Scenic Design & Stage Management, an Overview

Scene Design Theory
The basics of scene design can not be covered quickly, because they are the elements of design that rule architecture and art. It comes down to form, line, and space. First and foremost, scene design is about problem solving. A scene designer has to problem solve all of the unique problems and challenges that each individual script and production presents. The main problems are the conflicts that come up between the design that a designer wants to produce on the stage, versus the production budget that he has to work with, versus the man power that is available to actually build the design.

Scene design is often about creating illusions. Scenery does not have to be built with the same construction standards as homes do. Sets are only meant to last for a short time. They do have to be strong enough to sustain the weight of actor walking on them, dancing on them, and sometimes other special functions as well. The finish on sets will be conveying the impression of reality to the audience, it does not have to be real. That is where the tricks of scene painting come into play. In general, scenery has to be much lighter than its real world counterpart.

The 30 Foot Rule
This illusion of reality is usually blended with the 30 foot rule. The 30 foot rule states that scenery only has to be effective enough to look real or convincing from 30 feet away. An audience member is rarely ever closer than that. To this end, shop math is carried out to an accuracy of 1/8”. Not exactly precision work, but close enough at 30 feet.

The Golden Triangle
Another rule of scenic design can be summarized with this diagram:

![Golden Triangle Diagram]

What the golden triangle illustrates that when building something, you can have two of the qualities listed in the triangle, not all three. So you can have something that is inexpensive and fast, but it may not be of high quality. Or you can have something of high quality quickly, only it won’t be inexpensive. And of course you can have something of quality that is inexpensive, but it won’t be made quickly.
Problem Solving

The first problem that a designer attacks is finding out what the script calls for. They do this by creating a tech analysis. A designer creates a form that has page number, scene number, sets, sound, lights, and prop columns. As the designer reads the script, every time a description of the set, a sound, the lights or a prop is mentioned, it is written down in the appropriate column. When the designer has gone through the entire script and completed the tech analysis, they have a complete list of all the technical requirements of the scripts.

The next step is to meet with the Director to come up with a design concept. The design concept is the general idea of how the play will look. Some plays call for the design concept to be the literal interpretation of the script. Other scripts allow a director and a designer to make additional artistic statements by introducing an interesting or totally originally approach. Many Shakespeare plays lend themselves to be re-interpreted in a modern setting, for example.

After the design concept has been finalized, the designer then begins to sketch out ideas. These ideas are then presented to the director, and a final design is decided upon. The designer then sets out to create blueprints of the design. At the same time, a white model is built. A white model is a small scale model of the set that is used to judge space relationships, and storage concerns in 3-D. Today designers who use CAD systems frequently create 3-D models instead of creating white models. Computer power is at a point know where this can be done effectively, and still offer all of the flexibility of a white model.

When the blueprints are finished, they are turned over with the model to the scene shop for construction. The scene shop uses the blueprints to determine how to build the set, while the model gives information on how everything fits together.

Matt Wilhelm and Becky Rytlewski work on scenic elements of “Story Theatre” 2009.
Section 3: Basic Scenic Elements

**Stage Directions:** To deal with which way is which, so everyone has a common point of discussing where things go onstage, we call areas and locations of the stage by their stage directions.

**Stage Left** and **Stage Right** are the left and right side of the stage as you are looking out to the audience.

**Upstage** is toward the back wall of the stage, **Downstage** is toward the audience. **Center Stage** is right in the middle. When scenic pieces or people are moving toward **Center Stage** they are moving **Onstage.** When scenic pieces or people are moving away from **Center Stage,** they are moving **Offstage.**

**The Apron** is the area **Downstage** of the proscenium. It is the small area in front of the main curtain, and before the audience. **The Orchestra Pit** or **Pit** is on the extreme **downstage** side of the apron. The two “ramps” that extend into the audience are calipers.

