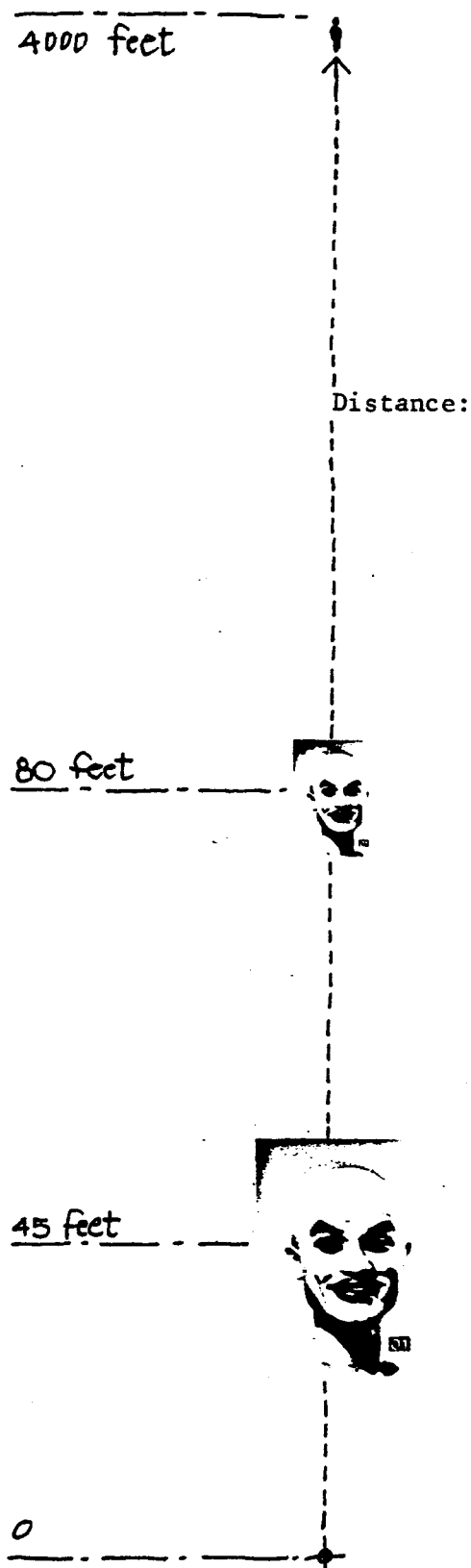
multiple-focus seating



The Greek theater remains the model for a centrally focused theater. The seats, arranged in a semicircle, focus on the central point which generates the arc of the circle. As Vitruvius noted, not only is this center a visual focus, it coincides with the nature of the transmission of the sounds made by the human voice.

The stage of the early Renaissance developed by Serlio, Palladio and others was modeled after the Greek plan. As the fascination with scenic design and false perspective grew, and as productions became more and more elaborate and less dependent upon words for affect, the stage evolved into a frame for a "moving picture".

Cinematography was to make the proscenium, developed during the Renaissance, a primary fixture of the multi-use movie palace/vaudeville theater. These developments certainly testify to the correlation that exists between the physical space of a theater and the character of its productions. Yet, architectural space per se, i.e., walls, ceiling and floor, do not alone decide the degree of focus. There is a certain cumulative affect in a theater where every seat focuses on the same spot of the stage which makes that experience much more intense. Some people would argue that a central focus on the stage is indeed a handicap for the director, who might wish to move the action about, and that proper directing, staging, set design and lighting can produce a focus anywhere. But the same argument can be used for defending an arrangement with a central focus. A good director can move the focus about. Here again we have a fundamental basis for disagreement between architect and director if an early understanding is not reached (For further elaboration of both sides of the argument see Pierce 1968 and Hardy 1968).



We believe there is little doubt that if there is a desire for intimacy, then a central focus theater is most desirable. Every seat, whether occupied or not, is oriented to the same spot on the stage. Thus, every seat has not only a similar relationship to the stage, but a similar relationship to every other seat in the house, democratizing the audience. (A term we will elaborate upon further in later sections).

Another variable in establishing a sense of intimacy is distance. The perceptual abilities of the human being, especially visual and aural capabilities, are here most important. The human form can be detected as far away as 4,000 feet. But it is not until a person is 80 feet away that we can recognize them, and only at 45 feet can we see a person's face clearly.

Looking at the facial contortions and the mouthing of words of performers taken from the stage and filmed for silent movies, we become aware of how much acting has changed, especially the acting associated with intimate theater. Acting is much more subtle, and as Arthur Miller has said, "Drama has become more and more a first-person thing."

We inquired of those engaged in creating new theater what they considered to be the maximum distance between actor and audience. Invariably, their response fell around 45 or 50 feet, approximately fifteen rows of seats at optimum dimensions. While all these recommendations were based on intuition, 45 feet is the maximum distance at which a face can be seen clearly.

There is strong evidence that physical arousal is actually related to distance. Therefore the sense of intimacy between audience and actor, for those

sitting within the 45-foot range, is quite real. Empirical evidence is provided by Kuller:

"We are accustomed to observing the eyes and lips of a speaking person. As a rule, speech is emphasized on stage by gestures and movements of a gross motorical nature. Through this they are certainly magnified or amplified just as one through electric means can amplify the voice, but being able to see the actors' faces in detail nevertheless has its particular importance. Direct eye contact may then take place.

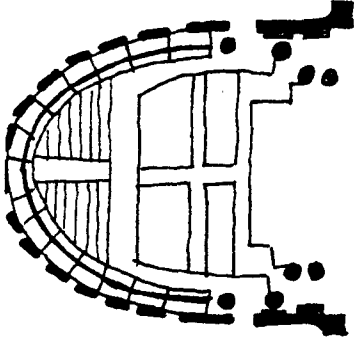


"Eye contact has been shown experimentally to be arousing. In one study where electric activity of the brain (EEG) was used to assess arousal, different gaze conditions were compared. When the experimenter looked into the eyes of the subject there was a distinct increase in arousal. If at the same time the experimenter smiled, arousal became even more accentuated. Thus, those who are sitting close enough to be able to distinguish the performer's face in detail have much greater possibilities of being aroused than those who are sitting farther back.

"Even the performers have a message to receive - the reactions of the audience. There should be no doubt that the performer - with hundreds of pairs of eyes facing him - attains an increased arousal. Applause and laughter naturally have a similar effect on the performers as well as on the audience itself. (Kuller, 1977)"

#### SEATING:

There are long-standing traditions associated with theater seating which create several paradoxes for the regional theater. The first is the fact that all seats are not



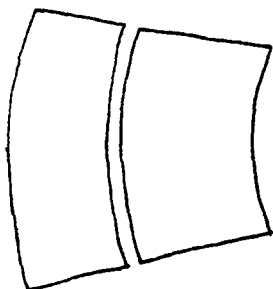
*hierarchical seating  
Opera de Versailles*

equal, given their focus and distance relative to the stage. That fact was recognized during the earliest period of theater building. Even in democratic Greece, priests were given seats with greater girth and "in the best location". Seating has since been associated with hierarchical arrangements often associated with social position. This was taken to the extreme during the Italian Renaissance. Opera houses were outfitted with boxes, "where refreshments were served throughout the performance while its occupants socialized, flirted, made love, conducted business and affairs of state and, as they still do, slept from aria through recitative aria" (Izenour, 1977, p. 21). This tradition of a hierarchical arrangement of seats is, of course, still carried on, though not to the extreme. Richard Wagner was responsible for the "democratization of the theater" through his influence on the design of the Bayreuth Festspielhaus in 1876. "He insisted that every spectator in the auditorium should be able to see the stage in a manner unimpeded by the prevailing exigencies of court etiquette, auditorium design precedent or architectural tradition." (Izenour, 1977, p. 48)

The democratization of the theater which Wagner began is a primary goal of regional theater. The obvious goal in the design of seating for a theater, where people go to see the theater, not each other, is to make each seat equally good. The contradiction, of course, is that box office and audience demands are for seats with a price differential, even though every seat in the house should be a good seat. Since seating location is relative, every house will establish its own hierarchy. Sometimes these are not easily predicted, as at the Arena Stage in Washington D.C., where the farthest, most separate and seemingly most exclusive tier of seats were established as boxes, an exclusive connotation. In the end, these proved to be the least popular seats and they were priced accordingly.

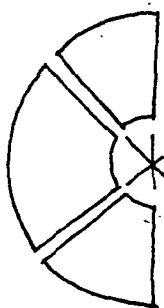
Besides being able to see well, comfort is of utmost importance in seating. This is particularly true in regional theater, where it is expected that the audience will return again and again and again. For this reason, adequate seat dimensions are essential. Seat widths may vary from 20 to 23 inches: 22 inches is preferred. Back-to-back spacing for self-rising seats (all seats should be self-rising) is 36". Anything less than 36" is likely to be noticed by even people of average dimensions during an hour and a half performance where leg movement

is essential for comfort. Anything more than 36" is really not necessary unless the seating is continental (that is, with side aisles only), then seating back-to-back should be 39", using self-rising/retracting pushback seats.



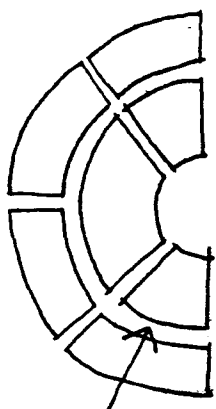
*continental seating*

Continental seating has become a very popular form of seating for concert halls and larger theaters, but it is not a good seating arrangement for regional theaters. Continental seating has the advantage of having all aisles located at the edges of the house, thus maximizing optimum seating locations. This also means putting each row of seats at least 3" further apart, giving a greater perceived separation between audience and actor. But a house 15 rows deep using continental seating will have the last row of seats nearly four feet further from the stage. More importantly, the seats will seem to be excessively far apart in a theater which is supposed to seem intimate.



*radial seating*

Aisle placement can affect both ease of access and the general ambiance of a theater simply by subdividing a theater into sections. Aisles can also have an effect on the natural division of ticket prices - an aisle being a clear subdivision of one part of the audience from another. Continental and radial seating contribute to the focusing quality of a theater; parallel aisles do not. Crossover aisles, i.e. connecting aisles parallel to the stage, are frequently used to further divide a space, giving access to the house at an intermediate level and helping to provide proper exiting required by fire codes. Crossover aisles, however, place an additional distance between part of the audience and the stage and should be avoided to maintain the greatest sense of intimacy.

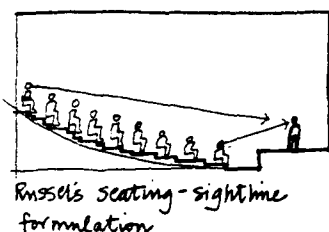


*crossover  
aisle*

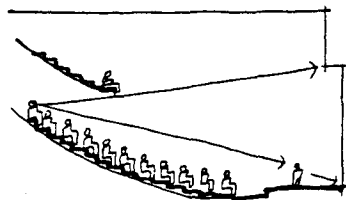
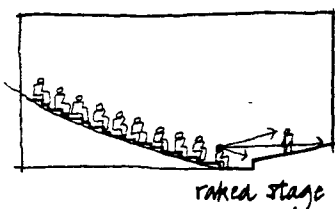
Access to seating can be from the stage level, from the top, or somewhere in between. Opinion about which is best is mixed, though there is probably the most concern expressed about having an audience ascend from the stage area to their seating for two reasons. The first reason is the possibility that the stage, props, etc., might be tampered with (thefts of properties from the stage have actually been reported). Secondly, the audience develops a very keen awareness of the actual distance between the stage and their seats, as they must walk away from the stage. Arriving from the top, on the other hand, no matter where you sit you are moving towards the stage to get your seat.

Another consideration in the location of aisles is the evacuation of the house. Evacuation for fire is extremely important and regulated by codes. A fact often forgotten

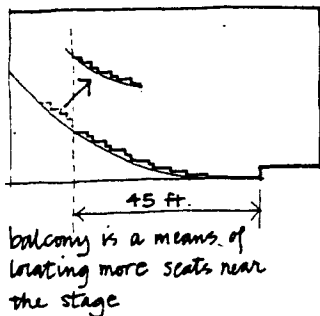
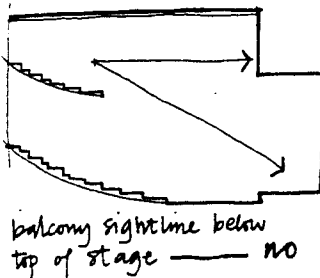
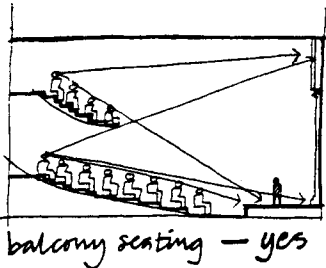
in designing fire exits is that people's first tendency is to exit the way they came in. Dispersed entries are likely to serve as the best form of fire exit. Thought should also be given to the simple convenience of people moving from their seats to the lobby during intermission. While intermissions are necessary disruptions, some directors feel they should be kept as short as possible and people queuing to get in and out of seating can add immeasurable time necessary for an intermission. An aisle arrangement where some aisles are continuous from stage to back of house and others are not, gives the greatest ease of access, at the same time minimizing the disruptive visual impact of aisles.



It goes without saying that everyone attending the theater expects an unobstructed view of the stage. But in addition, the audience can rightfully expect to see the entire area in which the performance is staged. Two sight lines are thus affected - the vertical and horizontal. There is a simple means for determining vertical sight lines established by John Scott Russell in 1938 and used almost exclusively since, except that computers now aid in the calculation. The principle of Russell's formulation is that the elevation of each seat is based on the height of the seat front "as it relates to a point on the stage". That point, as Russell saw it, was a fixed focus assumed to be a speaker at center stage standing upright (approximately 5 feet above the elevation of the stage). This formulation has the advantage that it works equally well for sound, and thus many of the conventional rules of thumb for auditorium design are based upon this relationship.



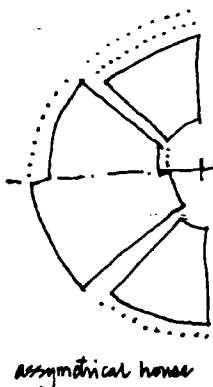
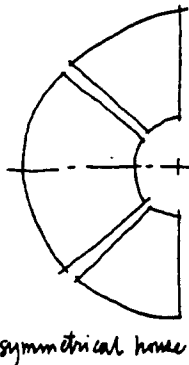
However, depending upon the distance of the speaker from the first row of seats and the relative height of the stage to the auditorium, it is possible to create a situation where the stage floor itself is not visible by the entire audience. What constitutes good auditorium viewing is not necessarily good theater viewing, and as a result we have many stages which have to be raked for practical as well as artistic reasons. For regional theater, where the floor of the stage may frequently be an important focus, the entire audience should have a view of the stage floor. The analogy can be carried further to include views of the entire stage area defined by width, height and depth. Thus, views of the top elevation of the stage area should not be cut off by protruding balconies or railings, and back stage areas should not be cut off by side walls. Russell's formula for sight lines needs to be enlarged to include all areas of the stage.



Balcony seating can be a very reasonable form of seating if Russell's formula, as we have modified it, is used. Care should be taken not to cut off the sight lines to the top of the stage from underneath the balcony and from the balcony itself by overhanging lighting rigs, etc. When the top of the stage opening is below the horizontal sight line of a person sitting in the balcony, the sense of exaggerated elevation can be extremely disconcerting to the audience. There is the sense that one is looking at the stage in a pit.

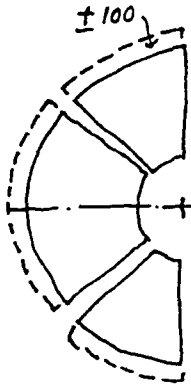
The Guthrie Theater in Minneapolis uses both balcony and non-balcony seating and is an excellent place to see the application of Russell's formula using both types of seating.

Balcony seating has the further advantage of being a convenient way of adding seating in relatively the same volume of space without sacrificing sight lines. This can add to the intimate nature of the theater and can further break down the apparent differences in seating for seat pricing purposes, without greatly sacrificing the quality of seats themselves. Another advantage of a balcony is the division of seats, so that in effect a smaller theater can be created using the lower level of seats only. A disadvantage of balcony seating, of course, is the fact that two lobbies are needed, additional stairs, etc. Some would argue that balcony seating provides greater intimacy because it puts more people closer to performers. Others would argue it inhibits a sense of intimacy because it divides the audience into two parts.



There is one other characteristic of seating which should be mentioned. That is the question of whether or not the stage and seating should be symmetrical or whether they should be asymmetrical, an issue raised earlier as one where director and architect will have to reach agreement. For those who believe the house should have a certain theatrical dynamic before the play begins, the asymmetrical house is a means for achieving this end. But others would argue it should be up to the director, performers, stage and lighting designers, etc., to determine the character of the performance and the house should be neutral. In that case, a symmetrical arrangement is to be desired. For those who cannot decide which is best, it is possible to have it both ways by installing moveable seats in the front and the back of the house. A slight adjustment of the seating can tip the house from being strictly symmetrical to being quite lopsided.

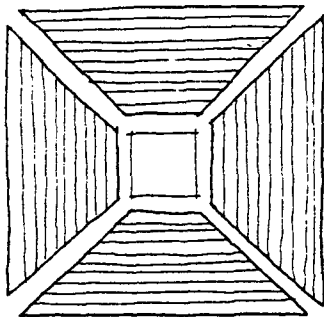
Finally it should be mentioned that capacity itself is an issue. Invariably a reason new theaters are built is to increase capacity. It surprised the research team that none of the theaters examined have been designed to expand in the event that audience numbers grow. The general philosophy we perceived from theaters was that further audience growth, if it occurred, would be in the form of extended programming in second and third stage settings.



To not build in capacity for expansion is to prophecy a static capacity. When growth, say from 200 to 500 seats, was the only means of creating a "proper" theater, there was terrific impetus to grow. But the stimulus to add another 100 seats if the audience grew to that extent is unlikely to stimulate the creation of a completely new theater.

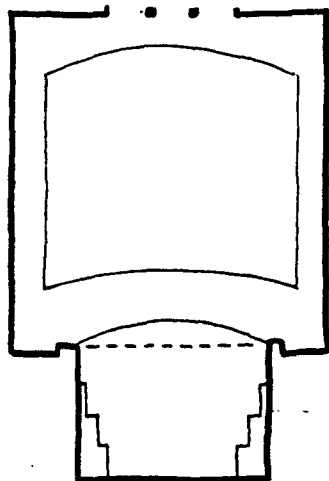
Larger capacities are possible with the maintenance of intimacy if the guidelines already suggested are followed. Not to build in some flexibility for growth strikes us as being shortsighted especially given that the addition of close to a hundred seats can be accomplished with a row or two of seats at the back of the house.

#### STAGE:



*arena seating*

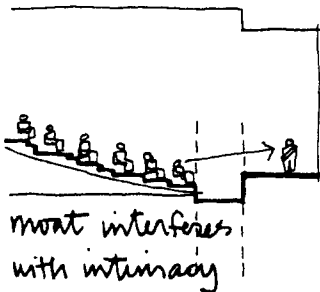
The most important aspect of the stage is its relation to the audience. The extreme situations are the arena, where the audience surrounds the performing area, and the proscenium, where the audience is placed squarely in front of the stage. The thrust stage and its many variations represent the infinite varieties which lie in between these two possibilities. The thrust stage or modified thrust is clearly the type of stage preferred by most regional theaters as their main stage. Once the decision about type of stage is made, the basic character of the house is fairly well-determined.



*proscenium theater*

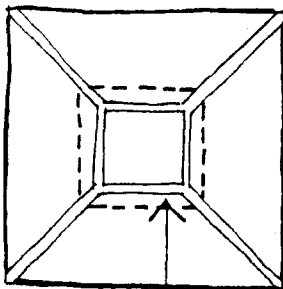
Another more detailed concern is the separation of the house from the stage and whether it should be or not. The orchestra in the traditional theater separates the house from the stage, as does the elevation of the stage to achieve better sight lines. But in the arena setting, and in the thrust stage, the orchestra is done away with. In several theaters a moat (or gutter) has been used to separate the first row of patrons from the stage so the audience does not get its feet trampled upon or find a performer sitting in their lap. Such separations of stage and audience also provide free space in front of the stage for circulation.

The design of the stage to seating relationship is a critical area where the architect and director(s) must come to agreement. In Cincinnati that relationship was essential to developing a particular character. In the words of the architect..."In the beginning Brooks was opposed to an asymmetrical stage, but we as architects disagreed. Our point was that once you put a performance into a room with an audience, the performance becomes a three-dimensional thing which depends on movement as much as speech. There should be the opportunity to move in all sorts of ways which an asymmetrical stage provides. This led to the decision to surround the stage with a pit giving access at any point on its perimeter, not just from the vomitories. In Brooks' style of production actors and audience do not intermix - he thinks this demeans the actor. He wants actors to be larger-than-life-sized people. This was further reason for cutting the stage off from the audience." (Hardy 19) The Cincinnati Playhouse under another director has recently had the front rows of seating modified to make the house more symmetrical.



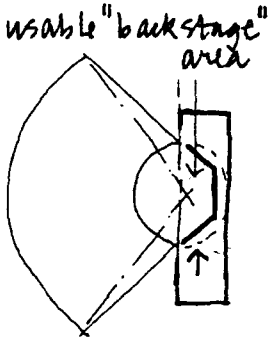
In some theaters the moat has given stage designers and directors great anguish. It is often filled in with false staging if a strong sense of intimacy is attempted. A stage which has the fewest built-in architectural restrictions is the one which ultimately gives the director and the set designer an ability to fix the relation between actor and audience in ways they feel most appropriate to a particular production.

The size of the stage or stage area and its configuration is another consideration which greatly affects the character of the house. In a proscenium theater, the size of the opening itself may be changed, both horizontally and vertically affecting the form of the stage. In the arena configuration the stage area is least easily changed. Once in place it can only be expanded by removing seating, though if the first row of seats is removable a great deal of flexibility in stage size can be achieved - six feet in either direction. The same is true of thrust seating. It is quite obvious that the appropriate size stage for a one or two-person show is different from that for productions with a larger cast. A flexible stage configuration can greatly enhance the desired sense of intimacy.



Flexibility of the first row (or rows) gives greater assistance to the director and set designer in adjusting the production to "fit" the house. Asymmetrical relations between stage and house can be created in such cases.

The proscenium stage and the arena and thrust stages are obviously quite different in their ability to accommodate scenery and lighting. From a scenic aspect, the proscenium stage, because it is designed to be dependent upon frontal observation and can be closed by a curtain, can easily have sets which are changed by raising flats, sliding sets in and out from the side stages, revolving sets on a turntable, using traps and lifts and numerous other ingenious devices developed over several centuries of theater-making. Those attributes are still the factor which makes the proscenium stage favored by many where a "scene" (especially multiple scenes) is essential to creating a drama. The only comparable attribute that the arena and thrust stages share with the proscenium is their ability to be trapped. Arena and thrust stages with adequate height above them can also use flies, but certainly not the elaborate systems found in proscenium theaters. One must assume, therefore, that the arena and thrust stages are going to be much more demanding on the artistic director, set designer and lighting designer - a challenge that many involved in regional theater relish.

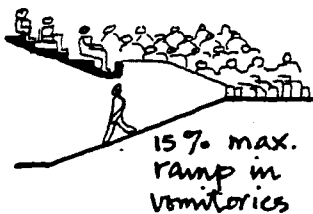


By giving a thrust stage adequate area directly behind that part of the stage which is thrust, it is possible to combine the scenery capability of thrust and proscenium, thus taking advantage of the potential that both types of stages inherently possess. The area usually thought of as backstage should be considered an integral part of the stage and capable of performance, rear projection, etc.

It seems to be an axiom of set designers that they will use as much space as is given them. In the interest of budget, it has also proven true that the best set designers are equally capable of using as little stage as is given them. The size of the stage, therefore, plays an important part in determining performance budgets. Controlling the size of the stage is both an artistic and managerial concern. Moveable or adjustable wings, even in a thrust stage as at Berkeley, provide an opportunity for creating a very flexible relationship between rear and thrust stages.

In both thrust and arena staging the entrance of performers to the stage must be thought of as a part of the staging, for as soon as a performer is seen by any of the audience they become a part of the theater. An advantage of both thrust and arena staging is that a performer has the potential of moving to the stage from many directions. In the extreme, this can be accomplished by a vomitory that totally surrounds the stage, as at the Mummers Theater in Oklahoma City. ( ) That ability is achieved, however, at

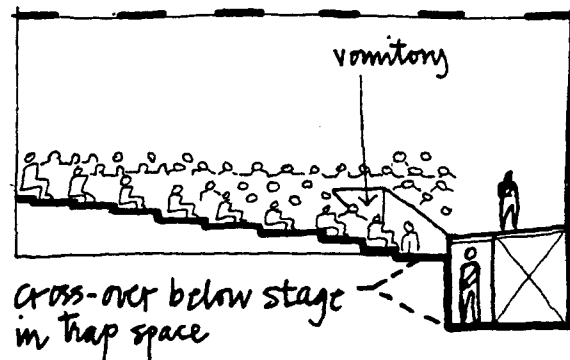
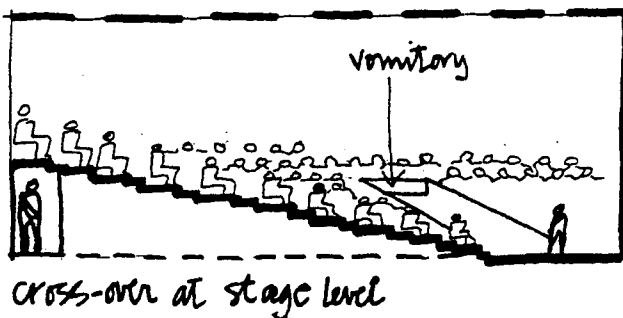
the expense of putting the stage in a pit with an accompanying sense of removal from the audience. The location of "voms" does become an extremely important factor in setting the motion, choreography if you would, of a play. A central vom creates very difficult, inflexible, and static movement patterns. More than one vom is needed from the front of the stage to give a director a variety of movement patterns to utilize. Obviously, the location of voms does much to set the character of the house and this is one other design decision where the architect and artistic director must be of one mind.



If there is a single issue about which performers have a right to complain, it would be concerning the gyrations they are expected to perform on entering and exiting from the stage. To avoid having the voms interrupt seating excessively, there is a temptation for architects to shorten the vom depth and decrease the headroom. Vomitories frequently provide little headroom for even average-sized performers, and most assuredly inadequate headroom for everyone with a hat. Voms are also very often too steeply ramped, anything more than 15% is like running uphill, and some vomitories even confront performers with stairs which they are expected to negotiate at great speed in total darkness.

There are two distinctly different strategies for providing vomitories. These are at least partly conditioned by the rake of the seating. The two options are:

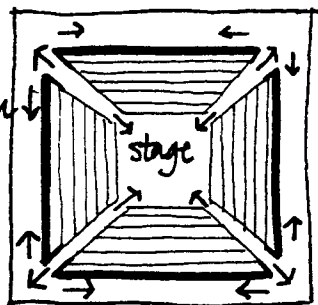
Cross-over below stage level usually at or close to the elevation of the trap room and;  
Cross-over at stage level below seating.



Cross-over below stage level usually requires that stairs occur within vomitories. Two things require attention. The first is actor safety. It is not easy to negotiate darkened stairs (which is necessary to avoid light leakage onstage). Headroom is frequently a concern. Luminous tape and foam padding help, but we have not interviewed any performers who like this form of vom. The other concern is artistic. The impression is often given that actors are descending into a pit with this type of vom, although that may not be the intent of the staging.

Cross-over at stage level most typically includes some ramping down to avoid the necessity of the vom cutting too deeply into the seating area. Unless the ramping is excessive, this form of vom is easier and safer for actors to negotiate.

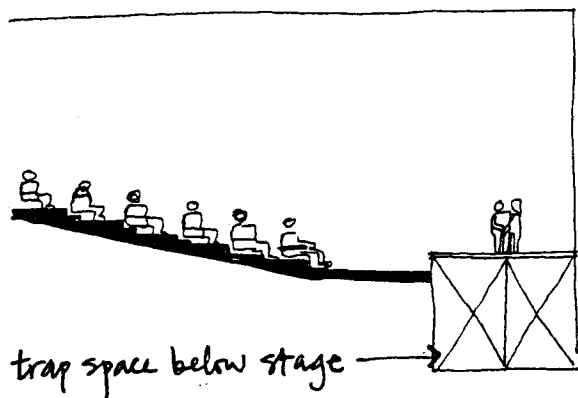
arena  
stage  
circulation  
and  
vomms  
at stage  
level



Two vom arrangements of this type deserve particular attention. The vomms at Arena Stage connect to a passageway which encircles the entire stage area under the seating. The multiple access points makes for great flexibility in entrance/exit to the stage, and the total floor area involved makes for an unusual amount of breathing space backstage.

