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.
AUDIENCE

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.

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.

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.
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 theatrogoers 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.

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.

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.
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 ambience 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 theater's 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.
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.

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.
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.

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.
PERFORMANCE

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.
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 repertories. 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.
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.
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.
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

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).
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.
OPERATIONS AND SUPPORT SPACE

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."
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.
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.
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.
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 envisioned 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 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.
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.
Green Room - Stage Relationship

No space within the theater is more mystique-ridden than the "Green Room".

Two different and workable arrangements were observed:

A. Green Room immediately offstage, separated by a passageway which served to isolate sound and light. Examples: The Old Globe, Arena Stage and Trinity Square Rep.

B. Green Room located one story above or below stage level, with access via an ample (very wide with high clearance and good lighting) stair. Examples: Center Stage, Hartford Stage and Cincinnati house.

Proximity to Outside:

Support space which benefits most from direct outside access are scene shops, prop shops, and material storage areas and paint shops. Ease of delivery, waste disposal and extraction of fumes and smells were the most frequently mentioned reasons for this proximity to the exterior. In temperate climate activities associated with these spaces sometimes "spill" outside.

Scene Shop - Production Office/Studio Relationship:

A major problem exists in the relation between shop managers office/studio space and the shops themselves. This is particularly true in the scene shop. The location of the studio/office for the Production Manager at Trinity and the Old Globe above the shop, with access via a spiral stair, had two distinct advantages over any other arrangement observed:

1. The noise level was reduced, it was possible to converse or concentrate.
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.

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.