Scenic elements are generally made of several basic elements. **Platforms, Flats,** and **Wagons.** These elements come together to make bigger pieces and elements.
Platforms are used to create new levels on stage. Levels are important because they frequently reinforce ideas of power and strength, while also allowing the director to create interesting visualize with actors. Platforms are usually a stock size of 4x8 feet and are 6 to 8 inches tall. Higher elevations are created by putting legs and braces on a platform that raises it to a new level.

Flats are used to create the illusion of walls and masking on stage where building real construction grade walls would be too heavy and impractical for general stage use. Flats come in two types, muslin covered and Hollywood Flats. Muslin covered flats have been used for several centuries. A frame is built, and then muslin, which is a fabric, covers the frame. The muslin is then sized by applying a watered down glue to the entire fabric. As the sizing dries, the muslin is stretched tight over the frame. The flat is now ready to paint. See the illustration at the end that shows the parts of a flat with their names.

When several muslin flats are connected together they have seams that look ugly. To cover these seams, muslin with frayed edges is applied to the seam. The frayed edges blend in with the muslin of the flat when painted. This process is called dutching. A Hollywood Flat is the type of flat that is more commonly used to simulate walls. They use a similar framing style as a standard flat, but know it is covered with a hard piece of paneling. The most common type of paneling is called luan. Lu-an is a light paneling material that is ideal for making lightweight pieces that can be easily shaped and modified at a later date. Hollywood flats get their name because they are the type of flats that sets in films are built out of. The primary difference is that in film and TV applications, flats frequently have more structural members. Hollywoods are more useful than muslin flats in that they are stronger, and when used in conjunction with other Hollywoods can create scenic structures with real strength.

Wagons are platforms that have wheels on them. They are used to quickly roll on and off stage. Frequently wagons will be built up with platforms and flats to make larger units. To travel properly, some times wagons require tracks to run in. These tracks can be made of wood or plastics. Wagons come in many forms, based on their end function. Round ones are called turn tables, wagons that pivot into position are called jack knives.

Sometimes the natural angle of the stage floor is not enough to provide the visual elements the designer and the director want. The result is to build a raked deck. A raked deck is a series of platforms on the stage floor that begin to angle up as the platforms go upstage. The maximum angle of a raked deck should be no more than 10° per liner foot. Angles that are greater than this will be too steep and actors will slip and slide on the deck.

Show Decks are false floors that are laid on top of the stage floor. Show decks are used to hide larger stage devices, such a motor equipment, turntables, conveyor belts, etc.
Section 4: Stage Hand Procedures

When working back stage as a stage hand during a show there are several procedures that need to be followed.

The most basic idea is that a stage hand only deals with the equipment and scenic pieces that they are supposed to operate. If every stage hand was grabbing set pieces randomly, chaos would be the result. That is why stage hands do everything the same over and over again. Never changing the routine. Routine is very important.

When a show is being teched, (or the cues are being worked out, and scenery transitions are being worked out) every technician creates their own cue sheet. What the cue sheet does is it details everything that a stage hand does, and when they do it. If they are preparing a cue, or moving into a position, they right down when they do it. If they are taking scenic cue, they right down its number, and how it is given. The cue sheet is important because in case of an emergency, someone else can follow the sheet to complete a show. After the last rehearsal, cue sheets must be turned into the Auditorium Manager for duplication. They must be legible and make sense.

Cue sheets are also important to a stage hand because they remind her or him of the order things happen in. Some shows can be quite complex. So always knowing the order of events is a handy thing to have.

If you can see the audience, the audience can see you.

Be aware of sight lines. They will usually be marked on the deck. When not performing a scene shift, the audience should not see you. Make sure of this by staying behind sight lines at all times. If you are performing a scene shift, and you get caught on stage when the lights come up, do not run offstage. Being caught on-stage looks clumsy, running off stage looks silly.