Milwaukee's Todd Wehr Theater, by the same architect, although not an arena stage, has a similar below-seating circulation system. At Todd Wehr, which is within a severely restricted space envelope, the dressing rooms connect directly to this cross-over passageway. The arena stage arrangement is superior in this respect, in that there is a "lock" space separating dressing rooms from the cross-over space and noise in dressing room areas is not a problem.

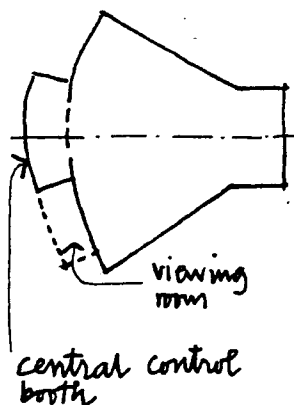
Audience at Hartford Stage enters the house through the vom. There are doors into the cross-over space located in the vom side walls. The only apparent problem with this particular arrangement is that headroom is restricted within the cross-over space.

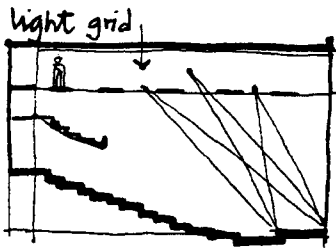


Traps are a common feature in proscenium, thrust and arena staging. Attitudes regarding their usefulness vary considerably. Whether or not they are practical or appropriate may depend upon how the trap space relates to other elements of the theater. Much can be said against traps which lead to crawl spaces so that the performer must first play the role of mouse before emerging as Lucifer. The use of this form of trap is so limited that they are best forgotten. On the other hand, a fully trapped stage with elevators or lifts and adequate storage areas to either side can be an invaluable device for accommodating set changes in true repertory. Mechanized traps are a major investment and their use is really only warranted where it is anticipated they will be used frequently for moving sets.

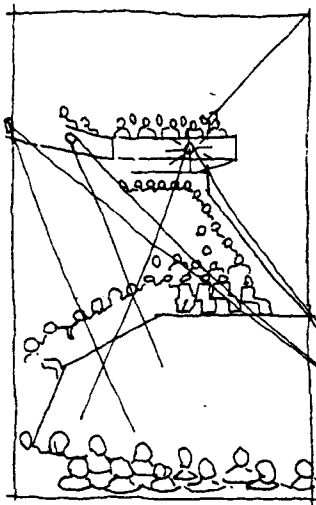
#### CONTROL AND OPERATIONS:

Control and operations of the house extend to two areas, the stage and the audience. The control booth has become a sophisticated center, the brain center, for any production. In many respects, control booth technology and the mini-computer have brought a high level of technological capability within the reach of regional theater at relatively modest costs. This technological capability may continue to grow, allowing fewer people to do more. A central booth which is enclosed is essential to create the best communication between the technical crew with the least disturbance to the audience. An adjacent room which can be used as a viewing room by the director, staff, visitors, etc., and which has direct access to the control booth gives yet another dimension of flexibility. To allow maximum flexibility for the house, it is desirable that an area in the control booth be set aside at the center line of the stage for slide or film projection and a roving spot.





Lighting deserves more attention than we can give it here. It is a subject already given much time and expertise in theater literature. Suffice it to say that in the design of the house, thought needs to be given ahead of time to locations and access to lights. Without a doubt, the most successful approaches we have seen to lighting have considered the entire ceiling of the theater as a light grid with access by catwalks on which one can stand, and with direct access from the catwalk to an electrical workshop where lights can be taken to be repaired. Certainly from a functional point of view one can ask, "Why expect less?". But there are so many theaters where the lights need special scaffolding to be reached, where adjusting lights means interfering with stage sets, and where changes in lights requires a vast crew and shifting of heavy equipment. It would appear that lighting was a last-minute consideration in these theaters. A ceiling grid is not difficult to install. It can be easily hung from the roof structure and it can be exposed or hidden by baffles, as aesthetics dictate and cost may demand. It is an architectural consideration where long-term saving in production costs may very well justify greater construction expenditures.



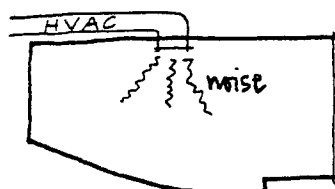
disruptive  
stage lighting

Unfortunately, the edges of balconies tend to be used for hanging stage lights. In a proscenium theater they are not so bothersome, but where a balcony wraps around a stage, the audience ends up staring into the spotlights. Some theaters treat the stage lights as decorative elements and their visual presence adds to an ad hoc character. But invariably, lights that are visible to the audience cause visual distraction, especially as they go on or off or are dimmed. They become more important than the object lit. This is an obvious error in too many theaters.

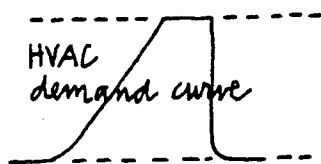
Stage lighting so often becomes the overwhelming lighting concern in the theater that other lighting is often forgotten. Care needs to be given to help the audience adjust to the strong contrast of light and dark they will experience in viewing a performance. This doesn't mean keeping the audience in the dark. Many theaters don't give the audience enough light to read a program.

Another concern is providing appropriate lighting in aisles to help people move on stairs. Aisle lighting is an important necessity and safety device, as are exit lights. They are, however, the bane of architects and theater managers alike. If poorly located, they can light up the whole house and provide distractions during

blackouts. Since these light fixtures are required by safety codes, all that can be done is to carefully consider their location and the problems which they may cause during the initial phase of a theater's design.



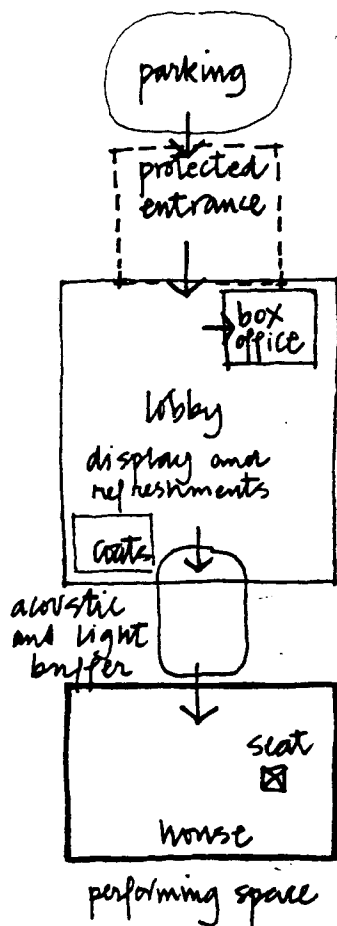
Heating, ventilating and air conditioning a house successfully is extremely difficult, and a well qualified mechanical engineer should be engaged early in the project's development. Noise generated by heating and cooling equipment is a major concern. Noise transferred directly to the performance area by equipment can be eliminated by placing the equipment away from performing areas, mounting it on cushions, and providing all duct work with flexible connections. Acoustic baffles can also be used in the ducts themselves. It is tempting to use high velocity systems to move the amount of air necessary to adequately condition a house but too high a velocity can create noisy movement of air. There is a lack of sound dampening provisions in most systems because of their expense.



The temperature difference between an empty house and when the curtain rises with 500-700 persons all giving off heat, together with thousands of kilowatts of stage lights, presents a tremendous problem in designing a mechanical system which can adjust quickly enough to those rapid changes in condition. The quality of HVAC systems is typically one of the first things to be compromised when cutting budgets. Cutting the HVAC budget inevitably results in a less satisfactory HVAC system and the damage done by installing an inferior system is difficult and often impossible to rectify. As heating budgets rise, more sophisticated HVAC systems are likely to pay for themselves in reduced fuel bills. Mini-computers are aiding in the creation of more efficient HVAC systems.

#### AUDIENCE ACCESS AND CONVENIENCE

The theater seat represents a final destination and the theater patron should arrive at that point with a sense of exhilaration and expectation for the performance. That cannot occur if the patron hasn't found a place to park, has had to stand in a long line in the cold, sun, rain, heat or wind to get into the theater, doesn't have a clue where one's seat might be, and can't find a place to hang one's coat. Those are simply accommodations. To add to the exhilaration of a performance, imagine that our patron has found convenient parking, waited a short time to enter the theater under protection from the weather, has a place to check a coat and find signs directing one to their seat. Patrons enter through a lobby which has a display



telling them something about the theater company and the play they are about to see. The lobby has a mood which seems to fit the performance. At intermission they can return to the lobby for refreshments and pleasant conversation with friends, and have a chance to view the rest of the exhibit.

All quite sensible, but lobbies seem to be either forgotten completely or designed to demonstrate only the architect's virtuosity. The lobby should be more than a vestibule. It adds an important dimension to theatergoing and should be thought of accordingly. Careful attention should be given to lighting and acoustics here as well. The designer should take into account that people tend to gather by doorways, or loiter there. They like walls or columns to lean against - low walls and sometimes even stairs tend to be used for seating.

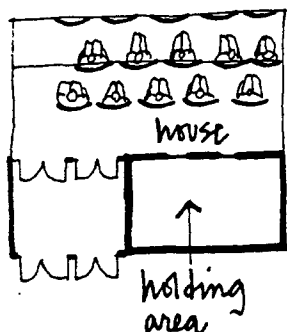
Services related to the lobby, such as the box office, coat check and concessions, need to be located off the main paths of circulation with ample room for queuing patrons.

Handicapped access is not uniformly provided for in the building code. Careful consideration of the handicapped in wheelchairs can prevent embarrassing and difficult last-minute modifications to assure that they have access that is truly integrated in the design of the theater. Handicapped access should not be shoddy.

The theater lobby, besides providing access as previously mentioned, should be thought of as a rich resource for setting a mood where the theater company can be presented. The lobby can serve as a museum, a showroom, an educational gallery where scenes from "behind the scenes" can be displayed. For regional theater in particular, the lobby is a special opportunity to catch the audience in a receptive mood, to convey information and the spirit of the theater, to be the place where the audience and the company share space. The lobby can be a thing unto itself, as at the Indianapolis Rep where the lobby of an old movie palace has so much ambiance it is frequently rented out for parties; or the Cincinnati Playhouse, where the new lobby doubles as a restaurant before performances, and a cabaret theater at other times.

The importance of the front of the house is often overlooked as is the importance of the house manager. Entering a theater is not unlike entering a house, the house manager as host or hostess sees to it that coats are

taken and people are properly escorted to their seats, programs in hand. Adequate room needs to be provided so that this transition to the house can occur comfortably. There needs to be a place to store programs, a place for ushers to sit or stand out of the way, etc.

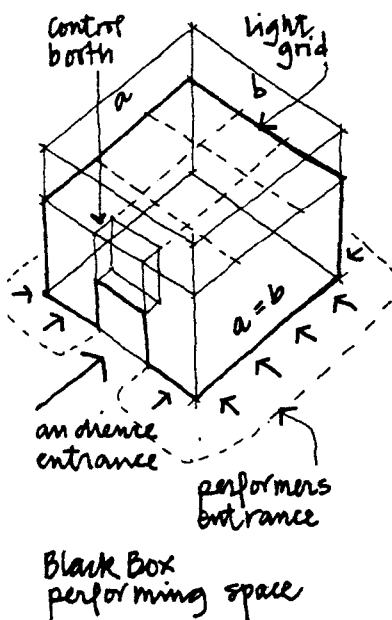


As any house manager will note, another audience-related issue is the accommodation of latecomers. Some would argue that if you accommodate latecomers you only encourage their tardiness. However, latecomers appear to be inevitable. The house should have a holding area for late arrivals which includes a vestibule to trap light which may enter the theater from the lobby. The way latecomers are treated depends on local etiquette, but never should the latecomer be allowed to interrupt a performance. Two of the most accommodating gestures are a holding room with a window to the stage and piped-in sound, or a row of seats or sometimes just standing area in a rear aisle. (A wider rear aisle can also serve many other functions; overflow seating, seating for persons with wheelchairs, etc.)

Architects are so used to thinking of the building code as over-providing for the needs of public safety, health, etc., that one presumes the toilet facilities required by code are adequate. They are not. A common complaint among theater groups is that public toilet facilities are inadequate. To reduce audience discomfort, if not panic, intermissions have to be extended to make sure that everyone who needs to can use the toilets. Women's toilets are notoriously inadequate. There is of course the catch for architects that few people will praise them for putting in too many toilets, since they are indeed expensive. But careful consideration should be given to the adequacy of these facilities as required by the code. A safe rule of thumb might be half again as many fixtures in the women's toilet as required by code.

#### SECOND STAGES AND OTHER PERFORMING AREAS:

Second stage does not mean secondary. An especially important characteristic of regional theater is the diversity of the program it performs, and its ability and willingness to venture into new theater productions. A smaller stage facilitates such activity, and many theaters are capable of supporting more than one such performing area, as they continually look for imaginative ways to stage performances. The comments that have preceded can generally be used to apply to these other performing areas as well. Since the second stage is most often intended to be a smaller theater of 200 or so seats, sight lines are not as critical an issue. In most circumstances, however, raised seating will still be required to give everyone adequate views of the performance area.



If there has been one persistent dream of twentieth-century inventors, be they architects, directors or playwrights, it is to have a totally flexible theater. Degrees of flexibility have been achieved in various designs, but each theater has emerged with its own limitations. We are left with the concept of a black box, that is, a theater in which we can put anything we want and conversely take out anything we don't want.

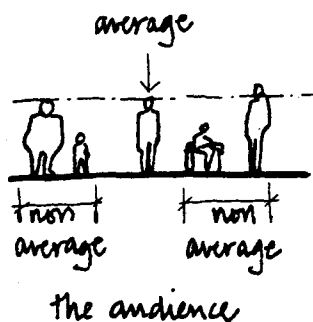
The proportions of the black box are most crucial, as is its location to other activities. Like the mainstage, it must serve as a link between back stage activity and the front of the theater. A neutral plan, such as a square, provides the best opportunity to change the seating arrangements from proscenium, to thrust, to arena, as might be desired. A single entrance, for the audience, and access around the entire perimeter for the performers, is preferred. A control room and light grid are equally necessary for this space to function well.

Flexible seating is the single most difficult goal to achieve. To set up and change seating arrangements takes time. This is not often budgeted in the lower-cost productions associated with second stages. However, rather than very costly mechanical devices and modular seating arrangements which allow flexibility within rather narrow limits, the most flexible theater would be the one which starts from scratch each time, provided a production budget exists which can reconstruct the seating arrangement as necessary. Flexibility seems better left to solutions by ad hoc means. Permanent investments in mechanical solutions in the end seem not to be all that flexible. We have no flexible theater schemes to recommend. After nearly a century of experimentation the "total theater technique" is yet to be realized.

The many opportunities for creating ad hoc performance spaces should not be ignored. Rehearsal space carefully located to allow convenient public access can be tuned into a performance area on occasion. Lobbies have been turned into cabaret theater with the addition of tables. Our proposal for a "Public Place," which follows later, suggests the creation of another kind of performance space which is ad hoc in character.

We have come to believe that a regional theater company can benefit greatly by having this wide a range of performance opportunity in one concentrated area, not only for the convenience it provides the company, but for the exposure it gives audiences to all the ambitions and programs of the company.

## NON-AVERAGE AUDIENCES



The handicapped have received some much-deserved recognition with the passage of legislation mandating equal access to public facilities. Consideration of the needs of the handicapped can extend well beyond that which has already been legislated, however.

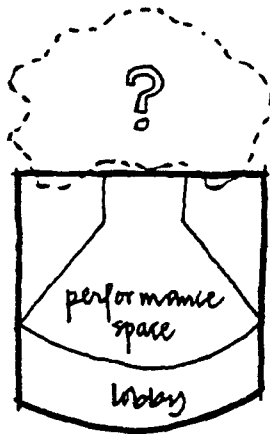
In designing facilities, code standards and the architect's rules of thumb tend to serve best the average person, that is, the person of average height, build, agility, hearing, sight, endurance, etc. Anyone who is not average in any of the above categories finds oneself handicapped in most theaters. The person of above-average height finds his legs cramped, the shorter person and children find themselves trying to peer at the stage between the heads of those in front of them. The elderly person may have trouble seeing in dim light, has difficulty on carpeted stairs, and feels their life at risk in going down the aisle to their seat. The person of extra girth is held captive in his seat for an hour and a half, the circulation of his legs cut off and his legs and feet falling asleep. We can all identify many others who at times, feel as handicapped in dealing with the exigencies of the buildings as those who fit the more accepted definitions of handicapped. It is important for us to draw attention to the non-average persons who may frequently be theater patrons so that architects and designers are more sensitive to designing for a broad range of audiences.

Wheelchair access requires the most careful consideration in the layout of the facility, both in the performing area and theater where handicapped may be patrons. It is also important in the shops, box office and other areas where the wheelchair handicapped may be employed. Wheelchair handicapped can be provided access and dignity by means of access which is also an obvious convenience for the non-handicapped person. We highly recommend that local organizations representing the handicapped be contacted to help devise appropriate planning strategies.

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## SUPPORT SPACE

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Support space, the shops, offices, dressing rooms, rehearsal space etc. which support the production of theater performances are the most neglected elements in the design of regional theaters. A most unique and important aspect of regional theater is that it is the home and workplace for a wide variety of people performing myriad tasks away from the stage and the house. What about the quality of those spaces? It is perhaps indicative of the plight of people who must work in the theater that nothing is written about their needs, individually or collectively. The Performing Arts Information Guide Series, which contains eleven volumes, has no work devoted to theater support facilities. The one volume which might, Theater and Cinema Architecture, has no references in its subject index, to shop space, dressing facilities or even rehearsal space.

The standard references on scene construction and design provide only obscure notes on the layout of shops and the kinds of equipment needed. References on costume are much the same. No wonder, then, that architects choose to put these places in windowless basements, attics or warehouses, removed from the theater itself. When theater budgets are cut, it is the support space which is the first to be reduced in size, lessened in quality, or removed altogether.

Perhaps the real irony is that theater people are working under conditions of extreme stress, working long and irregular hours and constantly working to meet deadlines. In many other work situations, much attention would be devoted to making their working environment as efficient and supportive as possible. Needless to say, that has not yet become one of the traditions of the theater.

### MANAGEMENT:

Theater management, in the broadest terms, is directed at "getting the job done". Actual theater management runs the gamut of individual personality, from anarchy to autocracy. No matter what the managerial form, communication remains a key factor in good theater management. Whether highly--structured or ad hoc, spatial relationships can have a primary impact on communication.

Spatial proximity between administration and staff is a key element in good communication and good management. The worst situation is to have the administrative staff separated from other staff. That is not an unusual situation. Frequently even new theaters have the administrative offices removed from support activities.

More will be said about this later. Successful design of administrative offices is highly dependent upon a clear understanding of their relationship to the rest of the theater complex.



Regional theater tends to be pluralistic and open. Administrative offices are frequently the center of volunteer activity, promotional efforts, and both planned and ad hoc activity. It is appropriate that administrative space be made up of a combination of fixed and flexible spaces. The various directors of a theater company need to be able to achieve privacy when they may need it. Conventional office space is most suitable for them. Their office space will be most efficient if it is large enough to hold small conferences of 4 to 6 people.

The rest of the office space needs enough flexibility to be able to accommodate changes in staffing needs, volunteer assistance during ticket campaigns, etc. A conference room which can double as a work area often can be used to supplement the space needed to accommodate sporadic volunteer assistance. A separate space is needed for duplicating equipment, dead storage, etc.

Not to be overlooked is the gathering point, the place where notices are posted, mail collected, and where anyone can grab a cup of coffee. This spot is often the most important location in the entire theater for facilitating the ad hoc communication which differentiates bureaucratic information flow from real communication.

Administrative offices serve as the reception area for the public. The image of the administrative offices is important. A comfortable reception area and information about the theater in this location can do much to present the image of professionalism which should be associated with regional theater.

#### PRODUCTION STAFF:

A special attribute of regional theater is the continuity which exists in production management. For that reason, the production personnel need to have an identifiable home within the theater complex, a place to "hang their hat", where the telephone can be located, where references and files can be kept, where special tools and supplies can be stored. It should be kept in mind that these people are artisans in the best tradition. Their office needs are therefore quite unique and perhaps would be better thought of as studios than offices. Above all, the offices for production staff need to be adjacent to the activity which they must supervise and close enough to the administrative offices to allow easy communication.

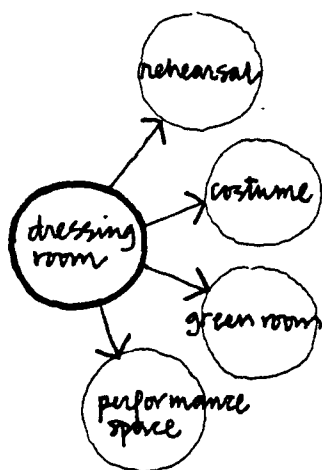
These spaces may at times be occupied by several people - assistants, interns and others - and in many circumstances the office will serve as a meeting place for conferences. Care should be taken to make these areas large enough to function in several capacities.

#### ARTISTIC STAFF:

Space for artistic staff - set designers, costume designers, lighting designers, playwrights, etc. - is important to round out the total sense of a creative community. Indeed, many people with these skills who enjoy working within the regional theater context do so because of the collaborative opportunities which exist. The ideal setting for these people would be a flexible environment that would provide complete privacy when desired, or be completely open to group interaction when wanted. This staff is likely to be fairly mobile and visiting staff might be a common occurrence. Under ideal conditions they would have "a place of their own" for the time they spend with the company. Their space should be consolidated as much as possible to allow easy communication, and it should also be convenient to the administrative offices for communication reasons.

#### PERFORMERS' SPACE:

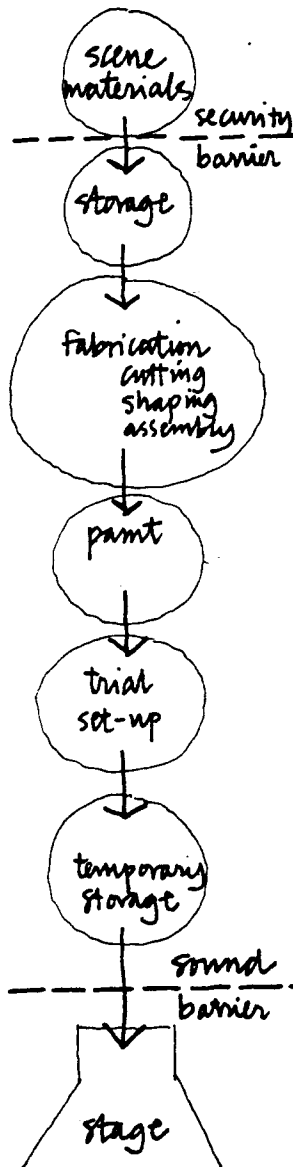
Performers seem to be given both too much attention and not enough. To the audience, the performer personifies the theater and often overshadows other contributions being made by company members. It is the performer in regional theater, however, who is least likely to have a home they can call their own. At best they probably have a locker in a hallway, and may get their name placed temporarily on a dressing room door if they have a big part.



There is a lot of space that performers use besides the stage, and that space deserves attention. For the actor the dressing room, rehearsal space and green room serve as an important complex. Associated with those spaces should be places where performers can nap, rehearse lines, study scripts, visit, have a snack, etc. While individual dressing rooms for performers are unheard of, such a proposal is certainly not uncalled-for in a regional theater, especially where performers are likely to be rehearsing one play as they perform in another and their use of the theater is quite intense. The green room perhaps has the most demands placed upon it. It is living room, dining room, sometimes guest room, reception hall, library and gymnasium (when it gets used for combat rehearsal). The green room, because it has so many identities, most often has none. It is usually a sunless room with an old carpet, equally old refrigerator, hot plate with frayed cord, and is furnished with leftovers from a play which featured smashed, overstuffed chairs and couches. The green room deserves more attention. It should be a place where one wants to go, not a place where one has to go.

Dressing rooms need to be convenient to all performance areas. Hanging space for costumes in dressing rooms is essential, as are full-length and make-up mirrors. Make-up mirrors should have lights which replicate the direction of lighting the performer will confront on stage.

#### SCENE AND PAINT SHOPS:

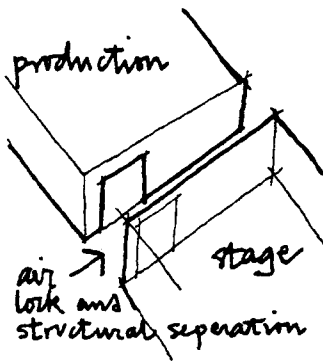


The scene and paint shops are a closely related set of activities, and if designed and located properly, they can save time, hassle and money. Ironically, many theater companies find it most difficult to locate these facilities as part of the theater complex and they end up in warehouses away from the theater, requiring time and money for setup and production, and isolating the production crew from the company. The relationship of the shops to the stages must allow for easy movement of materials from construction shop to the paint shop and from there to each performing area. Since the mainstage will use the largest sets, it is important that it have the optimum relation to the shops if a choice must be made.

The nature of the shops should be similar to a production line, requiring continuity in the flow of material. Besides this very basic consideration, several other important considerations need to be made. Different shop foremen are likely to have their own preferred way of organizing the shop, so an ample supply of outlets for power equipment is most desirable. In addition, there should be an area adjacent to the scene shop for metal working, including welding. There should also be a separate space for working with plastics and toxic materials, and this should be separately vented mechanically. The floors should be wooden to provide greater comfort and to allow for nailing and stapling. The walls should allow for easy methods of fastening storage units, equipment, etc.

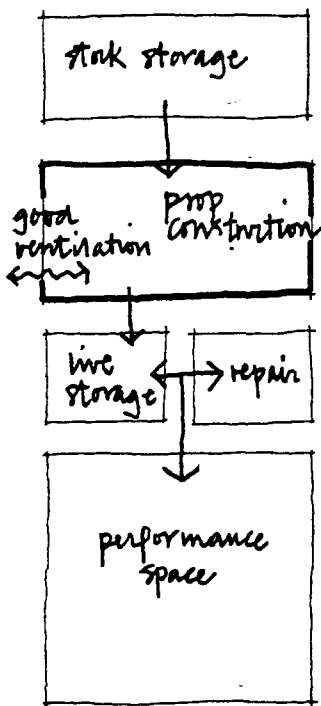
The paint shop should be large enough to accommodate the assembly of a fully erected set. It should be large enough to lay out a drop cloth which could cover the entire performance area of the largest stage. It is important to maintain control over the space's heating and ventilating system which should be separate from the rest of the building to facilitate humidity control for drying and to avoid abnoxious smells for permeating the buildings.

A trial set-up space could separate the paint shop from the stage. This could also be associated with storage of standard scenic devices, stairs, flats, etc. It is most important to maintain a complete sound separation between



shops and the stage. At the same time, connections have to be provided between the two to provide easy movement of scenery. This can be accommodated by a hallway or air lock separating the two spaces with gasketed doors. Care can also be taken to mount noisy equipment on sound cushions and to isolate the structure of the shops from the performing spaces so that sound cannot be transferred through the structure itself. The same care must be given to locating and isolating mechanical equipment which might serve these separate areas, for sound travels easily through ducts.

#### PROPERTIES:



As in the scene and paint shop, proper location and layout of the properties shop can save much grief and expensive inefficiencies in operation if done correctly. The properties shop is composed of three areas: the construction shop, live storage, and stock storage. The properties shop should be located close to the scene shop so that equipment, especially the metal-working and plastics areas, can be shared. Walls and floors should have the same characteristics as the scene shop. Power supply, mechanical ventilating, and lighting requirements should be the same as those for the scene and paint shop.

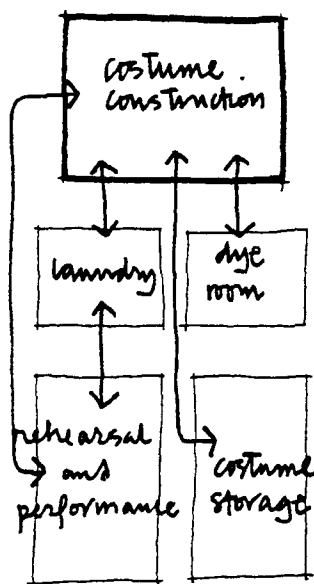
The properties shop needs to have particular attention paid to good ventilation of large areas which can rapidly exhaust toxic fumes. The chemical industry has contributed much to the manufacture of convincing properties, but at the same time these exotic materials demand that a great deal of attention be given to proper ventilation and storage.

Live storage for props in construction, and storage of properties which have been borrowed, is important. Equally important is storage space for props near the stage entrances and a mini-shop near the stage and/or dressing rooms for quick prop repair if necessary.

Stock storage sometimes can be economically acquired away from the theater, and as long as this is properly inventoried it need not be in the theater complex proper.

#### COSTUMES:

The costume shop has the potential for duplicating the meanest of medieval or contemporary sweat shops if not properly designed. Costumes requires three basic areas: a place for construction, a laundry/dye room, and costume storage.



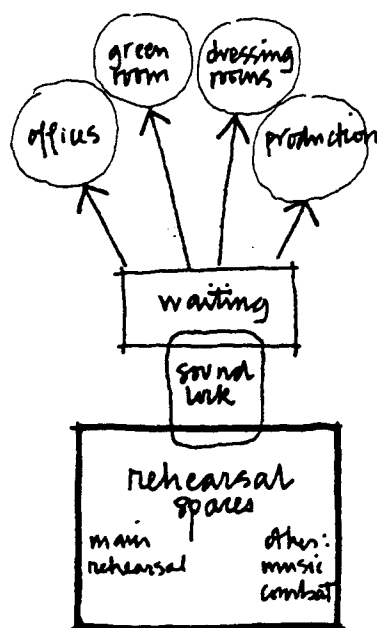
The costume construction space should be a well-lighted and pleasant place to work, for this is a place of very close and intense work. The space should have some flexibility, for the staff required to produce costumes may vary from production to production. Natural light is essential, both to reduce eye-strain and to provide faithfulness to color.

Proximity to rehearsal space and dressing rooms is important. The location of the costume shop must allow for costumes to be moved on racks from the shop to dressing rooms, and to the laundry area and back to the dressing rooms. Horizontal and vertical circulation must be planned accordingly.

Separate areas are often established in the construction area for fitting rooms, and for work with smaller materials, wigs, and millinery, etc.

Costume storage can take up a large quantity of space, and like property storage, this storage could occur off the premises if properly inventoried. Automatic racks similar to those used by dry cleaners have been employed to use difficult-to-reach spaces for such storage.

#### REHEARSAL:



The rehearsal space has an important relation to dressing rooms, green room, costume shop and spaces which can be used for ad hoc rehearsal, such as voice, combat, etc. Rehearsal space must be able to replicate the performing areas with enough space around the perimeter to allow the easy movement of actors, directors and other personnel. The room should be large enough to accommodate sets of mock-ups. Access to the space should allow people outside the space to look in without disturbing the activities in rehearsal. The room should be entered through a vestibule which connects to a waiting room with bulletin boards, coffee machines, casual seating, etc.

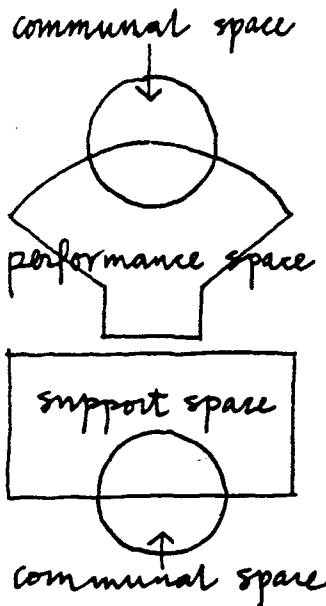
The rehearsal space itself should be soundproof. Natural light is desirable, but not at the cost of introducing outside disturbances. A ceiling grid accommodating temporary lighting is also desirable.

In some cases, rehearsal space is made to function as meeting rooms for large groups, as an additional performing space, or is sometimes even rented to other groups for their use. If this is desired, then easy access to the front of the house is also necessary.

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 COMMUNAL SPACE
 

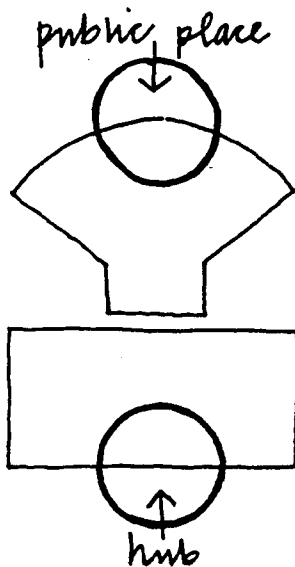
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Regional theater presents some unique theater opportunities for both the theater company and the audience which have just barely been explored. Thus far we have focused on those characteristics of theater design which should be of particular concern to regional theaters, though not necessarily unique to those theaters. Any theater that has the means and energy to construct an "ideal" theater, we think, should consider the possibilities we are about to present.

Regional theater is still young. It would seem that many of the theaters which are being built now are coming close to realizing a new set of ambitions. It is perhaps easiest to see those new ambitions in the light of past regional theater development. First generation regional theaters were housed in ad hoc space, buildings that could easily be used for performances without much modification. Second generation regional theaters moved from ad hoc facilities to new or remodeled facilities which began to pay more attention to the support activities which were now commonly associated with regional theater. The third generation regional theaters which are beginning to emerge have as their goal the creation of a theater which is a center of theater life.

The question arises, "How is the third generation regional theater different from other theaters"? Space for COMMUNICATION is the answer we have arrived at in working with the Milwaukee Repertory Theater Company and observing recently planned theaters.



Communication, in this sense, is not just the dialogue one expects from performers in a theater. It is the interaction which occurs in the production of a performance by all members of the company. It is also the sense of community which the audience and the company seek to establish.

Many theaters have achieved a sense of this community in the theaters they have built. Our proposal is to help this sense of community develop further by making its presence manifest in the design of the theater. For this purpose we have proposed two new spaces for incorporation in the design of a regional theater, the Hub and the Public Place.

## HUB:

The idea of a Hub came about from our attempts to get each of the separate support areas of the theater complex to relate to each other. The place which would be needed for such a union could not be a hallway, the green room or other rooms which already have appropriate functions. It would have to be a "center of activity", a Hub, a place where people could gather informally, where people would have to pass in their daily routines, a place where people would like to be, a place which encourages exchanges. The analogy is that of a village square. In the sense that the theater is a very special community of people dependent upon each other, sharing work, pleasure and creative efforts, then the need for the village square (Hub) becomes even more evident. The Hub therefore must have very strong characteristics as a place. It must have an identity, a character unique from any other place. What exactly that place might be will vary from company to company, from architect to architect. The characteristics of location of the Hub, however, are the same even though other characteristics may change.

The consideration of location for the Hub is quite simple - all support space must relate to it; that includes offices, production shops, rehearsal space and dressing rooms. It is the backstage "crossroads". What will make it an exciting place to be? We think sunlight, comfortable places to sit, pleasant colors, comfortable furnishings, a coffee maker, refrigerator, hot plate, books and magazines and whatever else imaginable.

## PUBLIC PLACE:

The Public Place can be thought of as the theatergoer's equivalent of the Hub. It, like the Hub, is not like any other place. It is not a lobby, entrance, gallery or vestibule. It has its own character, and like the Hub, it is a nice place to be.

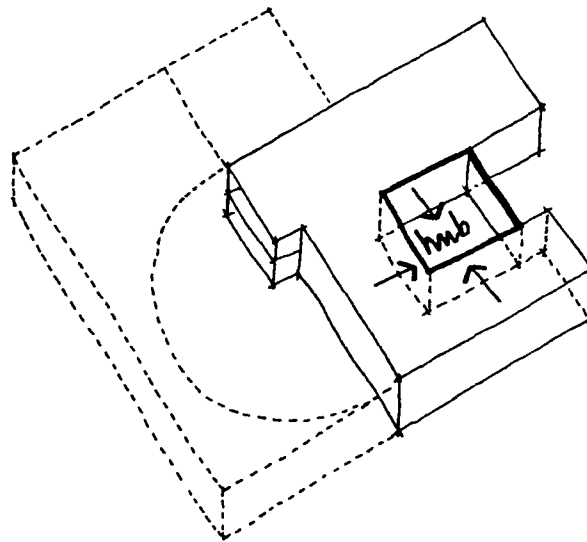
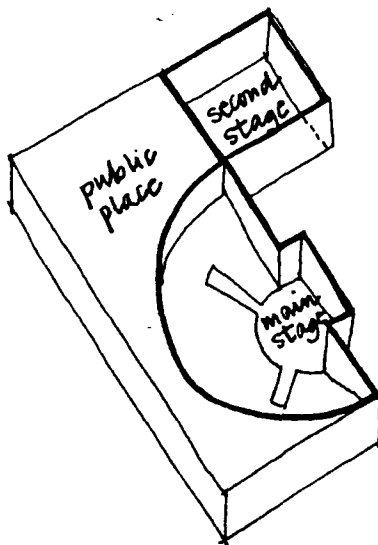
It is a place where people will come to see what is going on. If the Hub analogy is a village square, then the Public Place is the market, a place for exchange, where the unexpected might happen, where one goes to see the action.

Theater has elements of spectacle to it. People go to the theater to have their lives transformed. Theater involves the senses and the intellect as no other part of the city does. The Public Place is a link between the theater and the city. It is a place where even people who don't go to the theater might go.

It is "open" all the time. It is a place to bring out-of-town guests. It is active day and night. It is the impromptu stage for would-be actors as well as those who are accomplished. It is where tuxedos and jeans can share the same space, drink coffee, sip wine, be entertained, and for a few minutes a day have their workaday world transformed by live entertainment.

The Public Place should accommodate ad hoc cabaret theater, at the same time that it brings together people attending different performances in the theater.

The Public Place should connect to the lobbies of all performance areas, to the box office, to the street (entrance) and to preferably a bar, cafe or restaurant. The space itself could be shaped to provide many ad hoc performing areas: a stair landing, a balcony, a raised podium or fountain, tables placed together to form a stage. In this space the act of gathering should be paramount, the street should be recreated, and performance should be added as "spice to the salad" - intimate performance where actor and audience may merge as one.



# THE POTENTIAL OF A NEW FACILITY

The creation of a new theater requires a commitment of time, money and intellectual resources. It is no small task for a theater company to decide to embark on a building program. The process of building a new theater facility requires a rethinking of needs and aspirations. At a time when regional theater is still defining itself, each new or remodeled theater establishes a point of view regarding regional theater. Each new facility has an impact on the perception of regional theater, what it is, and what it is not.

We attempted to gain insights into the physical qualities of regional theater by examining theaters which had recently been built and by talking with those who were instrumental in their conception. Our interviews addressed a specific set of topics which form the outline for this section. A modified version of this outline was mailed to members of the Theater Communications Group as a questionnaire. The comments which follow make some generalizations about the problems and possibilities of regional theater design based upon our inquiry.

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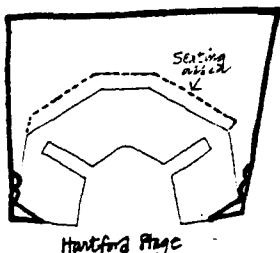
## AUDIENCE

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The regional theater audience is unique among theater audiences because, like the regional theater company itself, it too is a clearly identifiable group of people. The regional theater audience returns to the theater on a regular basis. It is that attribute, in fact, which makes it possible for most regional theaters to survive. For that reason there are a set of issues that can be perceived as having a direct relation to the audience - issues that might be considered non-essential to other theaters but essential to the survival of regional theater.

### AUDIENCE DEMOGRAPHICS

A primary reason for a regional theater to create new or expanded facilities is to increase the size of the house - in a broader sense to expand the audience. All the theaters studied increased their audience by 100% or more when they moved into new facilities. In all cases except Hartford Stage, the decision of how many seats to build was based upon the insight and judgment of company members and their board members without resort to professional advice or scientific calculation. It speaks well of the judgment of those involved that they appear to have estimated the potential for audience growth very well or that they do a good job of attracting an audience to fill the seats they built.

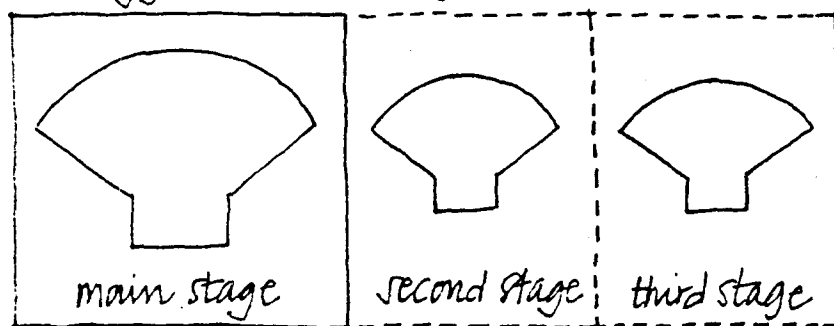


Hartford Stage Company employed a market research person to estimate the size of audience they could expect to attract to a new theater. The conclusion reached was a lower number than the management expectation so the theater was designed to initially house an audience of 380 with the capacity to add 109 seats if and when the need arose. In fact, the subscription campaign was so successful that 89 additional seats were added before the theater opened its doors opening night and 20 more seats were added subsequently.

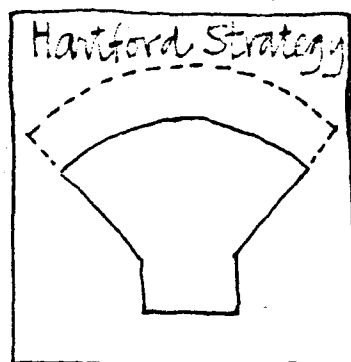
Virtually all theater companies which have built new facilities have experienced an increase in audience and audience interest when the theater first opened. That interest and increase in audience tapered off during the season to follow and then generally climbed again, gradually, until the theater had once again reached its new capacity. Surprisingly, even well established theaters followed this pattern.

It surprised the research team to some extent that few new theaters have been designed to expand in the event that audience numbers grow. The general philosophy we perceived was that further audience growth, if it occurred, would be in the form of extended programming in second and third stage settings.

### *strategy for audience growth*



Two theaters have much more capacity, or performing space less intensively booked, than most companies. They are Arena Stage & Kreeger and Trinity Rep with its two "main" stages. Both theaters are very attractive in terms of flexibility and growth potential.



Building in a capacity for expansion and even contraction for a regional theater is an important consideration. The relationship between house size and audience potential may not always be the same, yet everyone would agree to the advantages psychologically for both audience and performer to see a performance in a full house. The Hartford strategy of designing with the capacity for growth built in appears to be an intelligent strategy.

The impressions that the study team gained in discussions with theater professionals was that at the time these theaters were built there was the perception that it was not possible to maintain intimacy within a theater larger than 500 to 600 seats. This view was as instrumental in establishing seating capacity as an estimation of audience development potential. As the previous chapter has suggested these absolute numbers can be reconsidered if the requirements for focus and distance are adhered to and used to govern the shape of the house.

Regional theaters seem to have a homogenous audience, an issue that bothers many who are involved in regional theater and a reason why many wish to expand their audience capacity.

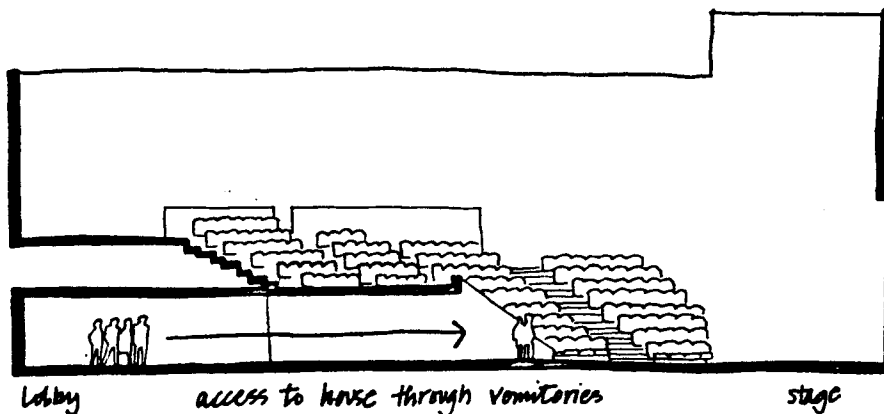
Regional theaters have as their main constituency an audience that could best be described as middle-aged subscribers; that is, a mature audience of people who attend the theater on a regular basis. This fact presents two issues. As this audience grows older, issues of safety, access and comfort and the design of amenities are going to be matters of continuing and probably increasing concern. Secondly, as a theater achieves a high percentage of subscription seats it has a small number of excess seats and the possibility of new audience members getting a choice seat is small. Some flexibility in seating capacity therefore may have a direct correlation with the potential for future audience development.

#### AUDIENCE EXPECTATIONS:

Audience or public expectations have a significant effect upon the design of theaters. For example:

Center Stage in Baltimore received support for their theater project from the community in part because they were reusing an existing building which was consistent with local revitalization efforts and the community's interest. The same was true in Indianapolis because a regional theater adopted it as their home. The Old Globe theater in San Diego rebuilt its theater after a tragic fire, with many of the same architectural features which were characteristic of the previous theater.

Hartford Stage developed their theater configuration, which incorporates an entrance into the house at stage level, at least partly because their audience and board were accustomed to this configuration at their original warehouse theater. This is an unusual arrangement and has the effect that the audience members "make an entrance" to get to their seats, creating a sense of occasion to which the Hartford audience had grown accustomed.



It is important to recognize that each community has a particular set of associations and expectations which go with their perception of a theater. To ignore those perceptions can be flirting with disaster and an empty theater.

There were differences in audience expectation in the judgment of management in different cities when it came to the question of expectations at the performance. Expectations ranged from a night out, to entertainment, to intellectual stimulation, and to quality drama. Most regional theater audiences represent a mix of all these expectations. Theaters aim to meet these various expectations in a variety of ways. A very pleasant feature of Center Stage Theater is the restaurant and bar which is situated within the theater building. Hartford Stage and Berkeley by contrast have joint theater ticket and dinner packages arranged with local restaurants. Either device tends to enhance theatergoing as a night out or entertainment. To add to intellectual stimulation and to an understanding of quality drama some theaters have incorporated gallery space as part of the theater, some have special seminars on particular aspects of the theater, some sponsor talk-backs, audience review of the play, etc. These devices certainly add to the experience of theatergoing. Good theater design and programming can enhance a wide range of audience expectations.

#### LOCATION IMAGE AND STYLE

Every theater develops its own architectural image and style, and one would hope that it is compatible with the image and style perceived by the theater company. Architectural image and style are affected by the theater's general size, and what might be termed the theater's general ambiance, created by the company and the architect.

A theater located in a district of warehouses will be perceived differently than a theater located in a major arts complex, or one located in the center of downtown. The general location of a theater, perhaps more than any other factor, tends to affect the relationship established between the theater and general community. Is it a fledgling company using ad hoc space? Is it attempting to appeal to a particular audience? Locating a theater is most difficult because there are not many choices in finding a site for a theater. Location is often a question of an opportunity which arises. Nonetheless, location is often the first decision in a theater's creation. It should be considered with extreme care for in most cities a poor location cannot easily be overcome by programming, promotion or even exceptional performances. Gift sites, like gift horses, have to be viewed critically.

site  
comparison  
matrix

Evaluation of Alternative Sites & Buildings							
	Public Service Bldg.	Johnny Walker Corner	River- side Theater	NEPCO Power Bldgs	Rojahn Site	Met Site 3rd St	PAC exp
SITE LOCATION							
access							
visibility							
parking							
image							
neighboring amenities							
FACILITIES POTENTIAL (BUILDING OR SITE)							
floor area							
condition							
adaptability to "ideal" model							
house potential							
support potential							
audience amenities							
rentable space for income							
minimal demolition required							
min. structural alterations							
min. new construction							
usable HVAC systems							
min. annual maintenance							
construction cost index							
operating cost index							
OTHER QUALITIES							
assoc. with							
downtown redevelopment							
cultural facilities							
entertainment/nightlife							
SCORE							
RANK							

There are two location patterns among the theaters we studied which appear to be significant:

- A. The linkage of theater building with downtown revitalization or the creation of a cultural district or area.
- B. The conversion of "historic" buildings (particularly movie palaces) in areas of the city with recognized architectural merit or distinctive neighborhood.

The important implication of these patterns is that theater projects are seen by the public as supportive of other community development efforts. If theaters can link themselves with these other efforts then a much broader base of support may exist for their development and financing.

An asset of regional theaters which is seldom recognized is their ability to attract from 300 to 1,000 different people six evenings a week, (sometimes more often) to a

single location. That is an attribute that few other enterprises can boast. Theaters have the attributes that a prime tenant does in a retail setting. There are advantages to this attribute of location which will be discussed further in the section on Economics.

A theater's architectural image should fit both the audience's and the company's expectations. To achieve this a close collaboration between the theater's board, the company, and the architect is needed. Perhaps the most important first step is the board's selection of an architect. The most critical questions to be asked in the selection of the architect are the following. Does the previous work of the architect reflect the character we want? Do we feel that we can communicate with the architect? Are the vibes good?

Those companies most unhappy with the character of their theater were those who were least involved in day to day decision-making with their architect. This happened sometimes because the theater company was a third party, as in the construction of an arts center of which the theater was only a tenant. At other times it resulted simply because of a failure of the architect and the company to communicate or to see eye-to-eye on critical issues, including aesthetic judgements.

#### AUDIENCE AMENITIES AND SAFETY

It would be wrong to suggest that regional theater audiences need to be coddled. On the other hand, the distinguishing characteristic of regional theater audience is that they are regulars, or at least the theater company would like them to be. For that reason the irritating inconveniences that people are willing to tolerate once, or even occasionally loom very large for people who must "subscribe to the irritation" and experience it six to eight times a season. Many of the largest irritations are details, but it is the details which people do notice after the newness of the experience has worn off. The following issues may seem trivial in relation to the larger issues of the theater, but to the regular customers they are not.

Automobile parking is a major concern of all theaters. Even in locations where public transportation is accessible theatergoers prefer to use automobiles. Most theaters felt that there were potential audiences who did

not come to the theater because of parking inconvenience. Nearly all the theaters surveyed had some provision for parking, often through special agreements with parking lot or parking structure managers. In locating a new facility, parking can be a major concern for there is no room in the building cost equation which would make the building of a parking structure or even a sizeable parking lot feasible for a theater company. This is where the cooperation of the local municipality can be most helpful, even critical. To solve the parking problem, more than one theater company has resorted to using shuttle buses to ferry people from the theater to remote parking areas.

The question of public safety is often associated with access to the theater. Most theaters in downtown locations indicated that there was some concern about safety from crime on the part of their audience. The route from parking structures, and parking structures themselves need be safe and to appear safe. Often the lack of perceived safety is enough to turn people away, even though crime may not be a real factor. Theaters have handled this problem in different ways - obtaining additional patrols from local police, arranging taxi service through the ticket office, operating a shuttle bus, providing uniformed and very visible attendants outside the theater and at adjacent parking areas, and even providing volunteer escort services.

#### FRONT OF THE HOUSE AMENITIES

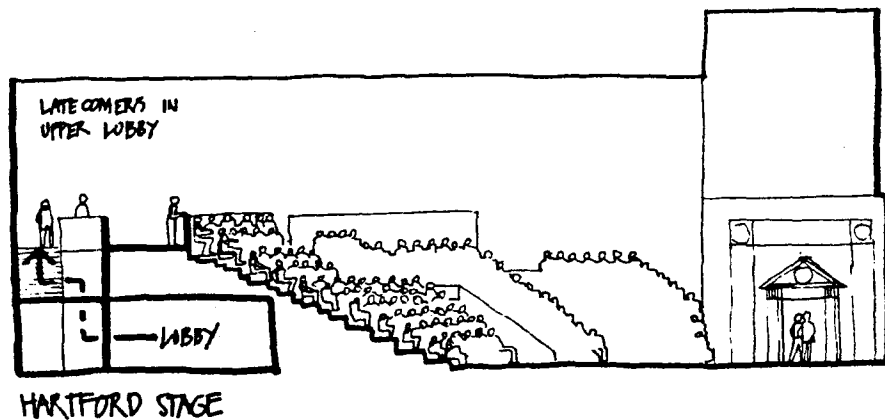
The front of the house proves a quandry for many theater companies and their architects. For the most part the problem comes from not having a clear notion as to what the front of the house is to do. As a result money is often squandered here to present a "front". Theater lobbies still tend to be too ostentatious if architects are encouraged to use all their "tricks" here. The front of the house is more than an entrance and it has some important functions. Before and after the show it is a transition from the world outside the theater to the world inside the theater. The marquee, vestibule, box office, lobby, coat check, toilets, usher, programs, seats, are a sequence of events and spaces with a very special flow to them. The house manager understands that sequence and should be consulted by the architect. During intermission the flow is very different, the lobby becomes a receptacle for people sipping drinks, stretching, talking, visiting, finding friends, looking at performance, and visiting the toilet. You may recall having read that a common fault of theaters is the inadequacies of the public toilets, especially the women's toilets. So we repeat this truism in hopes of relieving the situation, at least for some.

Many a problem in lobby design can be solved by common sense observations. A major problem is circulation and queuing. Anticipating what people will do can avert areas of congestion. People tend to gather around the bar where refreshments are served. If people must pass through these areas to get to the toilets there will be great annoyance, etc.



Diagram of transition from lobby into performance space

Another universal annoyance are latecomers. That problem has also been discussed previously, but it should be at the top of the list of problems to solve, so we mention it again. Isolated viewing rooms and closed circuit TV are solutions. The isolated viewing room can also serve as a VIP lounge/viewing room as well. Considerate treatment of the latecomer provides access to the house, if not the seat. When allowing latecomers in the house, trapping light between the lobby and the house is the most important consideration to avoid disturbing those who are seated and the performers. What do you do with latecomers once they are in the house? They need a place to sit or stand at the back of the house. Hartford handled this nicely by using an intermission lobby as overflow space, and as a place for latecomers.

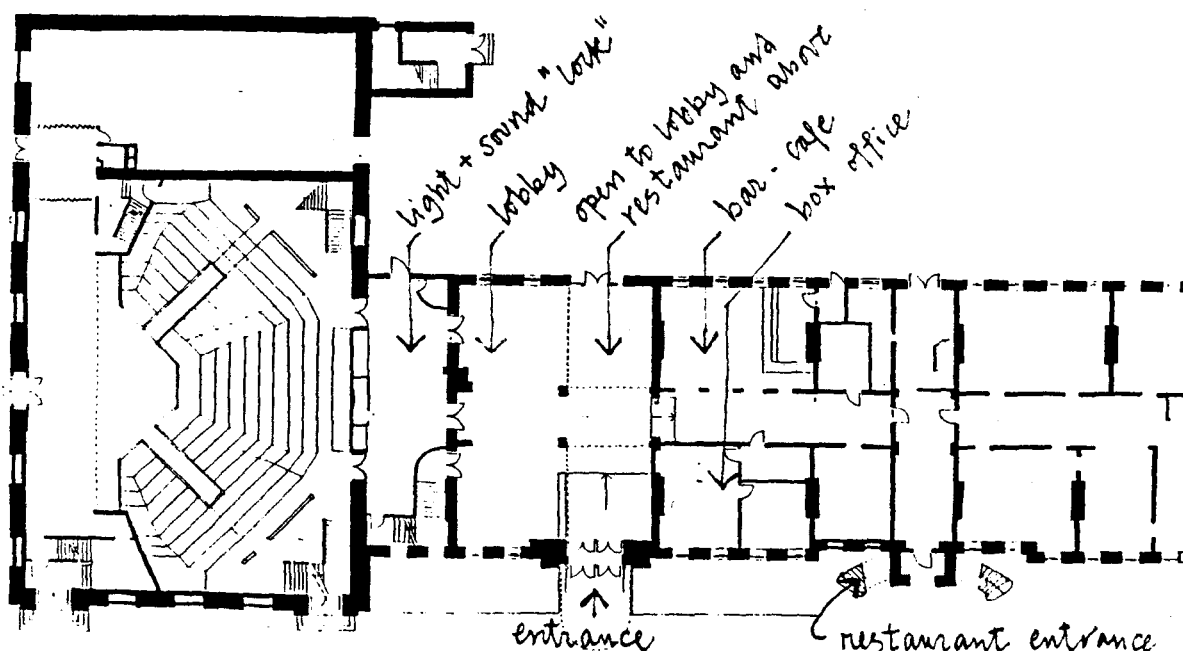


INCOME  
EARNING  
AMENITIES

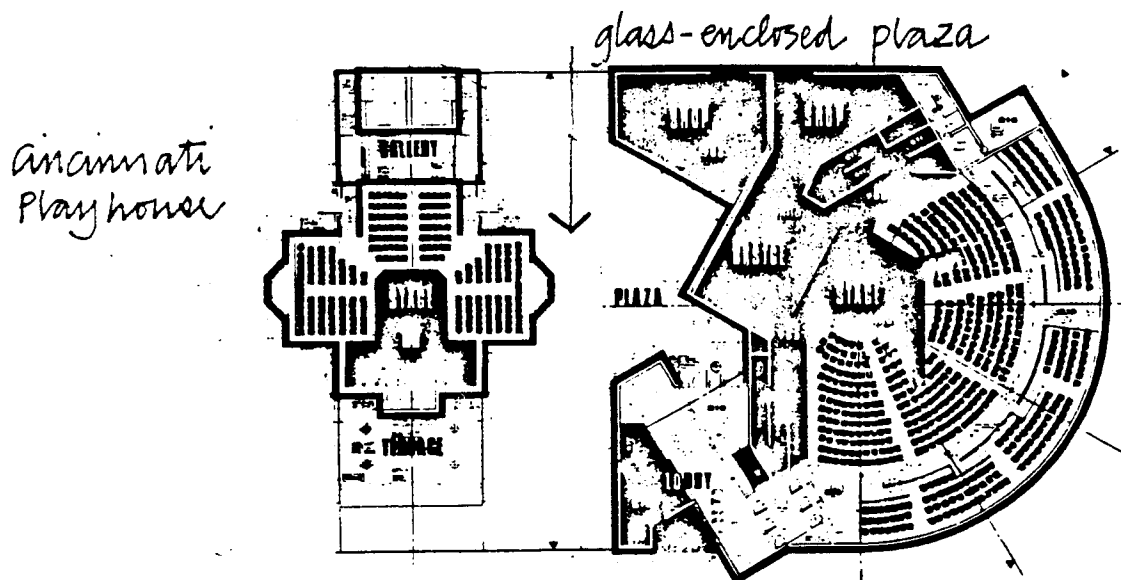
Recent surveys by the Theatre Communications Group (TCG) indicate that the average earned income of theater companies is rising. That may reflect a decline in gifts and grants for some theaters, but for many it represents an increase in revenue besides ticket sales. We were particularly sensitive to that issue in this study because the Milwaukee Repertory Theater rents space from an arts center which manages all concessions, denying the MRT this potential income. For some theater companies this potential has been put to good use. Most theaters provide coat check and intermission refreshments as minimum amenities which also produce income. Many other theaters have gone a step beyond this provision to enhance the ambiance of the theater and to produce additional earned income.