Sweeping/Mopping the Deck
Before a performance, it will be quite common to sweep and mop the stage floor. When it is time to do this, don’t complain, just do it. The faster it is done, the faster the show can go on. It is a necessity of dealing with dirty floors.
Section 5: Stage Management Theory

The key to smooth running shows is good stage management. A Stage Manager makes rehearsals and shows run. The individuals who take on this responsibility have a great deal to contend with. Dealing with everything coolly, and calmly is the key to success.

In the professional theatre, Stage Managers are members of Actor’s Equity Association (AEA). AEA is the labor union that governs professional theater. AEA Stage Managers run shows and rehearsals in compliance with the rules that AEA sets out for safe and sane working conditions on-stage. Stage Managers are the ones responsible for reporting to AEA problems with actors, directors and theaters that are not acting in compliance with contracts.

They are also responsible for making sure the show “stays together.” After the last rehearsal, and the show opens, rarely does a director come back and deal with a show. Stage Managers make sure that actors are keeping their performances together. They make sure that actors are not going down new paths that the director didn’t want, and if actors begin to go that way, the Stage Manager facilitates getting them back on track, or passing on information from the director to limit or encourage the behavior. In a very real sense, once the director is done with a show, it becomes the stage managers show.

The Stage Manager also has to work closely with the technical crew. It’s the Stage Manager who is “calling the show” or calling the cues that run the show. If those cues are called incorrectly, the show may run into trouble, or may look bad. A sense of timing is a good thing to have, because some cues are called on audience re-actions. Base on when applause reaches a certain level, or so on.
Because the Stage Manager has to work closely with the Director, the Cast, and the Crew, it is a position that is very delicate. It is a position that also, by its nature, has lots of power and responsibility behind it. Individuals who work well with responsibility, are very organized, and can work well with people are best suited to stage manage. It is a stage manager who can keep all of these groups working together without alienating anyone, who are the truly good ones.

Section 6: Prompt Books
How a Stage Manager deals with all of these challenges is by creating what is called a prompt book. A prompt book gets its name from the basic service it provides, which is a script that a stage manager can use to prompt (or remind) and actor of forgotten lines. Prompt books go beyond normal scripts, in that they also record all blocking and entrances. Also included are all of the cues, when they occur, and when standbys are called. During a show, a Stage Manager follows the prompt book as the performance goes on. It is acting like a master cue sheet for the Stage Manager. Just like a stage hand, they are performing a routine.

Prompt books start out as a script that has every page copied onto one page. On the blank side of the page, a copy of the floorplan of the set it copied while leaving space for notes. As rehearsals progress, the stage manager, who attends every rehearsal, writes down all of the blocking for all of the actors. This is done in shorthand and through the use of diagramming on the floorplan on the opposite page. The rehearsal process is a very fluid thing, so a great deal of erasing is required. Nothing in the prompt book should be written in pen.

As the rehearsals with actors draw to a close, and tech begins, the stage manager works with the scenic and lighting designers and the director to write down when tech cues occur. By the end of Tech, the prompt book is complete, with all of the information need for understudy and pick up rehearsals, running the show, and information if the show is ever going to be re-created at a later date.
Section 7: Stage Management Procedures
The principle procedure that Stage Managers engage in is paperwork. Paperwork that is summarized by one thing, reports.

Auditions
During the Audition process, the Stage Manager makes sure that all prospective cast members have filled out their paperwork properly. They also help break actors into smaller groups for ease of handling. If there is a Vocal and Dance Audition, the Stage Manager and Assistant Stage managers each take an audition room. Each makes sure that audition forms are filled out properly, and act as a line of communication between the other audition space.

Taping the Set
Before rehearsal can begin, the stage management team needs to help prepare the rehearsal location. The scenic designer provides a floorplan that had been dimensioned out. The stage management team then transfers this floorplan to the stage floor. This provides the cast with an idea of the layout of the set, before the set actually is built.