Food and drink of good quality is available at a number of theaters both before and after performances. A notable example is Center Stage Theater in Baltimore which incorporates a bar adjacent to the lobby and box office. The bar opens prior to the theaters performance and closes sometime after the performance. In addition there is a good restaurant which serves regional cooking located on the floor above the bar which is accessible from the upper portion of the lobby as well as from the street outside. The theater company allows a restaurateur the use of these facilities in exchange for a percentage of the revenues. The lobby-bar-restaurant ensemble can be perceived as a unit because of the character of the lobby space. The provision of tables and stools within the bar and spatial separation from the lobby by an arcade of brick piers makes it appear to be a "real bar" and not an extension of a theater lobby.

*Center Stage  
Baltimore*



Another theater which has a gathering place with a public character is the Cincinnati Playhouse. A space between two separate theater buildings has recently been encapsulated within a large greenhouse-like enclosure. The effect is that of being on an arcaded street with a sidewalk cafe. Advantage is taken of this space for serving pre-performance gourmet buffet meals as well as before and after theater drinks.

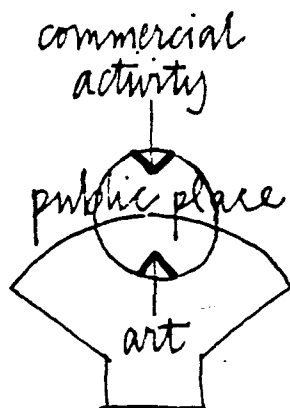


Both these theaters are located on sites which do not have street life or night life activity passing the entrance doors. For this reason the patrons of these places are almost entirely theater goers. It is possible to imagine these places on other sites as focal points of night life or lunch time activity.

The lobby space of the Indiana Repertory Theater, which is a restored 1930's movie palace, attracts rental users due to its sumptuousness and its location opposite a major downtown convention hotel. Another income producing activity at Indiana Rep and at Cincinnati Playhouse is cabaret theater performed in space that serves as an outer lobby during regular productions.

The inclusion of wining and dining activities within theaters has clear economic benefits as does cabaret. We are informed that cabaret attracts audience members who do not attend regular performances. This has a secondary benefit of introducing new patrons to the theater. Another benefit is the opportunity for other artistic formats and further employment for performers.

It has been suggested that restaurants are too risky a business for theaters and would sap energy from other areas. What little evidence we have does not dispute the riskiness of restaurants, however sub-letting space to professional restaurateurs does not appear to entail any extraordinary risks and if the location is good, i.e., if there is available clientele in addition to the theater audience, the opportunities for profit are considerable. Center Stage and Cincinnati Playhouse, because of the combination of dining and theater which they offer, have an ambiance which does not exist in other theaters or other restaurants.



AUDIENCE  
AND THE  
PERFORMING SPACE

These examples and others have led us to the notion that a place in the theater with a public character, adjoining the theater is fundamentally in character with the spirit of regional theater and if used effectively it may provide several avenues for producing additional earned income. A public place as a part of regional theater could provide a setting for expanding the artistic menu as well as adding life and liveliness to the district within which the theater is located.

Some discussion has already been given to the seating configuration and there will be more discussion later. The configuration itself is largely a question of theatrical issues and so it should remain. Seat dimensions, aisle width, etc., are the issues that affect the audience for long periods of time, and once made are difficult to change. Many theaters have aisles which are difficult to ascend or descend because of some obscure design concern regarding the character of the house. In the interest of saving money, squeezing a few more seats in, etc. it is tempting in the design of a theater to use dimensions that are less than optimum. That is a mistake. We repeat that now as we talk about the audience because if the audience suffers attendance will likely suffer as well, and there will be disgruntled patrons. Another favorite complaint is the balcony rail which masks the view of part of the stage. While an architect may get all other aspects of the sight lines correct, the code restrictions that set the height of guard rails seem to take the best architects by surprise.

Expectations regarding the heating, ventilating and air conditioning of space are quite sophisticated, sometimes more sophisticated than science seems able to produce. The major problem from the audience's standpoint is noise. Some of the most poignant moments in theater are silences and when silence has to compete with the sound of air moving through the air conditioning system, silence loses. Of special concern should be the separation of the house from production areas, for noise carries through the structure.

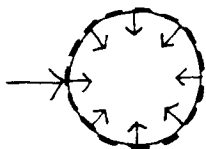
Many theaters have found that simultaneous activities cannot occur in their buildings without disruption. The sound of saws of dancers descending to the floor is transmitted through the structure itself. HVAC engineers and acousticians should be consulted in the early stages of the theater's design to make sure the problems created by a program are technically solvable. A final issue is safety from fire. Unfortunately it often takes a major disaster to make us sensitive to this issue. There are three primary strategies to guard against injury or death due to fire; prevention of fires, protection of people from fires, and escape from fire.

Prevention measures primarily focus on high risk areas of the building, and typically require sprinkler installation in areas such as shops, where a fire could occur unnoticed. Protection of people primarily consists of fire breaks or barriers between high-risk areas (shops), and public areas, and around fire stairs.

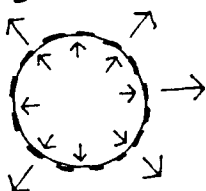
Escape measures primarily consist of fire-protected stairs leading from the house directly outside. The number and size of stairs is determined by audience size.

Observation of theaters caused the study team some concern in the escape provisions. The provision parameters do not appear to take account of what we would term "imprinting". By this, we mean that a person seeking escape is most likely to go to the door through which they entered. In many theaters this reflex behavior would result in funneling most of the audience toward a single exit, and there would be less means of "apparent" escape than is intended by the Code.

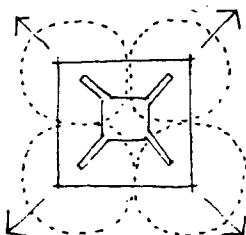
audience enters  
seating via  
ring



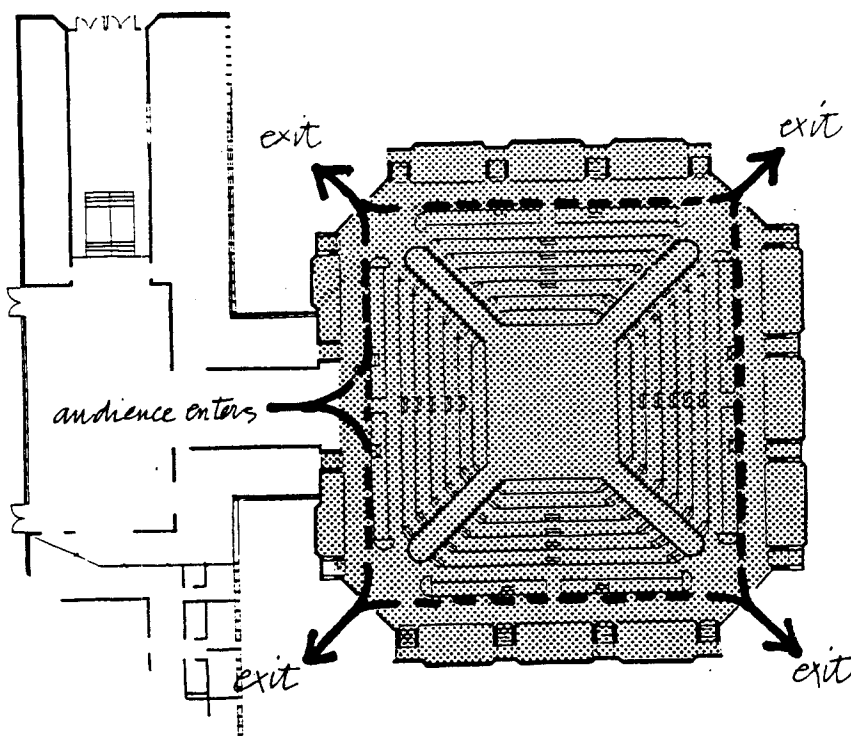
audience exits  
theater via  
ring



excellent  
distribution  
of exits



In our judgment, the model for a safe means of escape design is Arena Stage. The lobby enters at one point on a ring and there are escape stairs all around the ring. The effectiveness of this arrangement is apparent at every Arena performance because the fire exits are used by the audience to leave the theater after a performance.



Arena Stage  
Washington,  
D.C.

This model is only possible in a free-standing arena configuration. However, the design of escape provisions can be improved in some theaters. We would encourage theater companies to have periodic fire drills in their house, which we think could be carried out with a control group, to determine whether there are potential problems.

One last rejoinder before we leave our discussion of the audience - their interests are often under represented. The house manager, we have found, is a good source of information and should be considered a member of any building planning team. People with special needs, such as the elderly and the handicapped, can serve as valued resources if given an opportunity to review preliminary plans and to role play the use of the building for that particular audience. Before the building is built the design team should mentally "use" the building as a member of the audience would - from one's arrival by car to finding one's seat, at intermission activities, and again at the end of the performance.

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## PERFORMANCE

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There is no denying that the excitement of creating a new theater lies in the potential that exists in creating a magical performance space. That is the desire of everyone - the directors, the board, the performers, the staff, the company and the audience. Yet, a few ill-considered decisions can quickly compromise the promise which a building project once had. It is a sickening experience and everyone is quickly demoralized. Most often there is a rapid change in personnel as expectations are quickly vanquished. Why?

The primary reason is simply a failure of communication. It may be the failure of those most intimately involved in the project to communicate their goals to themselves and to others. Why build a new theater? The answers (there should be more than one) to that question are important for all to understand. If those answers are not kept clearly in mind it is easy to be sidetracked. A facility is built. It is not the one which everyone expected yet no one knows why. The budget is often an excuse. Establishing the budget and fund raising can only be enhanced by clearly articulated artistic goals. Establishing artistic goals and a budget, and fund raising are an important cycle. The establishment of artistic goals should come first. If new space will not satisfy a company's artistic goals, then it is better to spare the agony which awaits those involved in creating a new building and live with what one has.

The impact of a new facility on performance will be considered in two parts: programmatic considerations and functional considerations.

PROGRAMMATIC  
CONSIDERATIONS

TYPE OF PROGRAM

Previously we have identified four different kinds of regional theater complexes:

CLUSTERED STAGES

Performances and support facilities all occur at one location.

DISPERSED STAGES

Performances do not all take place in one location and support may be scattered also.

PERFORMANCE CENTER

Some facilities are shared with other performing groups.

FLEXIBLE THEATERS

The performance area is able to adopt to different configurations based on artistic or performance requirements.

Of these four models it is clear that clustered stages, a theater where all activities are in one location including the support facilities, is the model which best fits the concept of regional theater. When companies build new theaters, that is the model to which all seem to aspire, though all do not achieve that objective.

In reviewing the program and history of the Milwaukee Repertory Theater, and in looking at other theaters, a pattern seems to emerge which we feel is important to understanding a theater's potential for growth. It seems that many regional theaters have grown in three stages, what we have referred to as generations.

FIRST GENERATION THEATERS

The first generation theater typically starts out in ad hoc space, most often rented for a single season. It adapts this space for both performance and production use.

SECOND GENERATION THEATERS

The second generation theater is able to move into more stable and permanent quarters designed to fit its needs at least in part. Audience capacity is expanded as a primary concern.

### THIRD GENERATION THEATERS

The third generation theater focuses upon expanding performance capability and upon creating a theater community under one roof. Additionally, the building contains features which facilitate efforts to increase earned income.

Not all regional theater companies go through these generational phases. The Indiana Repertory Theater started off as a Third Generation Theater and was conceived as such. The Berkeley Rep went from a First Generation Theater to a Third Generation Theater apparently without having gone through stage two. As it becomes even more successful and seeks to expand its program The Berkeley Rep may end up being more like a Second Generation Theater, because it will have difficulty expanding its operation at its present downtown site for lack of space, even though the location is excellent.

The Indiana Rep and Berkeley Rep, however, seem to be the exception that proves the rule. While most First Generation Theaters have their eyes on becoming a Third Generation Theater, they must first be satisfied with being a Second Generation Theater. There is nothing wrong with that as long as their aspirations to become a Third Generation Theater are not completely dashed, and they are able to conceive the next phase of their development at the same time they are planning phase two. This is extremely important because the difference between having the objectives compromised and having the objectives phased are quite different. A theater company should not be afraid to set objectives which are not immediately in reach if it is understood that those objectives may not be reached all at one time. What needs to be understood by the theater company and the architect are relationships which, given more funds, can be expanded or improved.

With that reasoning in mind we will discuss only Third Generation Theaters with clustered stages knowing that many First Generation Theaters and others who will read this report, will not be able to achieve a Third Generation Theater instantaneously. We would hope that a Third Generation Theater may still be their final objective, and the frustration of not being able to achieve all that one would like to will be lessened.

## CLUSTERED STAGES

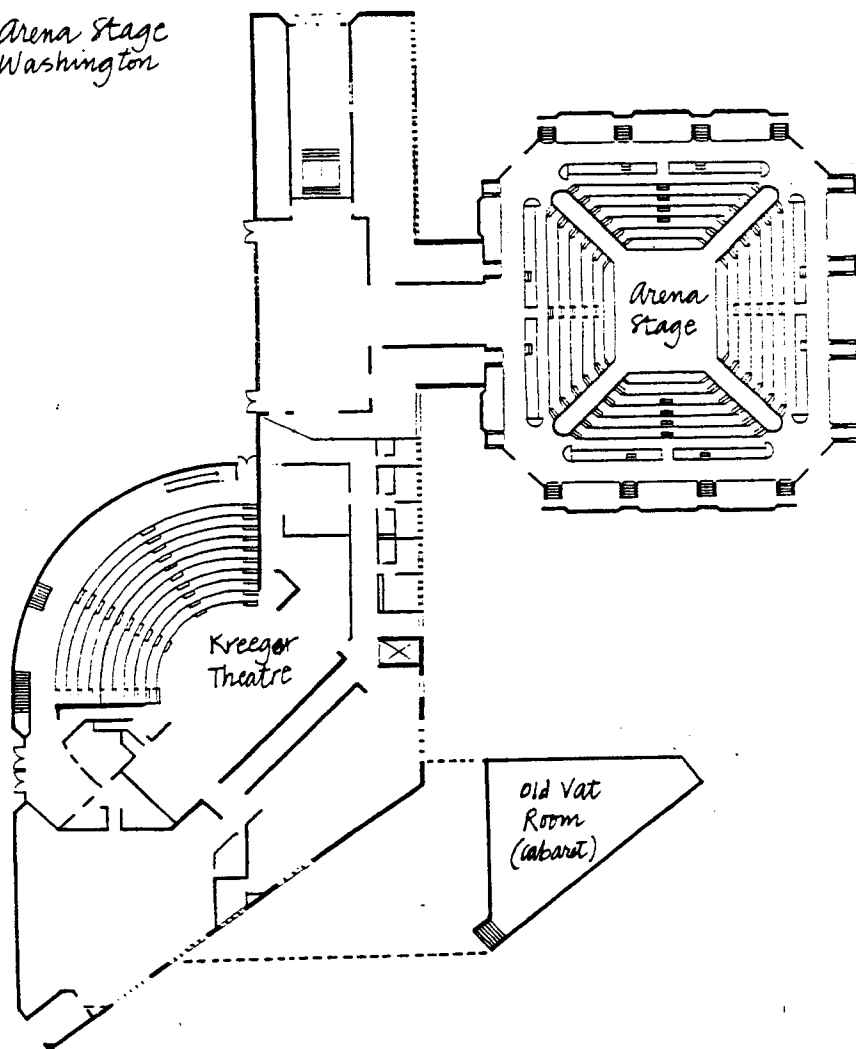
It is easier to discuss an ideal performance area for a regional theater if one is talking about a single stage than if one is talking about multiple stages. It seems clear enough that intimacy is an overriding issue in most regional theater repertoires. Following the parameters for intimacy discussed in the previous section, one is quickly led to one of many variants on the thrust stage configuration. There are many arguments against the thrust stage and for other configurations. When a theater company has the opportunity to have more than one stage, these other issues become extremely important. The issues relate to size of houses, artistic and programmatic interests of directors, audience expectations, etc. There is no single preferred combination of houses which we found endorsable. So let us review what we did find at the theaters which were visited.

Trinity Rep and Arena Stage offer rich and varied programs and a quantity of performances which is only possible due to having two main stages in their theaters. There is an aura associated with these two companies which, in the opinion of the study team, is to a great extent related to this multi-stage, artistically varied program. This richness does not come without a price, and Tom Fichandler, of Arena Stage, was very candid in stating that with three performing spaces there is terrific pressure to find and produce quality work to keep all the stages active. An issue that obviously affects size and configuration of these houses as well.

Arena Stage and Trinity Square perform work of an intimate character in their larger stages. This is true of all the theaters studied. One might imagine that if a theater contained two Main Stages and one was smaller, the smaller stage would be used for staging intimate work and the larger would be used for plays with more sweep and spaciousness. The reality is more complex. Basically, plays which are expected to attract a large audience are staged in the larger house, even though they are inherently intimate.

Both these companies built one highly-focused stage and a larger stage that allowed a greater degree of variation in the staging arrangements. There is no question that Kreeger is fundamentally more intimate than Arena. However, it is a fact that work of a very intimate character is performed successfully in Arena which has a seating capacity of 852 seats.

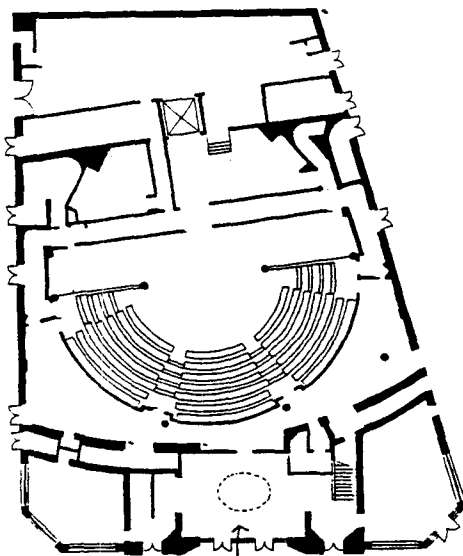
*Arena Stage  
Washington*



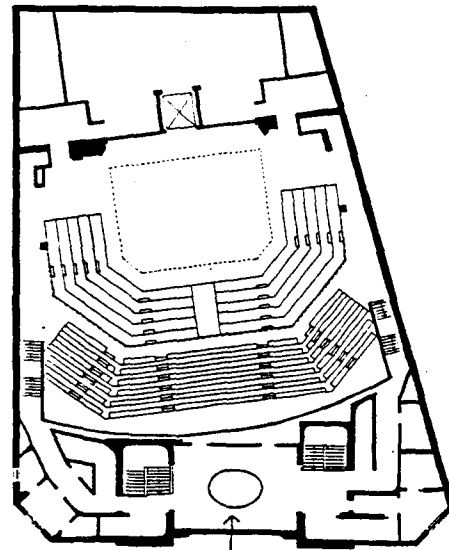
In the larger stage as well, both companies designed for some seating-staging flexibility. One quadrant of Arena's seating is removable and all Trinity's seating is situated on scaffolding. Both companies have found the labor costs of altering the seating to be prohibitive. Arena Stage management could recall only one instance of staging a performance with altered seating since the Theater opened in 1961. Trinity Rep is planning to make a portion of their seating permanent, although they intend to retain more flexibility than any comparable theater studied.

This appears to be a clear model: one highly-focused intimate stage and a larger, more flexible stage, i.e., multiple access through voms and traps and a fair amount of house volume which can be reduced in apparent size by lighting and sets.

Trinity Square Repertory Theater  
Downstairs House

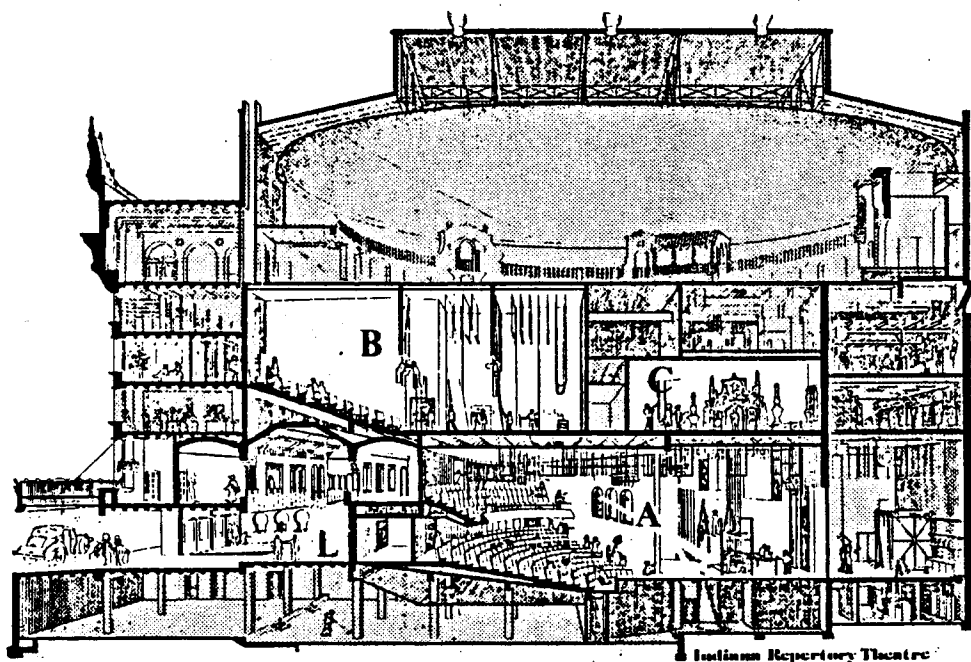


Upstairs House



Main lobby connects the two theaters

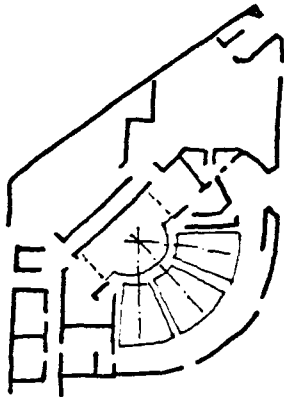
Indiana Rep, which is the most recently built of the theaters studied, carried out a wide and thorough series of visits to theaters before commencing design. They came to different conclusions. They built a highly-focused and formal main stage and a second stage which has a straight proscenium layout without an arch. There is a third studio performance space which will be the setting for cabaret. The stages do not have vomitories and there is no attempt to incorporate flexible elements.



Indiana Repertory Theatre

- A Main Stage
- B Second Stage
- C Cabaret
- L Lobby

# HOUSE FOCUS/SEATING CONFIGURATION

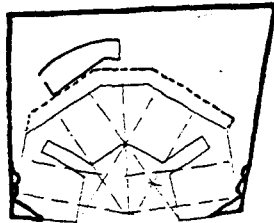


Kreeger Theatre

While the thrust stage is the most accepted stage form among theaters in the study, there are differences of opinion about whether seating should be in a focused radial pattern or not.

One view is that the seating should be arranged in a radial fashion so that sight lines are focused on one central area of the stage. This area is termed the "sweet spot" or "hot spot" by professionals who favor it. This arrangement occurs at:

Kreeger Theater  
 Indiana Repertory Theatre  
 Trinity Square Repertory Company - Lower House  
 Old Globe Theatre



Hartford Stage

The second opinion is that this creates a forced focus which causes action elsewhere on stage to appear off-center and unnatural. The opinion is that seating should be arranged in parallel rows with individual tiers bracketing the stage so that the tiers focus on the stage as a whole without a common point of focus. This arrangement occurs at:

Center Stage  
 Trinity Square Repertory Company - Upper House  
 Hartford Stage

The character of the house is more formal when the seating is arranged radially and is focused centrally. This formality may be reinforced or accentuated by staging techniques that concentrate the action on stage centrally.

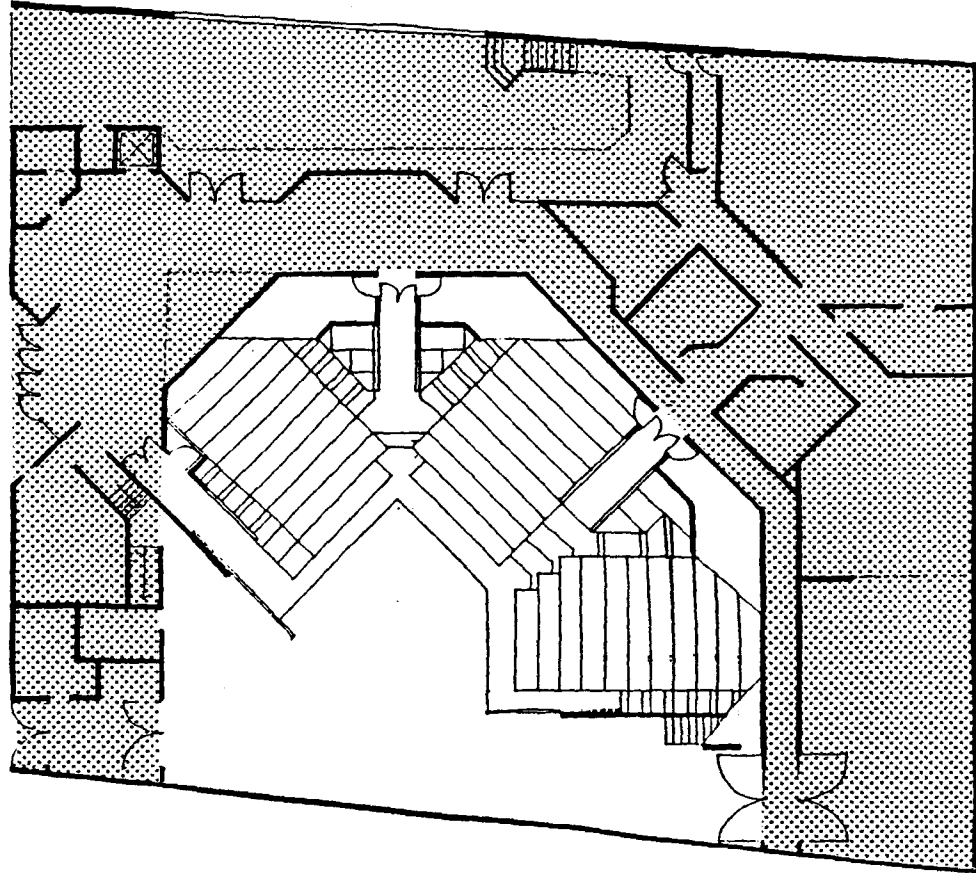
There appears to be a higher degree of intimacy looking from the stage toward the audience inherent in radial seating arrangements. This may affect the actor's sense of involvement or intimacy with the audience.

It is noticeable that theaters with two or more stages have one house with radial seating and one with parallel seating (Arena, Trinity, Old Globe Indiana Rep).

## ASYMMETRICAL HOUSES

Two theaters in the study are examples of unusual seating configurations worthy of discussion.

Berkeley Repertory Theatre, which was built in 1980, has an asymmetrical seating layout which was created to produce an informal and dynamic ambience for performances.



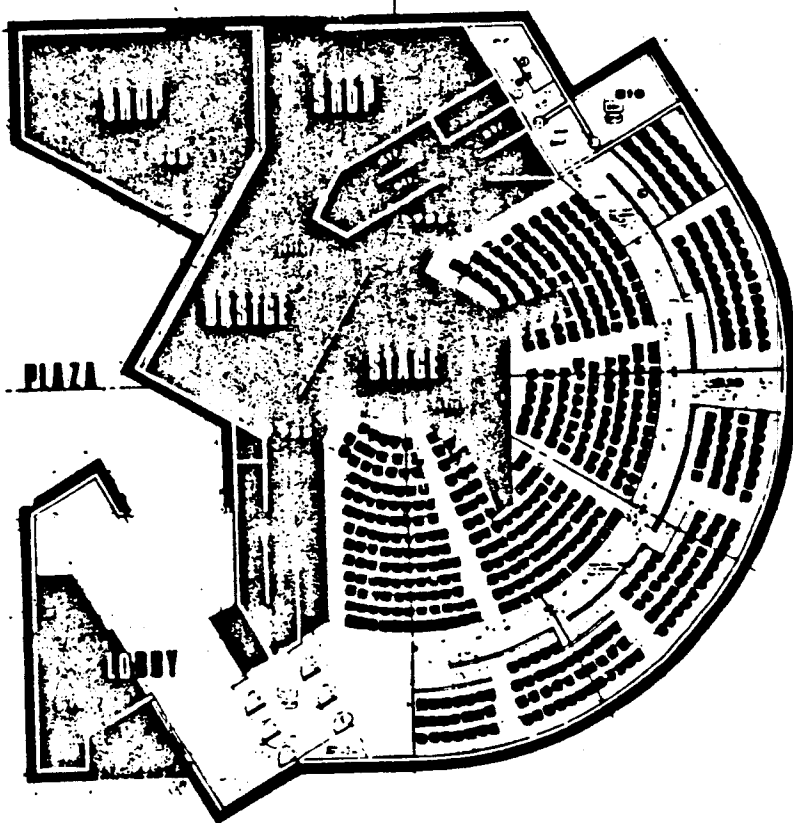
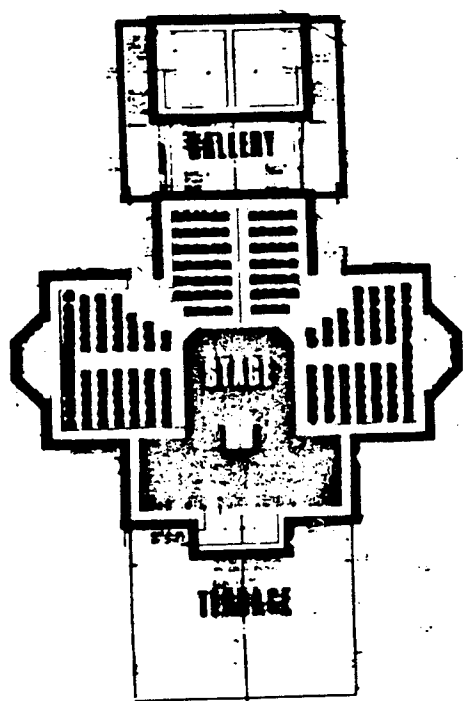
Cincinnati Playhouse (Robert Marx Theatre) was built in 1968. The shape of the auditorium is asymmetric and assertive. The seating is laid out on a radius, which provides a centralized focus; however, the tiers of seating are different in size and configuration and the stage is asymmetrical in the original plans which are illustrated. This building was published in the architectural press upon completion, so it is possible to ascertain the design intention by quoting the architect.

"The asymmetrical thrust stage can be entered by the actors from any one of twenty-four points to accommodate the style of production favored by theater director Brooks Jones. According to architect Hardy, Jones had strong ideas from the beginning about what he

wanted to do. "Brooks had thought through the style of production and the relationship of the audience to the performers and what the quality of the room was supposed to be and do. He wanted what we call the 'bookend' concept, which to us means that when you are in a big amphitheater room you don't look at the stage wall straight on, you look down at the floor and the back wall. What you see is the floor and the wall together. Included within the audience's sightlines are the sidewalls, which we did not want to treat as decorative surfaces to attract attention to themselves. We tried to make these walls work for the performance to give as many ways as possible to get onto the stage. Every conceivable means of entry to that magic space was provided, and that's the reason why there are all those levels and holes and projections.

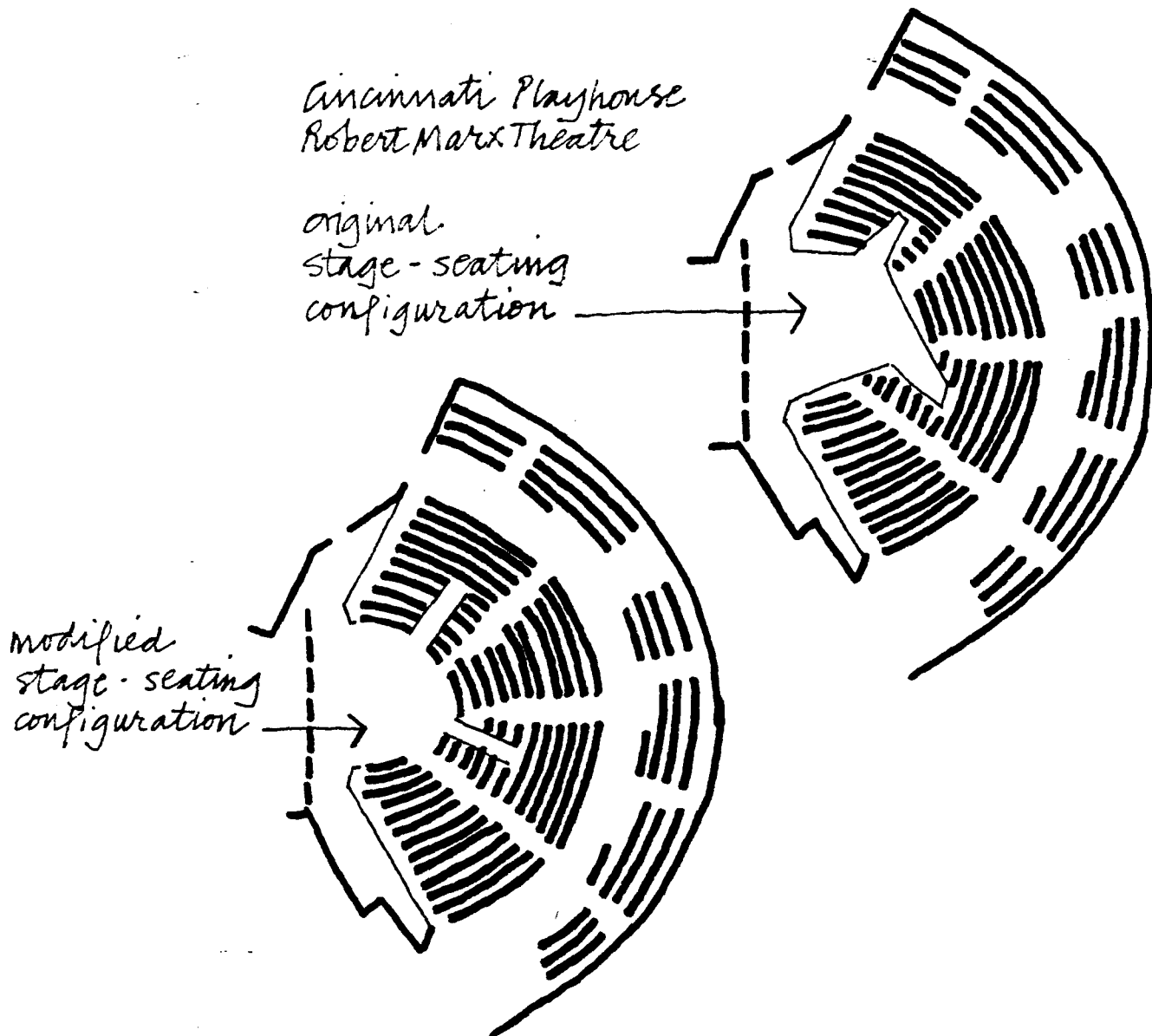
The seating bowl doesn't touch the side walls either, except at the points where the audience enters and exits.

Above all, we wanted to make sure that the auditorium had the quality of hard 'backstageness' - that the only space to be soft and fuzzy would be where the audience sits." (Hardy 19 )



To this end the architects not only exposed the building's structure and mechanical systems to full view within the auditorium, but also exposed all the elements which are necessary to theater work. Lighting positions, catwalks, ladders - all are thoroughly revealed. Upholstered seats with carpeted aisles and the audience itself provide the necessary sound dampening.

Cincinnati is particularly interesting because an assertive view was taken in the initial conception of the space. Recent management has altered the stage shape by adding seats, as illustrated, to lessen the apparent asymmetry and the gulf between audience and actor created by the pit. This highlights the extent to which artistic decisions by the creators of a theater may prove to be at odds with the views of subsequent directors. It is a testimony to the quality of the Hardy Holzman Pfeifer design that it could be adapted easily to another form.



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## OPERATIONS AND SUPPORT SPACE

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The observations which follow are predicated upon the notion that regional theater is a collaborative artistic enterprise. This concept has already been elaborated upon, but here we wish to illustrate how that idea has manifested itself in various theaters which have recently been built.

A reference which we have found extremely useful is a program for the Indiana Repertory Theater created by Armen, Mordecai and Stern. In the introductory statement to that document they clearly state the importance of collaboration.

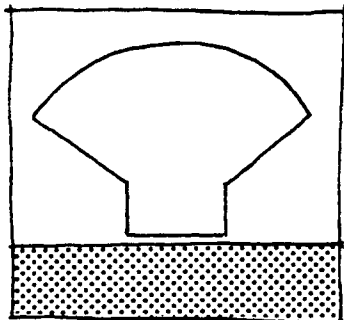
"The Indiana Repertory Theater is an arts group which believes that the creation of any production, i.e., the process by which a play evolves, is of equal if not greater importance than the actual performance of the play. Vast sums of money are spent to guarantee the time for a proper design and rehearsal period. This exploration of a play is paramount.

If process is crucial from directing, technical and acting viewpoints, the theater facility must aid this process with superior spaces: scene shop, costume shop, rehearsal rooms, etc. Such areas are of utmost important to the complete realization of a play."

A key word here is process and it is one frequently reinforced by Mordecai. The interaction that occurs between members of the company is extremely important. That holds true for the relation between activities as well, and further distinguishes regional theater from a Broadway house or a road-house. Paraphrasing Adrian Hall:

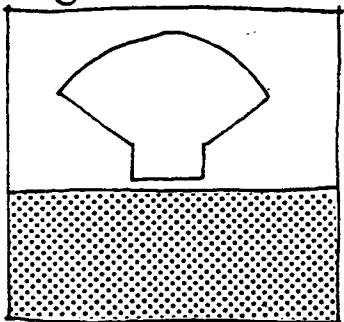
"Most of the commercial theaters that we know are truly booking house operations. A costume designer comes in, designs, goes back to his or her own shop, and the costumes are brought into the theater and tried on. A (regional) theater of course has to have wardrobe or fitting rooms; there have to be places for dyeing and washing, places for changing things, cutting rooms, and most of all there has to be storage. What happens to the costumes of a lavish production of King Lear? In the commercial world, the unions insist on their being cut up and disposed of; they can't be handed down. In the regional theater there are space requirements that the commercial world doesn't have.

### "Broadway" Theater



Support space ↑

### "Regional" Theater



Support space ↑

I'd say roughly half of the space in a theater building is given over to auxiliary (support) facilities in an institution such as ours."

The growth of support space within theaters and the increasing importance accorded it by people involved in the design of these theaters is a characteristic of Third Generation Regional Theater. It has been apparent in the theaters we have examined. As the quality and sophistication of regional theater programming and production has increased, so has the form of the regional theater company itself changed. There is an increasing emphasis on collective creative effort. The artistic growth of regional theater is manifested in both the quality of drama staged and the number of creative individuals who make a contribution to the final product. Regional theater has had to find a place for these people and their activities.

This is not to say that there is a single theater design or configuration that would suit the diverse character and style of the myriad regional theater companies performing in the United States. One would not find agreement between different companies as to how much should be allocated to scene shops as compared to costume shops, for example. However, certain characteristics appear to be manifested in the activities and "lifestyle" of so many companies as to be issues to be resolved in one form or another in most theaters.

We have identified five issues which have significant consequences upon the operation of support space and its design: (1) character and style, (2) access and flow of tasks, (3) activity overflow and multi-use, (4) proximities, (5) working conditions.

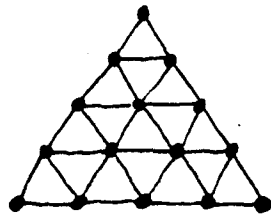
SPACE  
ORGANIZATION  
AND  
COMMUNICATION

In this section we are concerned with two things; the organizational characteristics of regional theater companies, and the effect that has upon space organization, the style of communication within the theater company, and how this affects facilities design.

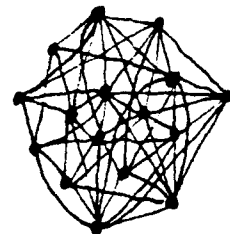
Regional theater companies tend not to fit conventional models of personnel organization. On the surface the organization looks hierarchical, directors, managers, staff, interns, etc. Communication, however is not hierarchical and orders are not passed from one layer to another to another. Communication is dynamic and cuts across the usual layers of responsibility found in more typical organizations. The organization is also dynamic in that groups of people will be organized in one fashion for one production and in another fashion for another production. People change roles (directors become actors). People may be organized in several different groups at one time - for the play at hand, for the rehearsal, and for next season's play which is being discussed. Add to that wide array of personalities and it is clear that it would be next to impossible to design a clear communication diagram for a theater company. Instead communication has to be dynamic, and so does the space in which it occurs. Space must be used to encourage communication but not to dictate it.

Most organizational charts appear as a pyramid. The regional theaters looks more like a ball of twine. For any one production the organization chart would look more like a printed circuit with different circuits creating the whole company over time.

*apparent  
organizational  
structure*

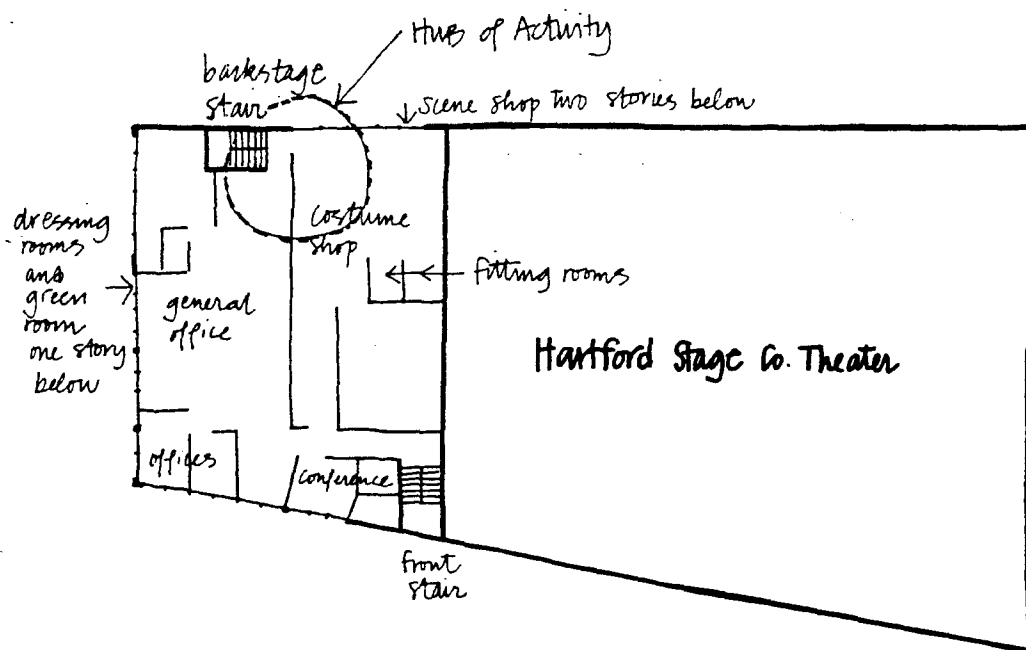


*real  
organizational  
structure*



Since it is not possible to anticipate all these links for any given situation our proposal is to allow these links to happen by providing a space which will facilitate and encourage those communication links. You may recall we have called that space the Hub. Many theaters already have places which function as a Hub though they may be labeled something else. The existence of these places gives credence to the notion that it may be a space worth identifying.

Hartford Stage Company is a good example of the hub phenomenon and there are several lessons to be learned from this theater. Hartford was the only theater studied which employs a doorman. He performs a security function, but in addition to this, he acts as an information clearing house and he humanizes the stair. This is not a pun, but rather an observation.

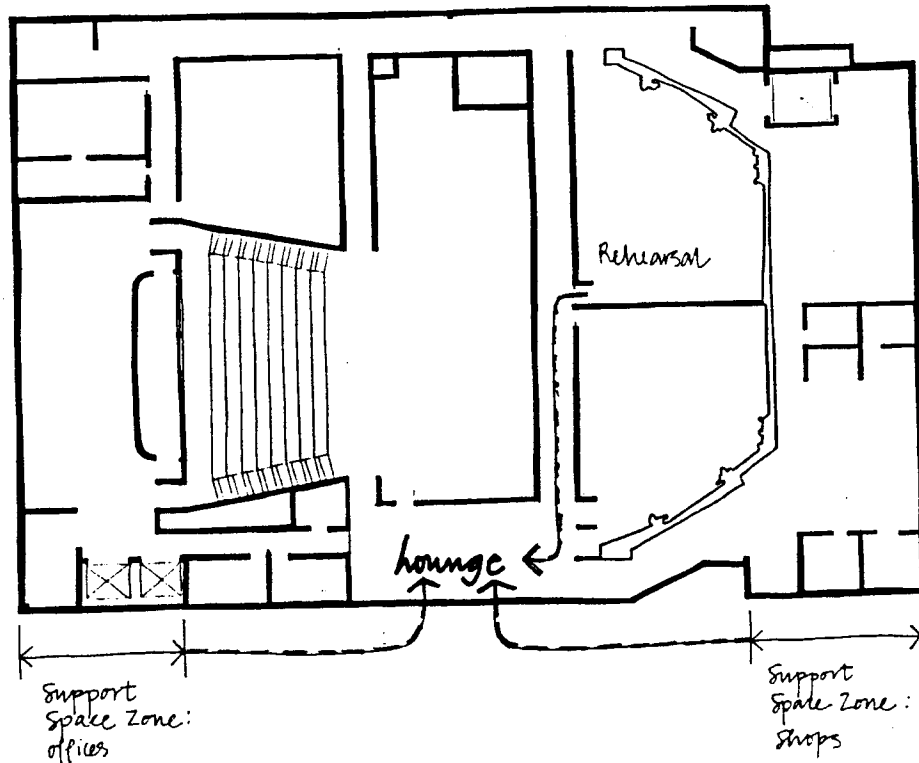


Spaces immediately connected to the stair act as nodes, or centers of focus and activity, and the green room and costume shop are places of frequent informal contact. The costume shop appears to be the crossroads of this theater because of its proximity to the stair and administrative offices, coupled with its being frequented by actors as well as directors and production staff. By contrast, the scene and prop shop is less frequently visited by actors. It is a hive of activity, but the costume shop is at the heart of things.

Hartford is a compact theater and the clarity of space organization and circulation is reinforced by its smaller size and close proximities. Larger theaters are typically more complex and some of the problems that arise in creating good communication within facilities can be illustrated by examining movie palace adaptations.

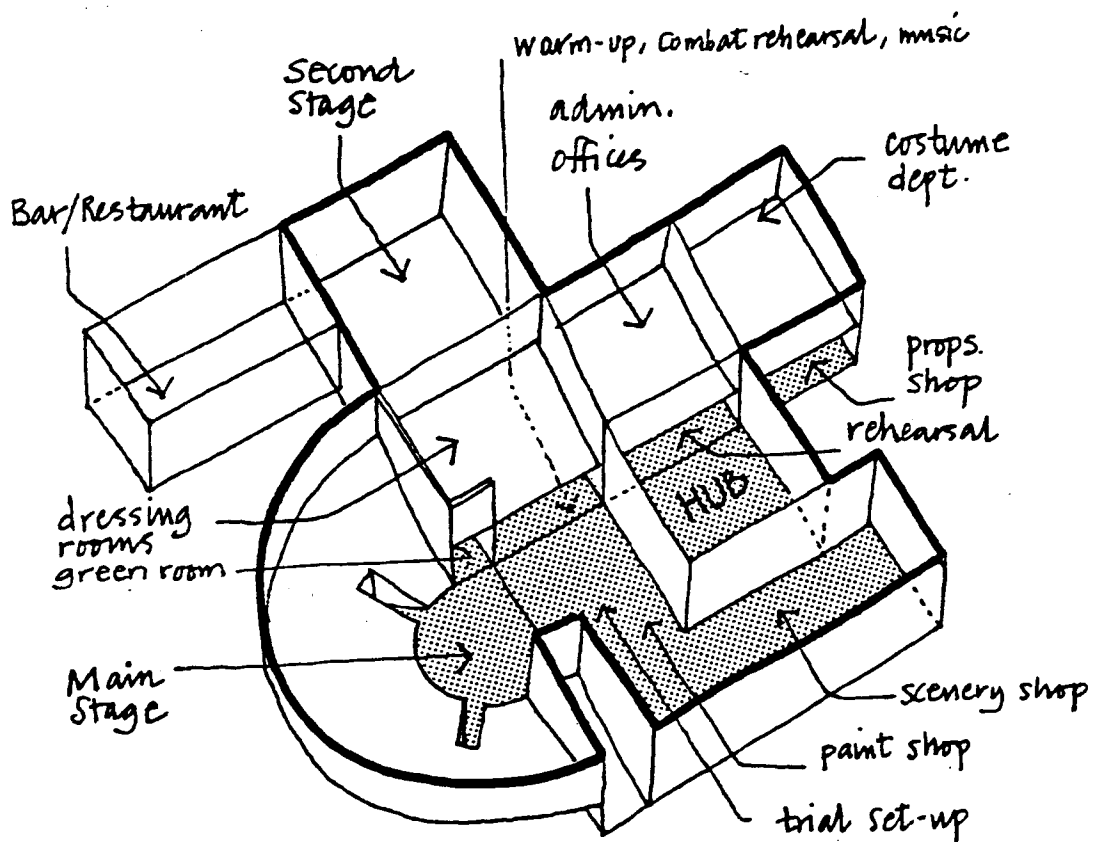
One model of the large movie palace is illustrated in the diagram of Indiana Rep. When support space is distributed front-of-house and back-of-house, an inevitable problem is departmental isolation. The linkage between administrative functions (typically front-of-house) is facilitated by long corridors at the building edge. There is a sense of distance or remoteness created by these long passageways. Indiana Rep has tackled this problem by locating a company lounge midway and at the intersection with the corridor serving rehearsal spaces.

*Indiana Repertory Theater*



Hartford Stage, as well as other companies, employs an intercom system to facilitate listening to dress rehearsal onstage during "tech" week. This heightens the awareness of the tech process and serves to signal when an individual should attend rehearsal. It further heightens the sense of collective enterprise.

The idea of the Hub as it followed our discussions with the Milwaukee Repertory Theater invisioned a space which would serve as a physical connection and communication link between the following activity centers: scene shop, paint shop, trial set-up, prop and costume shops, dressing rooms, rehearsal space, and administrative offices. It is possible to link all these spaces together around one organizing space (the Hub) as our diagram indicates.



## ACCESS AND FLOW

There are two aspects of regional theater support space where access and flow become important in providing a clear relationship between activities. Because so little attention seems to be given to these relationships which occur in every regional theater we feel obliged to bring attention to them. They occur in the production of scenery, and in the production, care, and maintenance of costumes.

The production of scenery can be the most awkward aspect of a theater's activity. Often this activity is fragmented. In the case of the Milwaukee Repertory Theater we found its fragmentation to be quite costly both in time and money.

There is a natural flow in the production of scenery which, with perhaps minor variations occurs as follows: (1) materials delivered, (2) materials stored, (3) material cut, shaped and assembled, (4) materials painted, (5) trial assembly and adjustment, (6) temporary storage, (7) erection on stage, (8) dismantling and disposal or storage. We did not observe significant variations on this as a procedural model. However there were a number of variations in layout of machinery and space allocation. One of the more significant variations between companies was in materials storage. Companies that appeared more conscious of benefits in bulk buying of materials, or who had to buy in bulk due to local supply restrictions, had larger areas of materials storage and went to more trouble to incorporate storage within shops wherever space permitted. A typical technique was to build loft storage above machinery areas. The diagram (b) illustrates a workable organization of work areas.

The size of scenery makes the above sequence particularly important. Yet we were surprised at how many regional theaters have chosen or have been forced to locate all or part of the scene production activity away from the stage. This leads to moving both personnel and materials, sometimes several times in the production of a single set. This removes an important part of the theater's artistic activity from other creative activity. Because this activity requires a sizeable amount of space, it is often relegated to other sites as theaters expand or when it becomes necessary to cut the budget in the design of new facilities. In terms of construction dollars, however, this is economical space to build approximately half the cost of the more finished house and lobby spaces. Moreover, the location and design of this space has a direct impact on production costs, which repeat and repeat.

Another often repeated sequence is the laundering and repair of costumes. Of all the shops the costume shop has the most contact with performers both before and during productions. Few theater layouts suggest this. The sequence here would look something like this: (1) actor performer measurement (2) construction (3) fitting (4) rehearsal and adjustment (5) dressing room wardrobe (6) laundry and repair. The key physical relationship is the flow of costumes from the dressing rooms to the laundry room and construction area, and back again. In many cases this is a sequence of activities which occurs at every performance. It is surprising to find in some theaters that there is no apparent means for an agile person to get from the laundry room to the dressing room, let alone an agile person with a rack of costumes.

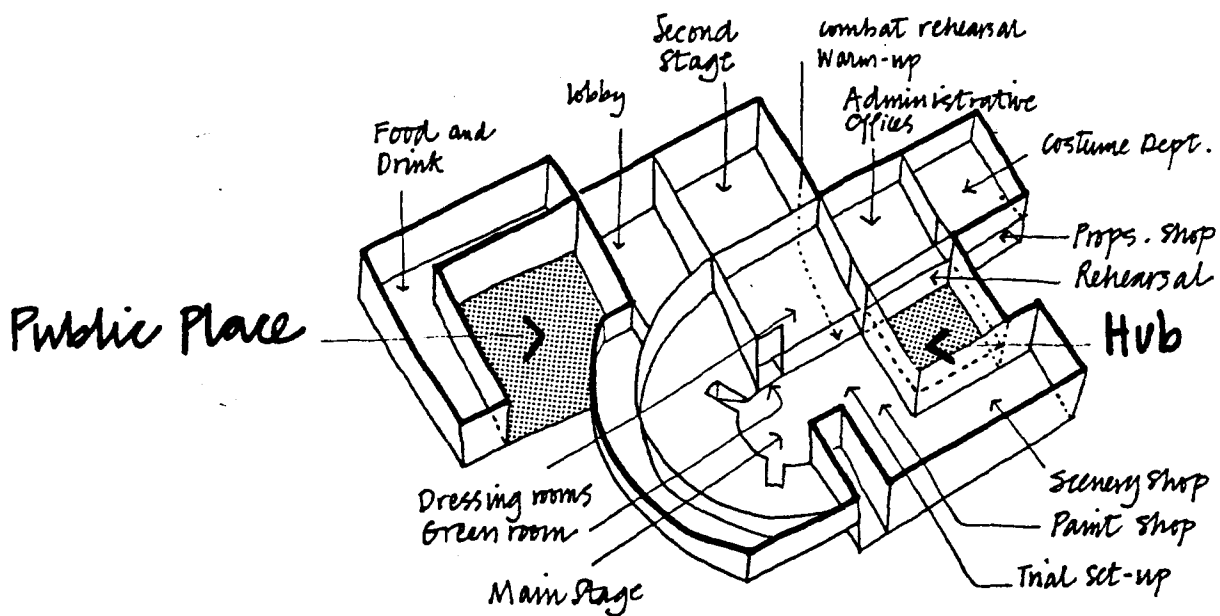
#### ACTIVITY OVERFLOW AND MULTI-USE

Occasions arise when the requirements of a particular production cause demands for more space than may be available for a particular support activity. For example, a play may require more costume production work than is customary and the work overflows the costume shop. A single rehearsal space may not accommodate the more intensive rehearsal time and space use needed to choreograph and practise combat scenes. A production with elaborate sets of props may require greater production or storage space, etc. Rehearsal halls, second stages, lobbies, green rooms and other spaces are used in different theaters for this purpose. Of the several theaters examined we did not find a situation where this problem was consciously considered. Since it is a phenomenon which seems both typical and inescapable we feel it warrants recognition. The strategy devised with the Milwaukee Rep is to design all support spaces to tight space standards, if need be, and create a separate multi-use "overflow" space, near the center of things, for this purpose. We witnessed so many activities and tasks occurring "out of place" that we concluded unusual needs usually occur.