Rehearsal
During the rehearsal process, besides keeping and updating their Prompt Book, the Stage Manager fills out a Rehearsal Report at the end of the daily rehearsal. The Rehearsal Report consists of who was called, who was late. What was accomplished, and any incidents that occurred during the rehearsal. As new ideas or needs come up in the show, they are also listed in the appropriate space on the Rehearsal Report.

The point of the Rehearsal report is to prepare a history of the production. This report is gone back to identify problems later on.

Rehearsal Reports are turned into the Auditorium Manager after every rehearsal. If he is unavailable, slide them under the door of the Auditorium Office.

To identify who is supposed to attend rehearsals, a Call Board is maintained. The Call Board lists who is supposed to be at a rehearsal at which time. A second Call Board is used during the actual production for cast and crew to sign in on. This sign in process is important so everyone knows who is present when call times have been reached.

When the cast goes off book, or isn’t using their scripts anymore, the actor will frequently call, “Line please!” The Stage Manager needs to be following along in the script to feed the actor the appropriate lines. The Stage Manager needs to keep of a list of which lines and which actors need them. After the rehearsal, during the period when notes are being given to cast and crew, the cast members are given these notes to help them know which sections of the script they need to removal.

As tech rehearsals wind down, they need to collect all of the crew cue sheets to make copies, and then return them to the individual crew members. The cue sheets can also be compared against Prompt Book cueing to insure accuracy.
Tech Rehearsal
Tech Rehearsals are the days where everything gets put together the entire mix of tech elements, lighting, sound, flies, scenery with the actors. The rehearsals are designed so the stage crew can integrate into the show properly. Usually Tech rehearsals begin as a regular rehearsal, and we go through the show at the normal pace. If we get presses for time, the rehearsal become a cue-to-cue rehearsal, where we skip large chunks of dialog and go straight to the next tech cue.

Crew members are handed out Cue Sheets which detail what they will be doing during the show. The Cue Numbers will most likely change before the show goes up, so techs must be flexible enough to change their procedures and orders on the fly.

Tech and Dress Rehearsals are used so we can iron out any problems with the show. It is very important that a technician or a stage manager come to rehearsals with paper and pencils to write cues and changes to cues down.

Before opening night, every tech writes out their cues, and how they perform them down and turn this Position Sheet into the stage manager. The Position Sheet is used in case we have to replace a crew member. The Position sheet tells the replacement exactly what happens and in what order, so they can be prepared for the show.

Headset Etiquette
During productions, Technicians will be communicating using ClearCom Headsets. When cues are being called, it is important that everyone is listening for their respective cues:

1. Keep headset chatter to a minimum. Respect a “Quiet Please” request over the headset by stopping talking. Headset communication can be monitored at ANY Clearcom wall station. Frequently people besides those on headset may be able to hear what you are saying.

2. Cues will be given a warning 30 seconds prior to their execution, and a standby 5 seconds prior their execution. Cues will be executed after being given a “GO” cue. Frequently Warnings are only given after long periods of inactivity.

3. Respond to all Warnings by briefly keying in your position.

4. Respond to all Standbys by briefly keying in your position and a “standing by.”

5. Never joke with the word GO. Only the individual calling the cues for the show may give this cue. Don’t confuse other Technicians on headset by giving false cues.

6. Always speak softly on headsets.

7. Never set up a feedback loop over headsets.
This is an example of Headset communication:

Stage Manager: “Warning Sound Cue 3, Standby Fly Cue 5, Electrics Cue 6”
Sound Tech: “Sound”
Fly Tech: “Flies standing by”
Light Tech: “Electrics standing by”
Stage Manager: “Fly Cue 5, Light Cue 6..... go.”
Stage Manager: “Standby Sound Cue 3”
Sound Tech: “Sound standing by.”
Stage Manager: “Sound Cue 3.....go.”