#### PROXIMITIES

Closely associated with the discussion of proximities of support activity which follows is a larger notion of proximities which developed in our conversations with the Milwaukee Repertory Theater. We found it useful to think of theater facilities as three related centers of activity: (1) the public place, or front of the house, (2) the support space and its connection to the stages, and (3) the Hub, around which the support space is organized.

This model still serves as an organizing idea for conceptualizing the total theater. The stages are an essential element here, connecting both public place and the support space. An overriding idea in this organization is communication and we have already discussed how communication should affect the relationships between support spaces, proposing a Hub as a critical linking space.



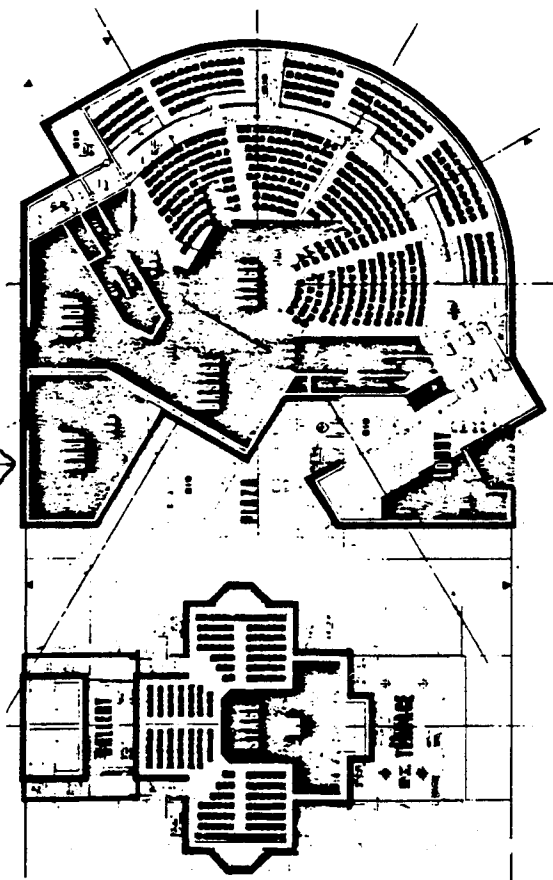
From our examination of other theaters, interesting problems emerged in relating functional proximities with support spaces and between support space and the stage.

#### Scene Shop - Stage Relationship:

All the theaters we visited located the scene shop adjacent to the mainstage with the exception of the Arena Stage (which has special conditions arising from the arena configuration) and Cincinnati Playhouse.

The scene shop at Cincinnati Playhouse originally had no direct access to the stage. Scenery was taken outside into a roadway and back into the theater via a small shop in the wings. There was no rehearsal space in the original theater. Both these features proved to be unsatisfactory to the company, so the scene shop was turned into rehearsal space and the scene shop is located at a remote warehouse. This sacrifice of scene shop to stage proximity is not unusual among theaters which have never known a good relationship between the two.

original scene →  
shop converted  
to rehearsal  
space

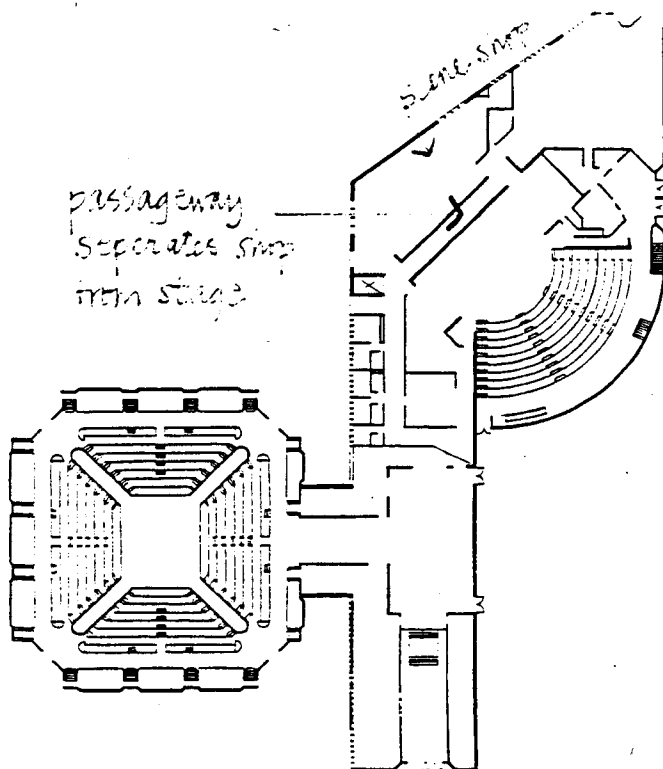


The Arena Stage configuration requires that scenery be brought onstage via the vomitories. A problem inherent in this arrangement is restricted headroom, although it should be recorded that the Arena Stage Management built the theater cognizant of this feature, and they regard the arena configuration as so near the ideal for their artistic purposes that they would not hesitate to recreate this form of theater if starting again. The original scene shop in Arena Stage was small, and when Kreeger Stage was built, a larger scene shop serving both stages was incorporated.

#### Scene Shop - Stage Interface: Crossover and Sound Transmission

Locating the Scene Shop immediately backstage, although traditional, has a fundamental flaw - sound transmission. It is impossible to work in the shop with power tools during performance times.

A feature of Kreeger Stage, The Old Globe, Trinity Square (Lower House) and Berkeley Rep is the provision of a passageway to separate the stage and scene shop. This serves to facilitate access and crossover backstage and to reduce sound transmission between the shop and stage. The passageway serves as an air and sound lock and reduces the transfer of noise by vibration. Sealed double doors prohibit direct transmission. Theaters visited which lack this feature could not operate machinery within the shop while a performance was being staged, although "quiet" work could be carried out in many cases. It would appear that short, unrestricted access between stage and shop might be a better goal than immediate proximity.





2. The Production Manager could escape the often intense activity in the shop at times when he had other responsibilities.

By contrast, an arrangement which keeps the Production Manager in the center of things in the shop inhibits concentration and control over his work space.

#### Paint Shop Within Scene Shop:

Many companies have found it necessary, due to lack of space, to carry out painting of scenery within the scenery construction shop. It becomes extremely difficult to coordinate when the shop serves more than one stage. Companies live with this arrangement, but it is a compromise.

#### Unique Proximities:

There were no other proximity patterns which were repeated or common in the theaters observed in the study. This was surprising to the study team. However, the special circumstances of each of the theaters was such, that for all practical purposes, they are each unique. This uniqueness is not because certain optimum proximities do not exist, but because site constraints or constraints imposed by buildings being adapted for theater use, make ideal proximities impossible.

In developing a model for an "ideal" theater with the Milwaukee Repertory Theater Company, proximities for support space were carefully worked out. They obviously represented MRT's preferences but are worth consideration for their general applicability.

1. The scene shop is separated from the stage by the paint shop and a trial set-up area. This serves the purpose of providing the greatest degree of acoustic separation within the same structure that could be visualized.
2. A special rehearsal space is located in a central location, for music, combat, warm-up, and so on, which can also serve other purposes. For example, it functions as a costume shop when there is a production with unusual volumes of costume work, or for stuffing envelopes during subscription campaigns.

3. At the major crossroads of support there is the Hub. The Hub has provisions for eating, relaxing, reading, holding meetings, etc., as well as insuring informational contact between members because of its proximity to the circulation patterns.

# STAFF WORKING CONDITIONS

As we have noted before, a concept missing in the design of theaters is the theater as a work place. This is particularly true of the support space. Theater people are notorious for their dedication and their inadequate salaries. Poor working environments typically add insult to injury. In the case of artisans working in poorly lit and ventilated space in locations with dangerous equipment, the threat of injury may be more real than imagined. Good working conditions for production staff are not an amenity as is too often thought - good working conditions are a necessity and should be a very real object for everyone involved in the theater.

## Stress:

Poor working conditions for production staff are exacerbated by the fact that the typical theater work week is six days. Most work days are more than eight hours long and many of those days are spent under a great deal of strain to meet deadlines while maintaining high artistic standards.

Every theater we visited had a very strong and visible spirit and personality as a company, and every company was proud of its theater. Many people volunteered the comment - "this is a great place to work". However, we only recorded a few comments such as "this is a really pleasant space within which to work". Those comments were heard in the costume shops at Hartford Stage, The Old Globe and Berkeley Rep. They all had adequate space and natural light with pleasant views. That is not to say there are not other spaces which were pleasant, such as the administrative office at Cincinnati. However, attractive and pleasant work spaces are not common.

One conclusion we drew from this was that if the sense of "this is a great space to work" as a company could be identified with a place within the facilities which served as the symbolic and effective heart of the theater, the sense of community could be reinforced. The staff would have a place to relax, to unwind, to escape the stress of their jobs. That place of course is the Hub, the appropriate location for activities such as eating lunch, having a coffee break, taking a nap or talking to a

colleague. It could be like a village square in some respects, and if this metaphor were used, there should be active spaces adjoining it. Light, air, plants, books, magazines, posters, are amenities which create a place for re-creation.

#### Building Programming:

Another major conclusion we drew was that the theater building design should be much more rigorous in programming the environmental needs of different support activities and spaces. This demands a high degree of participation in the design process by company members who know what actually occurs and what is needed in their work spaces. There is clear evidence that user-participation in the design of facilities is more likely to lead to user-satisfaction and an identity with the completed facility. This is particularly true when trying to deal with problems which a company may find stressful, because of their own circumstances. An interesting example is illustrated by our own work with the Milwaukee Repertory Theater Company. Milwaukee has a primarily resident acting company. Performers are most likely rehearsing for one production while performing in another, or they are engaged in some other activity. The theater is their home, not just a place they visit. They would like a place to call their own (presently their only "space" is a locker in a crowded and rather dark corridor). The performers expressed a strong desire for individual or home-base dressing rooms which are permanently assigned to individual actors who could use them to get away to rehearse lines, read, rest between performances etc. That is an idea easily incorporated into facilities for the MRT. It is an idea which is tailor-made to that company's operation. This did not arise as an issue in our visits to other companies, most of whom job-in actors to a greater extent than MRT. Can you imagine the advantage to a managing director in negotiating a salary with a performer to be able to include in the negotiations the actor's own dressing room?

So, many theater professionals have spent their working lives in Dickensian environmental conditions, that it is difficult for them to imagine something better. Poor lighting, inadequate ventilation, impossible communications and characterless surroundings are the order of the day backstage. One of the most recently built theaters, Indiana Rep, illustrates the change in expectations on the part of theater companies, and serves as an example of the kind of detailed notes a theater company should give to its architect. Note the requirements stated are both quantitative and qualitative.

Extract from IRT program by Mordecai et al:

"It is the utmost importance that the costume shop be a pleasant place to work. The cutting and sewing which takes place here is probably the most psychologically demanding activity in the theater, and cannot reasonably be undertaken in the remote corners of basements and attics.

For this reason we feel it is important that this area have sufficient daylight. In addition, it must not be isolated from the rest of the theater, particularly the production staff.

The shop need not be particularly close to the dressing rooms, but there should be sufficiently direct access to them that costumes can travel on racks from the shop to the dressing rooms.

In all costume areas particular attention must be paid to the quality of light, both in terms of eye-strain and faithfulness to color.

Adjacent to the shop should be a semi-enclosed office area for the shop supervisor and designers. This would accommodate a desk, filing space and a couple of chairs.

In the main portion of the shop the major equipment would be three large cutting tables, six sewing machines, eight dress forms, two steam irons, one upright steam iron, and about twenty feet of rack space for costumes. There should also be space for a table and chairs for hand-sewing.

A separate area - perhaps an alcove - should be created for jewelry and millinery work, which often involves much smaller materials easily lost in the larger work area.

There should be a room adjacent to the shop for the cutting of hair and wig work. It needs to have a beautician's chair and sink, and some table and shelf for wigs."

#### Primary Concerns Regarding Work Places:

Suggesting that the Hub can serve as a relief valve for people under stress, as we did earlier, does not mitigate the need to create humane work spaces.

A chief complaint we found was inadequate daylight and ventilation. The only spaces where daylight should not be considered a requirement are storage areas and dressing rooms (except if they are permanently assigned). All other spaces where people work should have natural light to help reduce stress. If the light can be incorporated without indisturbing views, a psychological and visual relief can be provided as well. Scene, prop, and costume shops should be provided with controlled light to avoid shadows (north light is ideal). Windows in some areas, such as rehearsal spaces, should be carefully located so as not to produce distracting views.

The lack of natural ventilation is also a common complaint. Every support space is better with natural ventilation, and far too little attention is paid to it in most theaters. Our impressions are that theaters generally have been built with virtually no regard for the need for fresh air, visual relief, and comfort of theater personnel. A window through which one can see the sky and weather outside, and which can be opened when a room is stuffy or smells and fumes have accumulated, is not a costly element, nor is it particularly difficult to incorporate in a building. However, windows in support spaces are rare.

Due to climatic considerations, building configuration and codes, it is necessary that all theater spaces be mechanically ventilated and conditioned.

All the theater companies we visited were dissatisfied with their mechanical systems (with the exception of Cincinnati, which had recently rebuilt and modified their original system.) The two major complaints were noise and lack of responsiveness. This is worthy of more research. Mechanical systems are a major budgetary item in both capital and operating costs. Despite the amount of money invested and spent for installation and operation of mechanical systems, there is a very low level of satisfaction with their performance.

Another complaint is the lack of adequate zoning of mechanical systems. The various spaces within a theater have very different demands for temperature modification and air changing (environmental zones), and the mechanical system needs to be sophisticated enough to deliver air at different of temperature and rates.

For example, a rehearsal space with 12 to 15 people in it for long periods is going to require different air delivery than a scene shop. The scene shop is going to have different requirements from a costume shop which may have dyeing vats, steam cleaning equipment, etc.

In addition to these complications, these different spaces may be in operation at different times during the day.

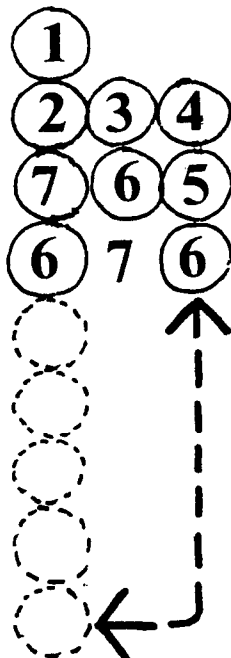
The most important conclusion we have drawn from the study in respect to mechanical systems is that the process by which theaters have been planned/designed has been inadequate in defining the detailed environmental requirements of support spaces. More specific consideration needs to be given by mechanical engineers to spaces which may need special air handling and ventilation. With the aid of mini-computers, mechanical systems can be made to perform effectively and efficiently. The installation cost is higher, but the long-term savings in human productivity and in decreased operating costs can quickly offset this initial cost. As theaters like Cincinnati have found, eventually the "correct" system has to be installed.

# BUILDING PROCESS AND ECONOMIC IMPACTS

The process of building and economic impacts are being discussed together to emphasize the importance of their relationship. As the scenarios which follow suggest it is difficult to control the building process and to reliably predict all the contingencies which might occur in the creation of a theater facility.

In the building of a theater the building process is often fragmented. This is sometimes so because fund raising and building are totally divorced from each other. Often a building project begins with an unexpected gift or opportunity. At other times a building project is initiated because of the loss of a facility through fire, termination of a lease, etc. When a building project is initiated unexpectedly a theater company can easily find itself in the middle of circumstances which it feels it has little control over. A thorough understanding of the steps which constitute the building process can help both the company and its architect avoid costly problems.

Theater companies in constructing facilities have all experienced similar steps in the building process. (1) The building is conceived and a program formulated by the company or some of its members. (2) A rough projection is made of a building budget, based either on a rough estimate of building costs (usually using square foot costs) or based on the amount of money which someone imagines might be raised. (3) A fund raising organization is established and fund raising commences. (4) An architect is hired and design of the facility commences. (5) A more detailed estimate is made of building costs, and adjustments made in the design of the building accordingly. (6) The construction drawings are prepared and the project is sent out for bids. (7) The project is revised once again to bring it within the cost made possible by the funds available. (8) Construction proceeds. (9) The theater is occupied.



Of note here is that there are several times where it is necessary to consider the costs of the project, and most typically costs are more than the funds available. This has invariably occurred. It might be expected that the ambitions of a company are likely to outstrip their means to pay for them. However, the sooner that the objectives of a company can be matched realistically with a design and an accurate budget, the easier the construction process will be. It would be most desirable to eliminate step 7 entirely, the revision of a projects design to bring it within the available budget. It is here that the biggest disappointments occur.

It is our objective in this section to identify the problems of building which are foreseeable, and to suggest ways in which these might be avoided, based both on the successes and failures of companies which have recently gone through the building experience.

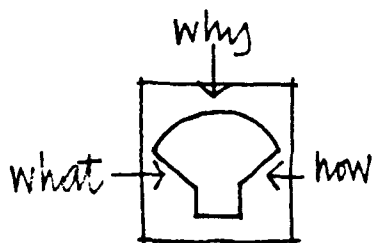
The section is organized broadly along the lines of the building process itself. It also includes insights regarding the buildings operating costs, a growing concern with many companies, and has specific recommendations regarding the organization of a building effort.

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## BUILDING PROJECT CONCEPT

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There are three essential elements in conceiving a theater building project.



1. A clear set of artistic and operational objectives. (WHY).
2. An understanding of the role of a building in supporting those objectives. (WHAT)
3. A command of the resources necessary to accomplish the building in a manner which will satisfactorily achieve the desired objectives. (HOW)

Under ideal circumstances each of these elements will be considered at the outset. The understanding of the elements, why, what and how may be largely intuitive based upon prior experiences. It may be possible for one person to know and understand why, what and how. But, more than likely, this knowledge is held by several people and sharing this knowledge is essential to arriving at a realistic building project.

### WHY

Artistic and operational objectives should be of primary importance in building a theater complex. Previous sections of this report have tried to articulate what some of those specific objectives might be for regional theaters. During the realization of a building project there is always pressure to compromise for reasons of economy, schedules, and general questions of expediting the project. Unless the "raison de'tre" for the building project is clear, compromises can leave a project totally bereft of its most important aspects. There is no sadder commentary on the failure of a building project than to hear someone say, "Why did we build this thing in the first place?" If a project is not initiated for artistic reasons, that is if the theater company is recipient of a wonderful bequest, an opportunity granted by an outside party, a need for more seats, etc. then conscious attention has to be given to the question of WHY?

## WHAT

The bulk of this report has been devoted to the question of "What". It is astonishing how quickly a few decisions can establish the physical character of a theater complex. Oftentimes these decisions are presented as givens and not questioned until it is too late. A most important question is that of location. Another fundamental question is the nature of the performing spaces, their size and character. Finally is the question of support facilities, their nature and their location. These issues are often resolved within the first moments of a project's conception. Frequently, due consideration is not given to alternatives, the artistic and economic implications of these decisions, and their long term ramifications.

## HOW

Resources necessary to carry out a building project include both economic resources and time. An increased commitment of time is placed on nearly all members of the company and the board. For some people this will be an extended period of time, consuming much of their energy. No one should begin a building project with the notion that they will do it in their spare time. The economic resources of any community are limited, and a building project calls for an extraordinary commitment of funds. It would be unusual for a theater company not to be competing with other community endeavors for these funds. The competition for funds which the theater company will face needs to be clearly understood, and a fairly accurate assessment of the company's ability to raise funds needs to be understood. Further, it is essential to grasp the costs of operating the new facilities and the overall budgetary impact.

Addressing the questions of why, what, how and their interrelationship as early as possible in a project's conception will help to assure successful completion. Whether or not this conceptualization is achieved by one individual or many, it needs to be committed in writing and shared with those likely to be involved in the project at its various stages. In this way everyone involved in the project can clearly see the objectives of the project, what the project is attempting to realize, and how the project is to come about.

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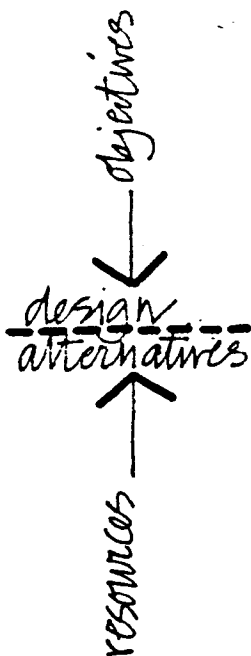
## BUILDING PROGRAM AND DESIGN

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Once the building project is conceptualized and some rough relationships established between the company's objectives, the nature of the theater facilities desired, and the resources available, it is time to hire professional assistance. At this phase it is appropriate to consider the employment of a design team of professional consultants.

### A TEAM APPROACH

Good communication is essential to a successful building project. In the design of a theater, there is a constant struggle matching objectives with design alternatives and available resources. A well organized project progresses from the general to the specific. Ideas begin as abstractions and take their final form in a building. It is difficult and frustrating to go from the abstract to the specific only to find certain assumptions were wrong and then have to repeat the process - back to the abstract. The trick is to avoid making erroneous assumptions. For that reason a team of people, each with differing concerns and expertise, moving together from the abstract to the specific, are likely to provide each other with the kinds of checks and balances which prevent erroneous assumptions. The objectives of the theater company itself should be represented by people familiar with the front of the house, with performance space and support space, and they should be free to call upon the expertise of other company personnel as they see the need. Their role is primarily concerned with articulating the objectives of the company and lending their experience of working in the theater. The design team is primarily concerned with preparing design solutions to the program objectives, and in many instances alternative solutions for the company's consideration. This group should include an architect, engineers, and perhaps speciality consultants, such as an acoustician, theater consultant, etc. A third component to the team is the construction manager. This role is a relatively new discipline in the building industry in the United States. Construction managers are usually found supervising major construction projects. This person's role is essentially to match the building design with accurate cost estimates, and eventually to coordinate the construction. We feel the addition of a person with these skills can do much to help manage budgetary aspects of the project. It is commonly assumed that architects possess cost estimating skills. In the case of theater construction we can find no evidence to support this assumption. The organization of the team is likely to vary from project to project and may depend upon the particular resources available. Architects, because they are generalists by nature and used to working with an array of consultants are most frequently the lead member of the team.



Sometimes a theater consultant will serve as the lead, if they are able to serve in this capacity for the duration of a project. Less frequently, theater companies have employed their staff to provide this function. In any case the individual or firm in charge of the project needs to have the confidence of the other team members and the authority to serve as arbitrator when there are differences clearly established.

#### THEATER CONSULTANTS

It will depend upon individual companies as to whether or not they hire a theater consultant. Companies that have used theater consultants have seemed quite pleased with their results. The range of services provided by theater consultants varies considerably. Some consultants were extensively involved in the design of the configuration of performing and support spaces, and such details as the specification for dressing rooms, etc. Others simply provide technical expertise in specific areas such as lighting and acoustics. The kind of theater consultation required is dependent upon the resources which might be available within the company itself. The more certain a company is about the kind of facility it wishes, the more it may be able to rely upon its own personnel resources. That decision may also be affected by the skills and knowledge available within the architectural firm and the experts in acoustics, lighting, etc. which they may have available. Invariably it seemed that those theater companies who did hire theater consultants did so because of particular artistic views which these people held in addition to their technical competences.

#### ARCHITECTURAL CONSULTANTS

The architect is responsible for translating the needs and objectives of the company and interpreting them in the form of a building. They create the documents and specifications necessary to construct the building, and supervise the construction. The architect also coordinates the work of specialists, such as structural and mechanical engineers, lighting consultant, etc. There are few architectural firms which specialize in theaters, simply because the number of theaters is small. There are several firms which are known for theaters which they have designed and their work has been widely published. The most critical aspect of an architect's role is communication. If the architect does not understand the objectives of the company then there is little chance that those objectives will be translated correctly to a

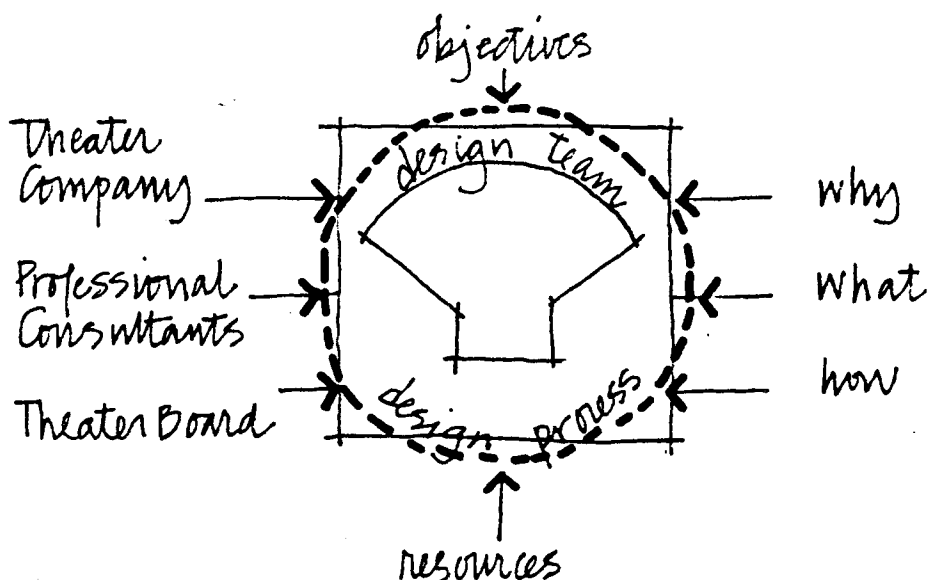
building form. (A classic example of a failure in communication was a theater forced to work with an architect hired by a third party. Communication was so poor that the theater company ended up having to persuade an architect, who was a former board member, to serve as their official representative or ombudsman to "get through to" the architect concerning the company's needs.) As pointed out earlier if there are strong differences between the architect and the company over what constitutes an appropriate theater the professional relationship deteriorates quickly. For this reason architectural firms should be carefully interviewed and questioned about how they would organize their work, how they would involve the company, and how they would use consultants. They should also be asked to reveal their biases and preconceptions (if any) regarding theater design.

#### ENGINEERING CONSULTANTS

A substantial part of a theater's budget will be spent on structural and mechanical systems. Some architectural firms are large enough to have their own in-house engineers who are capable of designing appropriate systems for a theater. Others will rely on engineering consultants whom they will hire for this purpose. It is advantageous for these consultants to be employed early in the design process so that appropriate accommodation can be made in the early stages of design. This is particularly important for early resolution of acoustic problems which are often created by poor planning and solved later through the addition of structural or mechanical remedies. The acoustical problems confronted by a theater are not as severe as those of a concert hall. Nonetheless acoustic problems can ruin a theater and expert advice in this area is often desirable, especially if the performing area itself is to take on an unusual configuration. Many suppliers of equipment now employ their own engineers to make sure that their equipment is correctly specified and installed. To employ these people means making an early decision about the use of particular products. In the case of mechanical control systems and computerized lighting systems, etc. these decisions can, if made early, result in much more sophisticated and refined solutions. These refinements can often lead to reduced operating costs.

# CONSTRUCTION MANAGEMENT

The employment of a construction manager has most frequently occurred at the later stages of a building project. The role of the construction manager is to expedite the construction of a project, negotiate bids, and evaluate alternative building techniques to assure that a building is built as efficiently as possible. A theater is a custom-crafted object, however, and many of the devices a construction manager might use to expedite the construction of other kinds of buildings cannot be used here. The construction manager can play an important role at this early stage however, by providing construction cost information when decisions regarding structural systems, foundations, excavating, etc. are being made. Many of these decisions, once made, are difficult to change and accurate information about the impact of these decisions upon ultimate costs can be extremely important.



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## COST MANAGEMENT

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The most common complaint of theaters engaged in the construction of facilities has been the management of the costs of construction. The problem can be seen as a mismatch between a company's objectives, the design created to meet those objectives, the funds available for construction, and the actual cost of construction. These are four variables. The last variable, the actual cost of construction, is generally not known until decisions have been made concerning, objectives, design and funding. If a project comes in over the budget then these other factors have to be reconsidered. This occurs after much time and effort which now appears to be wasted. Everyone is demoralized.

Careful cost analysis during the project's inception and development can help to avert this last minute disappointment. It is important to consider costs other than construction costs in the management of a building project as well. Those "other costs" which we have found to be important are: human costs, life cycle costs, deferred costs, and unforeseen costs. We will consider these costs in the order in which they impact on the conception of a building project.

### HUMAN COSTS

The quality of a new theater facility is very much dependent upon the amount of time that key members of a theater company can give to a project. It is the theater company or someone designated to represent the company, who sets objectives and standards and knows how the company functions. Over the life of a project that knowledge is invaluable to assuring satisfactory results for the company.

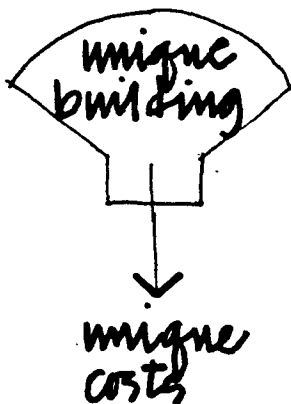
Building projects typically require a year of pre-planning, a year of construction and a year of fine-tuning. How much company time must the company devote to the building process to insure success? Essentially, what we found was that one individual, most often the managing director, spent extra time over-and-above the normal workload during the pre-planning period, virtually all their time during construction, and extra time over-and-above the normal workload during the initial year of operations. What this means in practical terms is that during the construction period someone in the company will have to be able to handle many of the delegated tasks normally carried out by the managing director. And, managing directors can expect to work evenings and weekends for three years. Another key figure in many projects was the production manager.

The production manager's general knowledge about support and production space and staging makes this person invaluable in making decisions during the design and construction phase. Architects will tend to rely heavily on the knowledge of the production manager, in laying out areas of the building they are not familiar with, and in specifying appropriate materials, equipment, etc. and assuring that these are properly installed.

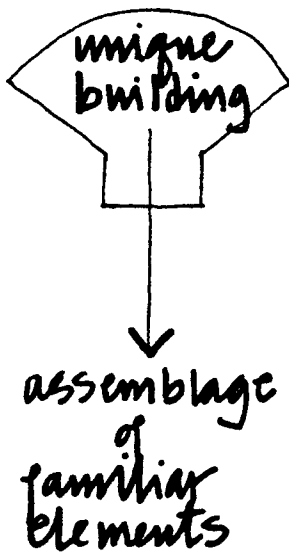
An important reason for providing adequate time for participation by theater company personnel is the need to make decisions in a timely fashion. A delay of a day or two during construction can cost several thousand dollars. Taking that into consideration, it is wise for the theater company to consider investing in extra personnel as support for the managing director and production manager during the planning and construction phases of the project. In addition the company should program a season which will allow major flexibility in the use of key management time, by using guest directors, interns, etc.

#### COST ANALYSIS

As we have noted, a situation to be avoided is the return of construction bids which are not within the project budget. We believe the only way to avoid this is to develop a method of cost control which continuously approximates the cost of construction. Construction managers are hired to perform this function and can provide a valuable resource to the project team.



The employment of a construction manager is particularly important because theater building is a unique facility. There are few regional theaters built and those are widely scattered. Conventional cost estimating relies upon approximation of costs based on the actual cost of buildings, of a similar nature which have been built. There is little construction with which to compare a regional theater. To illustrate this we can point to a comparison of the actual cost of construction of theaters we visited with costs projected for "theaters" in a standard construction cost manual published at the same time. The manual listed \$57 per square foot as the cost of a theater. The theaters we visited were experiencing costs of about \$110 per square foot, almost 100% greater. The use of "square foot costs" as a cost yard stick is flawed. The cost of different kinds of space can vary considerably depending upon the type of construction, finish, amount of perimeter, etc. To assign one overall square foot cost to a theater will lead to inaccurate cost estimates. Spaces with a high degree of finish and service will cost more, i.e. spaces such as lobbies and auditoriums. Spaces with a low degree of finish, such as costume storage and paint shops, will cost much less, perhaps as much as 50% less. Therefore reducing the size of a lobby versus reducing the amount of costume storage to reduce costs has different impacts.



Another and more accurate way of determining building cost is by estimating the cost of building elements. This is the method used by a construction manager. For example, whereas there are insufficient theaters constructed annually from which to base unit cost estimates, theaters comprise very many elements which are commonly found in other construction projects. The unit cost of these individual elements such as carpentry, masonry, concrete, steelwork, painting, tiling, etc. can be estimated with some accuracy. The proposed theater can be analyzed and measured as a collection of these quantifiable elements together with costs of general contracting (co-ordinating, supervising, risk-taking etc.). This technique can more accurately reflect actual local building experience. The construction manager is also familiar with the comparative costs of different construction techniques, finishes etc. and is often in the position to suggest alternatives. The construction manager also is in direct contact with contractors and oftentimes can negotiate a bid tailored to the contractor's particular capabilities.

A financial advisor has proved useful to several companies and we would recommend the employment of such a person early in the conceptual process. Such persons can often be found on the board and are willing to contribute their time. A major element of construction is money management and financing. Construction loans are extremely high. The cost of these loans may run six to ten per cent of a projects costs. On the other hand a theater company might begin a project with its money in hand. That money not immediately necessary to pay construction bills can be invested. Depending upon how the money for a construction project is managed, we may be comparing the possibility of a company borrowing considerable sums to pay off construction debts while waiting for pledges to be honored. Or, we may see the additional accumulation of funds based on wise investments of pledges received. Such financial management can affect the final costs of construction by a wide margin, anywhere from five to fifteen per cent.

CONSTRUCTION COST      Based upon figures made available to us from the theaters we visited it is possible to make some general remarks about theater construction costs. First it would be useful to look at a general outline of construction costs by percentages, based on the information available to us.

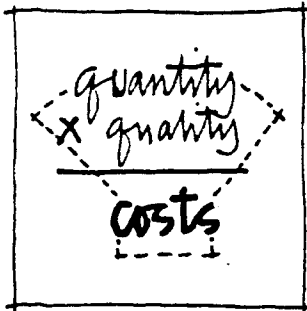
Construction Cost Components (new construction)

<u>Costs</u>	<u>Typical %</u>
Site Acquisition & Improvements	2%
Capital Cost of Construction	83%
General Conditions	8%
Superstructure & Finishes	37%
HVAC, Plumbing & Fire Protection	20%
Electrical	10%
Theater & Stage Equipment	8%
Prof. Fees	6%
Contingencies	4%
Construction Finance	<u>5%</u>
	100%

Several aspects of this budget should be commented on. The low percentage attributed to site acquisition and improvements reflects the fact that most theaters have sites given to them. In addition few theaters have provided their own parking. Both these elements, if carried by the theater would bring site acquisitions and improvements well above the two percent of total costs indicated.

Construction finance is indicated at 5% of the total construction budget. Let us imagine that a theater is able to build a facility without a construction loan. Furthermore, the money raised for a building is invested and returns two thirds of what a construction loan would have cost, or about 4.5 percent of our budgeted construction cost. The difference we are talking about is 11.5% of the total budget, an amount which is greater than only two other items in our budget. That 11.5% difference can be achieved without affecting the building design whatsoever. The other budget items are generally affected by the size of the facility itself.

Another glance at the figures indicates that better than half of the projects costs are in superstructure, finishes, and mechanical systems. That fact is reflected in the reduced costs of adapting existing structures to theatrical uses. Because the nature of the adaptation can vary so tremendously from project to project it would be unwise to try to compare the costs of new construction with adaptations. Of the projects we visited, however, it appeared that adaptation of existing buildings could reduce the total construction budget by 35-40 percent.



In cutting building budget there are essentially two strategies that may be employed, reducing the size of the building or reducing its quality. Reducing the size of the building has the effect of reducing all the capital cost components but not necessarily equally. The different qualities of space vary considerably in their value in economic terms, which may be quite different from their intrinsic value to the theater. We have seen instances where support space has been sacrificed to maintain a monumental lobby. A lobby is much more expensive to build than a support space, perhaps twice as much per unit cost. The lobby does not contribute to the production of the theater and at the same time it is expensive to maintain. The support space, if inadequate, will probably have to be compensated for in some other costly fashion. Yet it would appear that in the majority of cases when it comes time to sacrifice space, it is support space which loses out. The nature of the space which is reduced or eliminated is critical to overall budgetary impacts.

Many aspects of a budget can be affected by considerations of quality. Here again careful and appropriate selection are important. Often a job is bid with alternative finishes or systems specified, making it possible to put together an appropriate package. Construction managers can be instrumental in identifying where alternatives might be most cost effective.

A characteristic common to many theaters when it came time to cut the building budget was the ineffective way in which budgets were cut. In a period of high inflation it is common to find building costs escalating rapidly. As a project is delayed for the purpose of reconsidering ways to bring the budget into line, construction costs are continually increasing. The budget cuts, therefore, have to reflect not only the cost overage but the increasing cost due to inflation. It is not uncommon for bids to be good for no longer than 30 to 60 days, leaving little time for procrastination. A major redesign of a project may take up to six months and at a 10 percent rate of inflation, the project has fallen behind another 5 percent by the time it is rebid.

OPERATIONAL  
COSTS AND  
DEFERRED COSTS

Life cycle costs and deferred costs are important ideas to interject here because in attempting to control project budgets there is continuous pressure to make decisions which will transfer costs.

Life cycle costing is a way of looking at a building over time. It is costly to operate a building. The costs of operating a building are often directly related to how well the building was constructed. For example, finishes that are easy to maintain are initially more expensive. A sophisticated mechanical system designed to operate more efficiently, is more expensive to install. In speculative commercial space it is often decided to build with less expensive means and pass the cost of increased operation on to the tenants. This is the nature of professional advice often given. A theater company building its own facility, however, will have to live with these increased operating costs. In some cases that may be a reasonable alternative, especially if the theater company can control some of those maintenance items by using its own staff. In other cases, however, such decisions can be very costly. As an example: because of the cost of mechanical systems and because the work falls under the purview of one contractor it is a tempting target for budget cuts. This is one item in the construction budget, however, which is difficult to replace or retrofit later on, and an efficient system is likely to bring increased benefits as fuel rates increase.

To make judgements and decisions about life cycle costs requires the project team to formulate an estimate of operating costs of alternative designs. Many key decisions can be made at initial programming and design stages. The methodology is similar to intelligent capital cost estimations and consists of identifying the components of operating costs such as heating, ventilation, air conditioning, maintenance, logistics, security, etc. which would be entailed in a given design. From this model, which can be compared to operational procedures at other theaters, comparisons can be made and optimum combinations identified. Facilities operation budgets are typically around 10% of the total annual theater budget. Miscalculation of operating costs inevitably affects more important components of the total annual budget of a theater.

Deferring costs essentially means either doing without something until it can be afforded or accepting low quality in some element initially with the expectation of later improvement. It is difficult to return to patrons for money a few months or even years later. Some theaters have deferred certain costs, assuming company members could assist with painting and such. Those activities are hard to conduct after one has "moved in" and the building process is taxing enough on a company without asking them to take care of the finishing touches.

Accepting low quality initially is an expensive strategy. The cost equation can become: initial cost + interim modification cost + cost of associated elements affected + replacement cost. This strategy should not be adopted unless "doing without" as an interim measure is impossible.

#### UNFORSEEN COSTS

We have discussed deferred costs which result from being unable to afford the capital cost of a piece of equipment or a building element at the outset.

Companies have experienced unforeseen costs of another sort which should be discussed. The cost of remedial work arising from defective design, installation or construction has in some instances fallen upon the theater company.

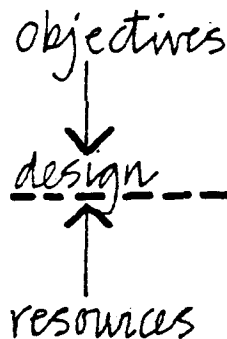
Generally speaking, faults of design, construction, or installation should be a liability of the architect, engineers or the contractor. However, we recorded cases where the liability had been transferred to the company due to action on their part during the construction process. For example:

Company A discovered their project was over the budget upon receipt of construction bids. During the process of negotiating cost reductions, the mechanical subcontractor proposed changes to the mechanical system to reduce costs. These changes were agreed upon without the awareness that the cheaper system would be noisier and not acceptable. Upon completion of the works, it was discovered that the system was too noisy and the company now plans to make major alternations when money can be raised. Perhaps there should be liability on the part of the architect or contractor. However, by making specification reductions to save costs, the company in fact ended up with reduced performance of the system and no redress.

Company B went through a lengthy design process to arrive at a building design that met their budget and they paid substantial design fees to their architect. The Board felt they had invested so much in professional fees for abortive design services that the architect should carry out the supervision of the construction without requiring further fees. Agreement could not be reached with the architect, so the Board decided to supervise construction themselves. They were well-qualified to do this, as their membership included a prominent developer who donated his own time and his personnel staff cost as well. The construction was carried out reasonably well overall. However, the contractor was unable to get certain equipment for the mechanical system which was specified and requested alternative instructions. The cost of delaying work while the specified equipment was awaited appeared to be substantial, so the Board decided to authorize substitutions. The equipment which was installed was found to be noisy upon completion of the work, and the company plans to replace major parts of the mechanical system when money can be found.

These two examples are not the only instances of unforeseen costs arising from assuming liability for design or construction decisions. They serve to illustrate, however, the kind of costs that occur when cost planning is faulty at the initial stages.

A contingency sum is normally included in the project budget. One should understand the purpose of this sum, which is added into the estimate of the project costs in the event of unforeseen costs. Normally this sum is a nominal figure. This contingency sum does not provide for the kind of unforeseen costs described earlier which are liability-related.



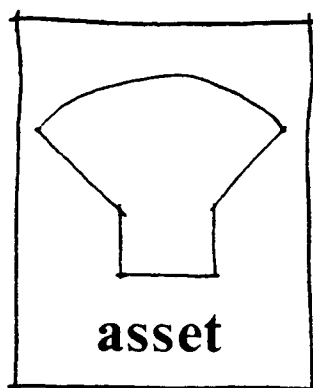
What steps can a company take to reduce the likelihood of unforeseen costs becoming a company liability? The first step comes in recognizing that cost planning is an integral part of the design process.

We think the key to avoiding unnecessary and unforeseen costs resides in the project leadership. Most mistakes in past theaters have come about due to inexperience. We hope that this report which attempts to share the experience of others will help to develop that leadership. Quite naturally few people in the theater have the opportunity or the inclination to build more than one theater in a lifetime. The "experience" contained in this report is intended as a substitute.

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## PROJECT FINANCING

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This section might be called "fund raising" and initially it was. However, as we have become more familiar with the attributes and potential of regional theater we feel it is appropriate to look at the costs of building a theater facility in a broader light. Some of the ideas found here are not based on experiences from other theaters, but are based on an ever growing attitude that artistic activities are going to have to find a broader base of support in order to survive. This affected a fundamental difference in attitude towards a theater building at the outset. We have continually asked the question, How can a theater building become an asset rather than a liability? Put another way, What does a theater have to sell besides tickets? For one, a theater is seen as an important part of the cultural life of a city, and any theater that does not take advantage of that in marketing itself to a political body is missing an important opportunity. Secondly, a regional theater differs from other performing arts because it brings people to a specific place on a regular basis. It therefore has the potential to positively affect activities around it which might benefit from the business of the theater's patrons. In this same regard the theater has a captive audience who might very well view the theater as an event which can be enhanced by dining, drinking, etc. We have divided this section into three parts: Contributions, Investments and Entrepreneurship, to bring these opportunities into clearer focus. These approaches to project financing are not mutually exclusive. We believe each might be used to some degree in many projects.

### CONTRIBUTIONS

Contributions have been the conventional means for financing regional theater construction. This is likely to remain an important part of any financing package. The resources of each community vary and may have a profound effect on the nature and kinds of gifts which might be expected. Contributions can be expected from three general sources, government, business and private institutions and individuals.

Government assistance is available from grants at the national and state level and from more direct forms of assistance at the local level. The National Endowment for the Arts has aided building activity and so have the individual arts boards in the various states. While the actual amount of money from these grants has not been great, the involvement of the federal and state

governments and their review process has served to establish the legitimacy of a theater's intentions. This has helped to secure matching funds from private sources. Local governments have many more ways they can help regional theater companies. The acquisition of property for a theater has been a primary assistance. Few theaters would be built in downtown locations without some form of assistance in acquiring property at a reasonable cost. Some communities have assisted theaters directly by building the theater building themselves and leasing the facilities. Usually they finance the projects by using the bonding authority of the governmental unit. (As we have noted this takes a great deal of authority away from the theater company in specifying a theater to meet the company's particular objectives.) Some communities like Berkeley and Hartford have actively solicited the relocation of a theater to aid the city's revitalization efforts. This sometimes has the added advantage of providing a very positive promotional value to the theater project.

Business and private institutions (notably foundations) have an important part to play in funding theater facilities. The availability of these funds, however, is quite competitive and most foundations and businesses are likely to spread their funds among several institutions. These grants, however, can be quite sizeable and few building projects have succeed without contributions from the business sector. Gaining access to these funds may take some time, since many corporations and foundations have long term giving programs. It may take several years to negotiate a sizeable grant. Some theaters have successfully used board members associated with the building industry to solicit contributions from this sector which helps to promote construction activity at the same time. In other cases board members associated with the construction or financial industry have contributed valuable in kind services.

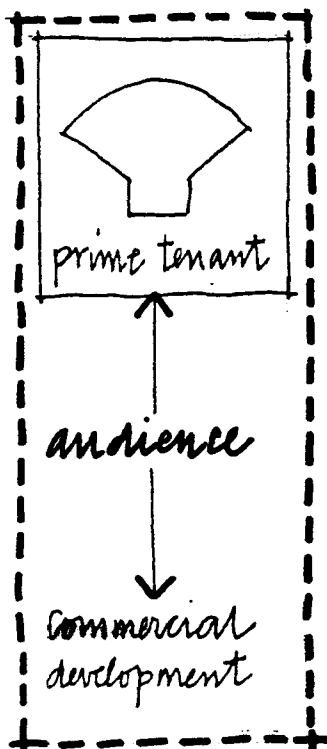
Individual contributions may be small or large. Small grants cannot be sold short but large grants often make or break a building project. These grants may come from long time friends of the theater wanting to acknowledge their support, or they may come from wealthy citizens simply looking for a suitable memorial. Berkeley and Cincinnati memorialized all gifts by acknowledging them on handsome tiles (or bricks) which became part of their building.

It is important to note the role that a board has in soliciting contributions. A board, if carefully structured can be the most important asset a theater company has. Board member connections to major corporations, government, foundations, financial institutions and construction firms can be strongly influential in directing gifts to the theater. Likewise these same connections often have a social and business component. The creation of an appropriate board structure and a theater facility should be thought of as going hand in hand.

Some theater companies have hired professional fund raisers to organize and manage fund raising activities. This is certainly a viable idea if such expertise does not already exist on the board or the company staff, or if these people cannot make extensive amounts of time available. Professional fund raisers cannot work miracles, but they can save time and help utilize volunteer resources.

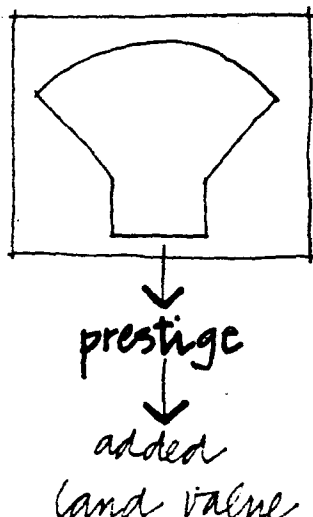
#### INVESTMENT

While the value of theaters to the vitality of urban areas has been acknowledged, efforts to have theaters benefit from this value have not been realized directly. There may be an opportunity for third generation theaters to capture some of these benefits.



Obviously a prime attribute of regional theater from a commercial standpoint is the people it attracts to a location. A theater with a regular audience of 500 to a 1000 patrons an evening draws as many people as many major department stores. Most shopping areas rely upon such "prime tenants" to attract shoppers who then shop at other stores. Prime tenants often receive benefits in reduced rents, preferential rates for advertising and promotion, maintenance, etc. Most new theaters move into established areas, or are not conceived as a part of a new development. They therefore have no opportunity to receive the economic benefits that other prime tenants enjoy. If, however, a theater were conceived as a part of a larger development, and it was thought that the theater's role was to attract potential clientele it might prove worthwhile to a developer to include the theater in the project as a prime tenant. In this way the theater could benefit directly from its ability to draw people. The theater, of course, cannot be thought of as directly analogous to a department store. People do not go to the theater in the same frame of mind as they go shopping. But, certainly some activities are directly compatible - dining and drinking for example. And, it is possible to

imagine other kinds of merchandising, books, art work, posters, etc. which might directly appeal to the interests of a theater going audience. How does one put a value on this potential benefit? That is difficult to say, but there are many contributions that an imaginative developer and a theater company might give to each other.



An element which is related to theater and other arts activities as well, is an ambiance which they bring to an area. They lend excitement and dignity to city life. Through association they can add value to adjacent real estate. The Museum of Modern Art in New York has engaged in the development of residential condominiums within air rights it has sold to a developer. This area is not a traditional residential neighborhood and yet this housing is being marketed as "prestige housing". In this case the Museum has enjoyed an opportunity to sell off a development opportunity because of the favorable location it enjoys. Few theaters are in a position to do this. But a new development which included a theater might enjoy some of the "prestige value" that MOMA's venture has, a value which in some form might be passed on to the theater by the developer.

We believe the kind of investment opportunities which we have used as examples are real opportunities though there are no regional theaters that we know of that have used this technique. For this approach to succeed would take the collaboration of a theater company and a developer at the outset of a project. Such timing is difficult, though not altogether impossible if a theater company was to make its building objectives known among the local development community. It would mean a theater company would have to establish longer term building objectives, publicize them, and wait for the right opportunity to come about. Many second generation theaters might consider this as a method for achieving their long term goals as a regional theater.

#### ENTREPRENEURSHIP

Of all the performing arts, theater seems to be the least well endowed by the community. Entrepreneurship seems endemic to theater. Theater management has become a skilled profession. Theaters which are well established as second or third generation companies probably owe a great deal of that success to good management. The question we have asked is whether or not those management skills might be used to extend the income producing capability of a theater, through its design. One idea which has come to mind is thinking of the theater as an investment in real estate. We will come back to that idea and its implications later.

Many theater companies engage in selling more than tickets. The most prevalent forms of "other" revenue sources, besides gifts, grants, etc. are concessions. Concessions are either leased or operated by the company itself. Concessions most frequently consist of an intermission bar and coat checking. Even in the most casually operated refreshment bar this can mean an income of several thousand dollars for a season. Actual incomes seemed to vary so much in relation to total company income that generalizations are not worth making, but all companies viewed these activities as income producing, not just amenities provided for the audience.

Some companies have expanded on the idea of the intermission bar, quite successfully. Once a liquor license is established and the bar set up the question becomes how to best utilize that potential. A response by several companies has been cabaret theater. Cabaret theater provides an opportunity to enhance revenue from the bar. It also creates the possibility of new performance opportunities for the company. It also provides new possibilities for audience development without compromising the artistic integrity of a regional theater.

Perhaps a next stage in the evolution of bar service is food vending. Some companies have successfully engaged in this activity through catering services. Cincinnati's venture into providing full meals before and after theater dining in a new space designed for this purpose has served as a model for our proposal for a public place for each regional theater. A final example which takes the notion of the bar/dining opportunity one additional step further is the lobby at Indianapolis which along with the bar is rented out for receptions. The Indiana Rep has the advantage of being located across the street from a major convention facility (no accident) and having a magnificent lobby, formerly the lobby of a movie "palace". The lobby has developed a reputation as being an attractive place to hold receptions, and the Indiana Rep both rents the space and manages the concessions, two incomes in one operation.

The kind of concessions discussed thus far are by far the most prevalent and most lucrative kind of entrepreneurial activity in which theaters engage. Among other activities used to produce income are prop and costume rental and occasionally set rental. None of these produce a sizeable income and most rentals are done as much for public goodwill as for income. Selling the services of costume, set, and prop production would seem to be an activity

which might interest some companies. Where such activity does occur, companies use it so that artisans can expand their personal income rather than a means for the company to fatten its own coffers.

A very large issue facing some regional companies today is production for cable television. There is not enough experience among companies to determine what the impact might be on theater facility design. In most cases it might be nonexistent if regular TV studio space is available. On the other hand in communities where such space might not be available, the incorporation of even modest TV production capability might provide a community need and an additional source of income for a company.

There are opportunities which we are sure we have not discussed nor thought of. Each community may present its own unique set of opportunities. Underlying the concept of entrepreneurship as we've discussed it here is the notion that a theater can expand its revenue producing capability without compromising artistic objectives. If some of the ideas presented here were incorporated with the ideas of "prime tenant" and "prestige value" cited in Investments earlier, one might imagine the theater company being the initiator of a development project which would encompass more than a theater.

The theater company could become a developer, a development partner or a share holder in a development based upon its participation in the project. Theater companies are clearly in a position to generate such ideas and opportunities given their visibility.

Such an approach could put an entirely different perspective on the creation of new facilities for a theater. If we think of the theater as an investment, the entire concept of contributing to the construction of a theater facility changes. What would be a gift now becomes an investment. This has implications both for the type of funds made available and for potential financiers of a project and the benefits that might be received by those individuals, corporations, and foundations.

It is unlikely that there is a formula which might be created which would turn regional theaters into development corporations. If local opportunities are right, however, we think this is an avenue of funding for theater facilities which is worth further exploration.

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#### PROJECT LEADERSHIP

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Finally, a most critical issue. In typical cases where theaters have been built, elected officials, funding institutions, local corporations and individuals have all shared the perception that the creation of a theater was beneficial to the community. As one person said who has been instrumental in many civic improvements including theaters, "there is a time for any building project of a civic character". By this he meant the necessity for community aspirations, economic means, political process and personalities to converge. To achieve such convergence requires a catalyst.

The catalyst is one or two people. The successful leadership model that can be constructed from the examples we have analyzed is breathtakingly simple, on the surface. Two people are required initially. One person must be a member of the theater company management (most often a director). This person must have the ability to communicate the vision of a new theater, unlimited reserves of energy, dogged determination and the capacity to make hard decisions intelligently. The second person is the project leader and should be a member of the business community or a key elected official. Most frequently this person is on the board of the theater company. This person is characterized by the ability to tap seed money for the project (20 to 25% of the total budget). With this commitment the project is begun and primary responsibility for fund raising is taken on by the project leader who frequently is or becomes the board president for the theater. The attributes required of a building project leader are not the same as the attributes normally required of a board president involved in annual theater operations. The most important attributes of a project leader are a dedication to the vision of a new theater, exceptional persuasiveness which is required to communicate the benefits which a new theater would bring to the community and access to and influence with the individuals within the community who are able to make the next portion of capital funds available (40 to 50%). The responsibility for day to day project management rests with the director of the theater. It is imperative that the project leader and theater director work closely together and as a team.

There are other extremely vital roles and responsibilities. For this reason it is important that the theaters' board be carefully constructed before engaging in a building project. It should be appreciated that the board as well as the company will be making a commitment of time, expertise and prestige. People do not want to be associated with a project which they think may fail. Unless the board is fully committed to a project it may very well fail. A board with strong expertise itself is more likely to have the confidence and vision necessary to see a project through to conclusion. Board members with expertise in law, finance and investment, real estate, construction, marketing and advertising, are extremely valuable. So are board members who are considered leaders amongst the various constituents the theater serves.

All this does sound rather simple, but it is not. It should suggest the time and careful consideration needed to create a successful project. Although there are other conceivable leadership models, this is the most familiar one. Invariably theater projects require support from a number of sectors of the community and someone has to be able to persuade a significant number of people that contributing sizeable sums of money to a theater is a good and worthy investment.

We hope that this report will help the leadership which needs to develop to create the new kinds of regional theater we know can exist across the country.

# APPENDIX

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## METHODOLOGY

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The methodology used in this research was highly dependent upon the collaboration of two groups of professionals, architects and theater people. The hypothesis of the research was that regional theater was making important changes in the idea of what constitutes an acceptable theater facility. To test this hypothesis the architects would 1.) work with the Milwaukee Repertory Theater Company (MRT) to assess their own facilities; 2.) assess the facilities and operation of other companies who had recently built or were planning facilities; 3.) evaluate the impact of facilities on company operations; 4.) develop an ideal operations and facilities model working with the MRT; 5.) develop preliminary design proposals which tested the model in several different situations; 6.) evaluate the impact of alternative proposals and MRT expectations; and 7.) summarize these findings in a set of guidelines and strategies which might be used by MRT and other theater companies. Following is an elaboration on how each of these tasks were performed.

1. Assessment of Milwaukee Repertory Theater Co. and their facilities:

This task was performed in two steps. First the architects familiarized themselves with the MRT's facilities and operations by direct observation of all the theater's activities at every conceivable time, including production planning, rehearsal, shop production, technical set-up and theatrical performance. The second part of the assessment was done in collaboration with MRT personnel. The MRT established a Facilities Committee which included at least one person from each of the several specialized areas of theater production, performance and management. In addition several board members served on this committee. The architects first met with the entire committee. At this meeting committee members were given four-by-five index cards, two matrices and a calendar with future meetings. The index cards were to be used by members of the committee to identify elements within the matrices. One matrix was concerned with MRT's structure. The instructions for filling in that matrix were as follows:

## Assessment

1:1

MRT:NEA 12:17

### MRT STRUCTURE

A matrix has been formed which is intended to allow broad participation in the development of what we need to know about MRT.