ClearComs have two buttons on the belt packs. One is to talk, the other is to CALL. Pressing the talk button once is a momentary switch, meaning its only working as long as you hold it down. This means you can only talk as long as you hold the button down. If you press the Talk button twice (double clicking like a mouse) it will stay on. Every breath and noise you make will then be broadcast to annoy everyone else on headset. Stage managers, Assistant Stage Managers, and crew members who need an open channel but may have busy hands are the only ones who should leave a channel open.

Don’t leave a channel open and take a headset off. The resulting clunking, banging and thumping of raising it over your head and putting it down and can deafen your crew-mates.

The Show
During the Show, several procedures need to be taken care of before the curtain goes up.

Valuables
Any valuables that cast and crew members do not want left in dressing room spaces are collected by the Stage Manager and secured. For GPAC purposes, they will be secured in the Auditorium Managers Office.

Places
At one half hour before curtain, stage management begins to make rounds of all backstage areas informing cast and crew of how long it is to curtain. This is done first with a Half Hour Call. This is followed by the Fifteen Minutes call. After Fifteen, calls are given every five minutes. After the Five Minute call, the next call is places. This is called with “Places please. Places please.” Stage management then goes to wherever they are calling the show from. (Booth or Stage Right) If the Stage manager is calling from the booth, the Assistant Stage Manager assures them that the cast and crew are ready with a call of “Places have been called and the scene is set.” This call is given over headset. The show is then, ready to go on.

Cueing
As noted earlier, cueing is done by a three step process. A Warning is given usually 30 seconds prior to a cue. More time for a Warning can be common if the cue is complex,
or it has been a long time since the previous cue. A **Standby** is given 5 seconds before a cue. The cue is called with a **Go**.

There are two styles of cue numbering; **consecutive cues** and **individual cues**. They each have their own pluses and minuses. Consecutive cues list all cues under one numbering system. So cue 1 may be a sound cue, cue 2 may be a light cue, and cue 3 may be a stage cue. The benefit of consecutive cues is that crew members only have to listen for a specific number. Their cue sheets will be numbered oddly, reflecting the gaps in cues for other positions. The weakness of consecutive cues is that because a single number is being relied on, it can be easy for someone listening on headset to miss their cue.

Individual cues have each position having a complete series of cues numbered one on up. The Stage Manager calls electric cue 22, sound cue 15, and fly cue 6, for example. The benefit of this system is that every position knows exactly where they are and which cue they should be executing. The weakness is that sometimes it can be a mouthful to get out in time. Individual cues frequently use individual standbys, but their goes are coordinated into one go.

**Performance Reports**

A stage manager fills out a report that also details the number in the audience, the audience reaction to the show, weather conditions, time of curtain, and time of each act. There should also be a space to record any incidents that happened during the performance. These reports are used just like Rehearsal reports to generate a history of the show, and can be used for trouble shooting later on. Time is tracked on the Performance report very closely. This is done to help isolate performance problems.

**Performance Reports are turned into the Auditorium Manager after every performance. If he is unavailable, slide them under the door of the Auditorium Office.**
**Strike & The Wall of Fame**
The final responsibility of techs and stage managers takes place during **Strike**. Strike is where the set is torn down, and the Auditorium is returned to “normal” operational state. Usually this takes 3 – 4 hours. That’s right, 6 weeks of work is taken apart in under 4 hours. A **Strike Sheet** is posted that details who is responsible for what. Usually the cast is also assigned strike duties and work with tech staff in tearing the show down. Once your strike responsibilities are finished, you are encouraged to help out with whatever else you can work on.

Once Strike is finished, the tech staff goes up into the catwalk to sign the **Wall of Fame**. With the wall signed, the show is officially over.
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<th>Lights</th>
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<td>Preshow Lighting Up</td>
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<td>Welcome Tape Plays</td>
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<td>Pre Show Music Up</td>
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<td>Cathedral Bells</td>
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<td>Music Louder</td>
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<td>Dim Stage, SR Up, Music Softens</td>
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<td>Brightens Stage, Music Up</td>
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