The matrix identifies four specific components of the theatre:

PERFORMANCE	types of productions
USERS	audience and people involved in production
OPERATION	production support activity
ECONOMICS	fixed and operational costs overhead and cash flow

and a range of descriptors of those components

GOALS	long term ideals
OBJECTIVES	measureable means to achieve goals
PRESENT STATE	existing situation or condition
ISSUES	perceived relationships and problems
STRATEGIES	organizing ideas

The matrix creates twenty boxes into which bits of information and ideas can be sorted. The boxes can be filled in any order. To fill in the boxes one simply asks the question: what descriptors apply to each of the components of the theatre?

WHAT are the PERFORMANCE: GOALS, OBJECTIVES, PRESENT STATE, ISSUES, CONCEPTS  
 WHAT are the USERS :  
 WHAT are the OPERATION :  
 WHAT are the ECONOMIC :

# Assessment

1:2

MRT STRUCTURE	GOALS Long Term Ideals	OBJECTIVES Measurable Means To Achieve Goals	PRESENT STATE Existing Situation or Condition	ISSUES Perceived Relationships And Problems	STRATEGIES Organizing Ideas
PERFORMANCE Types of Production					
USERS Audience And People Involved In Production					
OPERATION Production Support Activity					
ECONOMICS Fixed and Operational Costs, Overhead Cash Flow					

The second matrix was concerned with issues. The matrix was used as a way of eliciting a list of the conflicts and complexities which existed in the theater which were probably not noticeable by "outsiders" and possibly ignored by "insiders." The instructions for that matrix were:

## Assessment

1:3

### ISSUES

A second matrix is intended to help us arrive at issues in a way which will help us see the interrelationships between the components of the theatre.

The components:

PERFORMANCE  
USERS  
OPERATION  
ECONOMICS

are matched with each other.

To fill in this matrix one simply asks the question: how does one component affect another?

HOW do PERFORMANCES affect: PERFORMANCES, USERS, OPERATIONS, ECONOMICS  
HOW do USERS affect :  
HOW do OPERATIONS affect :  
HOW do ECONOMICS affect :

Assessment

1: 4

ISSUES  
RELATIONSHIPS

PERFORMANCE      USERS      OPERATION      ECONOMICS

PERFORMANCE				
USERS				
OPERATION				
ECONOMICS				

Common topics in each matrix are PERFORMANCE, USERS, OPERATION and ECONOMICS. These components were agreed upon after discussion with the leader of the Facilities Committee. They were chosen because they characterized both broad concerns and organizational attributes of the theater. These four components served to structure the meetings of the Facilities Committee and the architects. Separate meetings were held from two to three hours duration to discuss each of these topics and to fill in the matrix. One entire wall of the MRT Green Room was used to create a giant matrix on which the 4 x 5 index cards could be attached. Some participants brought cards already filled out, and some were written during the discussion. The matrix was left in place between meetings so committee members could study the cards and add cards if they wished. After four such meetings the matrix was filled. A fifth meeting was used to clarify the statements written and to eliminate redundancies. The architects then used these matrices to form a questionnaire for theater companies to be visited by them.

## 2. Survey of Other Theaters

The survey took two forms. One was a field trip, inspection and interviews conducted by the architects. Nine theaters besides the MRT were visited. These theaters were chosen because they were all mature theaters which had recently built new facilities or had adapted a building to use as a theater. An additional criterion was that a particular theater had one or more features which were considered to be nearly ideal by theater professionals. Three of these theaters recently occupied new buildings. Two recently added to their existing facilities, two recently adapted existing buildings, one had new facilities under construction and one was still in the planning stages.

	Recently Built New Theater	Recently Added to Existing Facilities	Recently Adapted Existing Building	New Facilities Under Construction	Planning Stages
ARENA STAGE Washington, D.C.		X			
BERKELEY REP. Berkeley, CA	X				
CENTER STAGE Baltimore, MD	X				
CINCINNATI PLAYHOUSE Cincinnati, OH		X			
HARTFORD STAGE CO. Hartford, CT	X				
INDIANA REP. Indianapolis, IN			X		
OLD GLOBE San Diego, CA				X	
SEATTLE REP. Seattle, WA					X
TRINITY SQUARE Providence, RI			X		

On each visit the architects interviewed key people who had been involved in the facilities planning, toured the facility and observed theater operations. Where it was possible, plans and building budgets and operating budgets were also reviewed. The interviews were conducted informally but the architects used a detail questionnaire as a guide to make certain that all the issues believed pertinent had been discussed. Following is that questionnaire:

## MRT Facility Impact Study

QUESTIONS to ask other theatres on FIELDTRIPS and by SURVEY

CATEGORIES : Company history  
Program  
Audience  
Facilities  
Economics  
Building project : Professional services  
Construction process  
Impact

**COMPANY HISTORY****Background**

1. How and When did the company come into being?
2. Is the company the brainchild of an individual or a group?  
How is that manifested? (program)  
(facilities)  
(economics)

**Cultural Role**

3. Is the Theatre (company) a resource ~~to~~ provide things for the community?  
If so, how much does that cost in staff time and money?

**Context**

4. What other Theatre groups exist serving the same audience and geographical area?
5. What are their programs like?

1

## PROGRAM

## Artistic Program

1. What is the primary thrust of the theatre?  
 artistic - actor centered  
 audience  
 do justice to the space  
 be an event  
 technique, production, design  
 script development
2. What type or what is the character of work performed?  
 classics  
 new plays  
 comedy  
 musical  
 american  
 international
3. Does the theatre have a resident playwright program?
4. Does the theatre have a resident artistic director and/or visiting directors?
5. What is the composition and size of the resident company?  
 acting  
 production  
 management
6. What are the company's motivations for doing shows?  
 go to NY  
 for the audience  
 experimentation
7. What is the artistic personality of the theatre?  
 one head honcho  
 changing artistic lead  
 participatory

## Performance Program

8. What types of performances and other activities are staged?  
 main stage  
 second house  
 readings  
 travelling  
 children's theatre  
 teaching  
 caberet
9. What are the program series and their length of season?  
 main stage  
 second stage  
 tours  
 etc.

2

10. What productions are scheduled at the same time?
11. Are the programs revolving rep or stock?
12. Who is involved in the process of determining what will be performed?
13. What performances or events share each space?
14. How many plays are staged in a season?  
How long do they each run?  
How much changeover time is there?

Operational Program

15. What is the management structure of the theatre?
16. What is the annual production budget?  
What is the production budget for each show?  
What production things are done in-house?  
What production things are sub-contracted?
17. Does the company provide any services for revenue?
18. What company members are permanent?  
How are they organized?  
What staff are part-time?
19. What is the average cast size?
20. How much does the company depend upon the local community?  
artistic  
props  
support (labor, skills, fund raising)  
financial

## AUDIENCE

### Demographics

1. What is the size of the community the Theatre serves?
2. What is the size of the region the Theatre serves?
3. Is the community gaining or losing population or stable?
4. Is the region gaining or losing population or stable?
5. Is the audience stable, growing or declining?
6. Is the sub-audience stable, growing or declining?
7. What is the economic character of the community?  
     industrial  
     service industry  
     institutional
8. Does the community have notable ethnic characteristics?
9. How do any of the above affect immediate or long term audience size?
10. What is the size of the performing arts audience in your community?
11. What is the size and scale of your theatre and does it "fit" the audience (potential)? If not how many seats should it have?
12. Is audience "interest" consistent?  
     Is audience "interest" affected by type of performance?  
     Is audience "interest" affected by economy?
13. Is your audience local?  
     or regional?  
     or national?
14. What (total) audience do you perform before (in residence) each season?
15. What portion of this audience is subscription?
16. What would you regard as the ideal proportion of subscription audience? (or what is your goal?)
17. Did your audience change with new facility?  
     quantity?  
     character?
18. What type of audience do you have?  
     affluent  
     (what is the audience like?) socially and economically mixed  
     boring  
     old  
     young

## AUDIENCE (continued)

19. What are the audiences expectations?  
intellectual stimulation  
entertainment  
night-out
20. What is the effect of a large subscription audience?  
vs. a single-ticket audience?
21. How does your audience affect your performances?

## FACILITIES

## Description

1. Where is your theatre?   downtown?  
                                 neighborhood?
2. What other activities are in the vicinity?
3. What night-life amenities are in the vicinity?  
                  eating  
                  drinking  
                  other performing arts theatres  
                  movies
4. Are you a magnet for other activities?
5. Do other local activities enhance your location?
6. What would you most like as a "new neighbor?"
7. Are there areas in the vicinity perceived as having crime problems?
8. Is your area perceived as safe?
9. Is it statistically safe?
10. Does your audience primarily arrive via public transportation or private car?
11. What parking facilities are there associated with your theatre?
12. Are there any special access features or problems associated with your location?
13. What is your IMAGE within the community?
14. Is your theatre within a new building or an older building?
15. Is all your space within a single building?
16. Is all your space on the same floor level?
17. What is the character of your theatre?
18. What amenities are within the theatre? (or complex?)
19. How many (mainstage) seats are there in your theatre?  
     How many (second stage) seats are there in your theatre?  
     How many (other) seats are there in your theatre?
20. How far is the furthest seat from the stage?
21. What type of stage do you have?  
                  thrust  
                  arena  
                  prosceniums

## FACILITIES DESCRIPTION (continued)

22. What trap arrangements do you have?
23. What stage flexibility do you have?
24. What is your total floor area?  
    components area: house  
                          back stage  
                          foyers/lobbies  
                          production (including storage)  
                          management
25. How does the theatre (facility) fit into the community environment?  
    Is it a civic monument?  
    Is it a character with its neighborhood?  
    Does it attract people?
26. Do the audience and the facilities look alike?
27. Does the theatre (facility) reflect the community? should it?
28. Did you attempt to make an architectural impact?  
    an avantgarde impact?
29. Is the theatre (facility) intimate or formal?  
    Does this fit the artistic character?

## FACILITIES

### Functional Analysis

#### 1. Plans and sections of the building(s).

Activity and Space Checklist	
Marquee and Dro-Off Point	
Audience Access From Street (Sidewalk)	
Parking	
Public Transportation	
Access for Deliveries	
Loading Door	
Staff Access	
Audience Entrance Foyer	
Lobbies	Green Room
Box Office	Dressing Rooms
Hat and Coat Checkroom	Stage Staff Office
Public Toilets	Scene Construction Shop and Office
Snack Bar	Prop Shop
	Prop Design Office
Auditorium Seating	Stage Man Office
Aisles, Exits	Storage Areas: Lighting
	Prop
	Costume
Stage	
Booth	Costume Shop
Back Stage	Costume Design Offices
Stage Access, Crossovers	Management Offices
Traps	
Flytower	Library

#### Schedule of Areas (floor areas each activity)

##### Equipment Checklist (To be Formulated)?

2. What is the "heart" of the theatre?
3. Where do audience and staff meet?
4. What is public? and private?
5. Where do part-time activities such as subscription campaign activities occur?
6. What activities create space pressures?
7. What archives or long-term storage do you have? (where?)
8. Do you loan or rent properties/costumes?  
What logistics are involved?
9. What proximity priorities did you decide upon?
10. What is the loading - storage relationship?
11. What flexibility do you have? What makes a theatre flexible?

## FUNCTIONAL ANALYSIS (continued)

12. What potential for adaptability do you have?  
What potential for growth do you have?
13. How did you decide upon house size?
14. Is the facility what you wanted?  
What compromises did you accept?
15. Do you have adequate production space?
16. How do the acoustics affect the audience?  
actors?  
productions?
17. How does stage type and configuration affect productions?  
actors?  
audience?
18. How visible is the audience?
19. How aware is the audience of being in the theatre?
20. What is the relationship between the performance space and the production needs?
21. What can't you do?

## FACILITIES

## Form of Tenure

1. Do you own or rent theatre?
2. If rented, how long is lease? or other contracts?
3. Is any space shared?
4. Is any space within building rented to others?

## Facility Economics

1. What was the capital cost of the facility?
  - land
  - building
  - improvements
  - total
2. What was the cost per square foot?
3. What were the element costs?
  - superstructure
  - services
  - finishes
  - equipment
  - fees
4. How did the initial planning budget costs compare to the construction contract sum?
5. How did final construction costs compare to contract sum?
6. How was the project financed?
7. What are the annual financing costs?
8. What are the operating costs?
9. What remedial work or alteration costs have there been?
10. Was energy (costs) a design consideration?
11. If rented, what is annual rent?

Upon returning from these trips the architects wrote a narrative report highlighting key insights gained in the visit. These narratives were shared with the MRT Facilities Committee members.

A slightly revised questionnaire was mailed to 167 theater companies who were members of the Theater Communications Group TCG. Of this number 47 (or 28%) were returned. The questionnaire covered a broad range of topics. It was structured in two parts. The first part asked questions about the facilities. The second part asked questions only of those who had recently engaged in construction activity of one kind or another. We found the answers to the questionnaires very informative when we considered them as individual responses. From these we were able to establish an even broader perspective on the variety which exists among regional theaters. The questionnaire is reproduced here because we feel it is a valid tool for soliciting an evaluation of an individual company's attributes. Most architects would find the answers to these questions very useful as a preliminary assessment of a theater company's operations.

## FACILITY IMPACT STUDY

MRT/NEA  
PART 1

## INSTRUCTIONS:

This questionnaire has two parts. The first part we would like everyone to fill out. The second part we would like you to fill out if in the last five years you have built new facilities, added space to an existing facility, made major internal alterations to your facility or acquired additional space. The questionnaire is designed so that most answers can be provided simply by checking the appropriate box.

## 1. THEATER TYPE:

Please fill in the following information as it pertains to your facilities. Please note that the first questions pertain to the main theater only. The other theaters category applies to all other spaces you may use for performances.

	PROSCENIUM	THRUST	ARENA	BLACK BOX
please fill in dimensions (if you have more than one theater of the same type use colored pen to differentiate)				
<b>MAIN THEATER</b>				
main floor seating	_____	_____	_____	_____
balcony seating	_____	_____	_____	_____
Total seating	_____	_____	_____	_____
number of performances per season	_____	_____	_____	_____
length of performance season (wks)	_____	_____	_____	_____
<b>OTHER THEATERS</b>				
main floor seating	_____	_____	_____	_____
balcony seating	_____	_____	_____	_____
Total seating	_____	_____	_____	_____
number of performances per season	_____	_____	_____	_____
length of performance season (wks)	_____	_____	_____	_____

2. TYPES AND LOCATIONS OF SPACES:

Please check the location of the following spaces which you own, lease or otherwise use.

	Main Building	Other Building(s) Within Walking Distance			Other Building(s) Within Driving Distance		
		(use a separate column for each building)					
		1	2	3	1	2	3
<b>PERFORMANCE SPACES</b>							
main stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other stages (list)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rehearsal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
dressing rooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
green room(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>OFFICE SPACES</b>							
administrative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
artistic personell	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
box office	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>SHOP SPACES</b>							
scene shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
paint shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
trial set up (tech)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
property shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
costume shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
scene storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
prop storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
costume storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>OTHER FACILITIES NOT INDICATED ABOVE</b>							
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What is the square foot area of each of the above buildings?

If you know the gross square foot area of individual spaces above please indicate the square footage next to the appropriate boxes.

## 4. DEMAND ON FACILITIES:

Please provide the following information on how your theaters are used.

TYPES OF PERFORMANCE (please check)	PROSCENIUM		THRUST		ARENA		BLACK BOX	
	main	other	main	other	main	other	main	other
classics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
new plays	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
comedy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
musical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which of your stages is trapped?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which houses have moveable seating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How frequently is seating changed?	_____							
What is the biggest limitation in your use of flexible seating, if any?	_____							

## 5. FACILITY OPERATING COSTS:

Please provide the following information on the cost of operating your facilities.  
If you are housed in more than one building this should represent the combined  
costs of all the facilities you use.

Ground rent or air rights \$ \_\_\_\_\_

Building rental or debt retirement \$ \_\_\_\_\_

Utilities (excluding telephone) \$ \_\_\_\_\_

Maintenance \$ \_\_\_\_\_

Security \$ \_\_\_\_\_

Box Office \$ \_\_\_\_\_

Insurance \$ \_\_\_\_\_

TOTAL Building Operating Cost \$ \_\_\_\_\_

If you have major building operating costs not listed above what are they? \_\_\_\_\_

What are those costs? \$ \_\_\_\_\_

## 6. SATISFACTION WITH FACILITIES

Please rank your satisfaction with the following aspects of your facilities.

	not satisfied	satisfied	very satisfied	if not satisfied please explain
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Size, character and location of:				
main stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
other stages (list)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
rehearsal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
dressing rooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
green room(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Relation between performance and production space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Relation between rehearsal and production space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Size, character and location of:				
scene shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
paint shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
trial set up (tech)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
property shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
costume shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
scene storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
prop storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
costume storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Opportunities for all artistic, production and management staff to see and talk with each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Are you contemplating any changes in your facilities? If yes, explain. _____				yes <input type="checkbox"/> no <input type="checkbox"/>
If money were not an issue would you contemplate building new facilities, adapting your existing space or adapting space in another building to better suit your needs? If yes, explain. _____				yes <input type="checkbox"/> no <input type="checkbox"/>
Do you feel your present facilities support your artistic objectives? If no, explain. _____				yes <input type="checkbox"/> no <input type="checkbox"/>
Have you made major improvements to your facilities in the last five years?				yes <input type="checkbox"/> no <input type="checkbox"/>

If your answer was YES to this last question please go on to part 2.

If your answer was NO to this last question thank you very much for helping us by answering this questionnaire. Please return the questionnaire in the envelope enclosed.

## PART 2

IF IN THE LAST FIVE YEARS YOU HAVE BUILT NEW FACILITIES, ADDED SPACE TO AN EXISTING FACILITY, MADE MAJOR INTERNAL ALTERATIONS, TO YOUR FACILITY OR ACQUIRED ADDITIONAL SPACE, PLEASE ANSWER THE FOLLOWING QUESTIONS.

7. Were the improvements you made for:

- ☐ artistic purposes  
☐ to increase revenue potential  
☐ maintenance  
☐ conformance with codes  
☐ other

8. Were you satisfied with the results of the improvements?  
 If no why? \_\_\_\_\_

yes ☐ no ☐

9. Please describe the nature of the improvements:

	Space in new building	Space added to existing building	Internal alterations or changes	Acquisition of other space. (please explain)
<b>PERFORMANCE SPACES</b>				
main stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
other stages (list)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
rehearsal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
dressing rooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
green room(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>OFFICE SPACES</b>				
administrative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
artistic personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
box office	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>SHOP SPACES</b>				
scene shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
paint shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
trial set up (tech)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
property shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
costume shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
scene storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
prop storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
costume storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>OTHER FACILITIES NOT INDICATED ABOVE</b>				
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Total cost \$ _____	Square foot cost \$ _____			

10. Were these costs greater than expected?

If yes, What do you attribute these greater costs to? \_\_\_\_\_

yes ☐ no ☐

(Please enclose a breakdown of contract sums if one is available)

11. If you built new facilities, did they have an effect on your overall operating budget? yes ☐ no ☐  
If yes, please indicate the following:

OPERATING EXPENSE	Previous cost per annum	New cost per annum
Ground rent or air rights	\$ _____	\$ _____
Building rental or debt retirement	_____	_____
Utilities (excluding telephone)	_____	_____
Maintenance	_____	_____
Security	_____	_____
Box Office	_____	_____
Insurance	_____	_____
TOTAL Building Operating Cost	\$ _____	\$ _____

12. Were these costs accurately anticipated? yes ☐ no ☐

13. FINANCING

Please indicate how your facilities were financed:

Private fund raising	\$	% of total
corporate gifts	_____	_____
foundation gifts	_____	_____
individual gifts	_____	_____
Grants		
federal    NEA challenge <input type="checkbox"/>	_____	_____
state	_____	_____
local	_____	_____
Other		
bonds	_____	_____
bank loans	_____	_____
_____	_____	_____
_____	_____	_____

14. Was your building program initiated by:

- ☐ Your board  
☐ A bequest (type) \_\_\_\_\_  
☐ Catastrophe (non-theatrical)  
☐ Staff initiative  
☐ Downtown redevelopment    If yes were UDAG Funds used? yes ☐ no ☐  
☐ Preservation interests  
☐ Other (please describe) \_\_\_\_\_

15. Which of the following consultants did you engage?

- ☐ Architect  
☐ Fund raising  
☐ Theater  
☐ Lighting  
☐ Acoustic  
☐ Construction manager  
☐ Other (explain) \_\_\_\_\_

Please note in what order they were hired. (1,2,...)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

16. Were you satisfied with the planning and construction process? yes ☐ no ☐  
If no, What would you do differently? \_\_\_\_\_

17. Did your construction result in new revenues? yes ☐ no ☐  
If yes, explain. \_\_\_\_\_

THANK YOU FOR GETTING THIS FAR and THE TIME YOU HAVE GIVEN US!!!

3. Evaluation of the Impact of Facilities on Company Operations:

The MRT Facilities Committee was convened once again and another series of discussions ensued between the architects and the company. The architects developed large scale plans of the facilities visited, as well as MRT's own facilities. Discussion focused on the way various theaters addressed specific problems. The company members quickly learned to read architectural plans and this process helped the architects and the theater people "speak the same language."

4. Develop an Ideal Operations and Facilities Model:

Another round of discussions ensued. This time the focus was on establishing ideal relationships between the separate elements within the theater. A final meeting was aimed at a synthesis of all the theater's elements. During these discussions the idea of a Hub emerged as a means for unifying the many activities which comprise the support facilities. Interestingly enough the idea was first articulated by the artistic director. The architects constructed colored paper cut outs representing the various elements of the theater including, the Hub as a newly created element. On the same wall used for constructing the matrices the building elements were arranged, shuffled and re-arranged, largely by the theater company personnel themselves. Alternatives were discussed and the virtues of various schemes noted until the committee felt confident it had arrived at a solution which satisfied all its intentions. The architects developed this further into schematic diagrams which were again reviewed by the committee to assure that there was agreement. (see companion report MRT FACILITIES: ANALYSIS AND RECOMMENDATIONS)

5. Development of Preliminary Design Proposals:

Simultaneously the architects were identifying possible sites or adaptable buildings which could be used to test the applicability of the "ideal model" and to determine what options the MRT might have in Milwaukee. Each of the seven sites selected represented a potential building opportunity. After agreement on the sites with the company, the architects developed schematic proposals for each site. (See companion report MRT FACILITIES: ANALYSIS AND RECOMMENDATIONS)

## 6. Evaluation of the Impact of Alternative Proposals on MRT Expectations

The architects' proposals were reviewed with the company. Each was evaluated using the "ideal model" as a basis of comparison. It was during the discussions which involved thinking of the theater proposals in the context of the city and downtown that the idea for a Public Place clearly emerged. Also with specific proposals before the group, discussion of economic issues, fund raising, financing alternatives etc. could be dealt with less abstractly.

## 7. Summarize Findings and a Set of Guidelines and Strategies:

With the advent of what appeared to be real opportunities for MRT it was decided that it was most appropriate to present our conclusions in two reports, one addressed to MRT, its board and other interested parties. The other report to be addressed to the theater community at large.

## Conclusions:

The research conducted for this project has confirmed several beliefs of the architects. One, seeking solutions to contemporary problems by looking at previous typologies for solutions may often cause fundamental issues to be ignored. However, this approach (typological studies) can provide useful insights if a critical position is taken and such a study is used not to find a solution, but to gain a better understanding of the problem. Secondly, our belief that the development of design concepts and ideas can be generated by creative interaction between the architect and the client has been confirmed. The research which involved both architect and client, became a tool for developing a common language and a clearer understanding of project goals, objectives and priorities. Ideas emerged from this interaction which probably would not have surfaced if there were not such lively and directed communication between the two parties. The research activity itself, served not only to develop new information and ideas but also served as a catalyst in developing a more meaningful dialogue between architect and client.

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**THEATERS VISITED**


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This study included site visits to ten theaters, the Milwaukee Repertory Theater in Milwaukee which was studied extensively, and nine others. Of the nine others, one, the Seattle Repertory Theater was still in the planning stages. Following is a list of the theaters, their architects and consultants and the people interviewed for this project:

**ARENA/KREEGER**

Washington, D.C.

Architect: Harry Weese and Associates  
 Interview: Tom Fichandler, Executive Director

**BERKELEY REPERTORY THEATER**

Berkeley, CA

Architect: Eugene F. Angell  
 Consultant: S. Leonard Auerbach & Assoc. SF,  
 Theater  
 Paoletti/Lewitz Assoc., SF,  
 Acoustics  
 Ronald L. Pratt, Scenographic  
 Interview: Michael W. Leibert, Producing  
 Director  
 Mitzi K. Sales, General Manager

**CENTER STAGE**

Baltimore, MD

Architect: James Grieves, Architect  
 Consultant: Roger Morgan Studio, Inc., NY  
 Interview: Peter Culman, Managing Director

**CINCINNATI PLAYHOUSE**

Cincinnati, OH

Architect: Hardy, Holzman, Pfiefer,  
 Architects  
 Interview: Robert Tolan, Managing Director

**HARTFORD STAGE COMPANY**

Hartford, CN

Architect: Venturi, Rauch, Scott-Brown  
 Interview: William Stewart, Managing Director

**INDIANA REPERTORY THEATER**

Indianapolis, IN

Architect: Evans Woollen  
 Consultant: Roger Morgan Studio, Inc. NY  
 Interview: Benjamin Mordecai, Producing  
 Director

MILWAUKEE REPERTORY THEATER  
Milwaukee, WI

Architect: Harry Weese Assoc.  
Consultant: George Izenour  
Interview: (see BACKGROUND AND  
ACKNOWLEDGEMENTS)

OLD GLOBE  
San Diego, CA

Architect:  
Consultant: Richard Hay, theater design  
Landry and Bogan, technical  
Interview: Robert McGlade, General Manager  
Thomas Hall, Managing Director

SEATTLE REPERTORY THEATRE  
Seattle, WA

Architect: Naramore, Bain, Brady, Johanson  
Interview: Peter Donnelly, Producing Director  
Robert Scales, Technical  
Production Director

TRINITY SQUARE REPERTORY THEATER  
Providence, RI

Architect: The Providence Partnership  
Consultant: Eugene Lee  
Adrian Hall  
Interview: Timothy Langan, Managing Director  
Marion Smith, Director of  
Development and Public Relations

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## REFERENCES

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We have noted a shortage of references on regional theater facilities and its specific needs. There is a breadth of material available on theaters in general, however, that literature is very nicely bibliographed in:

Richard Stoddard, Theatre and Cinema Architecture.  
Gale Research Co., Detroit, 1978.

Another publication which represents a monumental undertaking is George C. Izenour's book Theater Design. It is particularly useful because of the numerous examples of existant theaters which it displays in a beautiful graphic style which is very clear. It also contains useful information on acoustics, stage equipment, etc. However, the entire focus of the book is on performance and it is infused with Izenour's own infatuation for multi-use performance facilities. It presents a very graphic commentary on the extreme bias of many theater consultants, architects and even some theater professionals towards the design of performance space without consideration for other aspects of the theater.

George C. Izenour, Theater Design, McGraw-Hill Book Co. 1977, NY.

The Izenour book is perhaps the best of many books on the architecture of theater design. Like most of them it is polemical and supports one particular attitude towards the theater. For others we suggest referring to Stoddard.

A book which is a very good reference on architectural programming is:

William Pena, Problem Seeking: An Architectural Programming Primer, CBI Publishing Co., Inc. 1977, Boston, Mass.

and a related article is:

"The Role and Function of a Theater Consultant"  
THEATER DESIGN AND TECHNOLOGY, no. 27 (December 1971) pp. 11-12.

There are two articles on psychological aspects of the design of performance which are related to our research. They are:

"The Architecture and Psychology of Aesthetic Distance"  
THEATER DESIGN AND TECHNOLOGY, no. 22 (October 1970) pp. 21-25, Illus.

Hardy, Hugh, "Designing Random Focus" DRAMA REVIEW 12 (Spring 1968) 121-26 Illus.

Finally, among the references which we will note here are articles on the theaters which we visited or which are noted in our research.

"Architecture for the Arts of Music, Dance and Drama." ARCHITECTURAL RECORD 146 (November 1969): 147-64. Illus., plans.

"Cincinnati One-Ups Lincoln Center." PROGRESSIVE ARCHITECTURE 48 (May 1967): 161-63. Illus., plans.

"Cincinnati's Playhouse in the Park." ARCHITECTURAL RECORD 145 (March 1969): 122-28. Illus., part color; plans.

Fichandler, Zelda. "To Build a Theatre." THEATRE CRAFTS 1 (May-June 1967): 22-29. Illus.

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