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STAGE LIGHTING and DESIGN
INDEPENDENT STUDY

James Culler

INSTRUCTOR : DON DALTON

FALL of 1974

Cape
AS
36
U6
P45
1974
10.1

Some of the things that go into the lighting of the Theatre stage will be summarized in this paper. First, it will deal chiefly with the lighting for the production of The Night Thoreau Spent In Jail, as presented by the Pembroke Players. This drama was produced by the players on October 17, 18 outdoors, and was toured the 21-25, 1974. This paper is a summary of a few of the basic technical requirements for effective lighting. If however, a central theme were needed to give a sense of unity and purpose to my writing of it, I would simply, but aptly, state and restate that if one is to become interested in lighting the stage, that is exactly what one must do.

This production was successful in many ways. Much of the success was because of the excellent direction of Don Dalton, and the hard work contributed by the cast. Yet, the lighting was one of the best things this production had going for it. The lighting was more than merely functional.

Stage lighting assists the director in creating an environment suitable for the action of the play which brings to the audience the full meaning and emotions of the playwright's concepts. The lighting of this production placed the action, created the mood, and reinforced the form of the drama. These are only a few of the functions of stage lighting which were done artistically and effectively. Therefore, stage lighting is functional.

Since our lighting system is electric, we encountered our first problem. How do we make it function outdoors?

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In other words, how do we get electric service that will produce a source of current to our dimmer for the outdoor production and for touring? The solution we found and used was the two-wire system, carrying dc and ac, in which one line was "hot" and the other was "neutral". We also had a ground cable for safety. The potential between these two wires was 110 volts with 100 amps. Our lighting equipment will operate on this voltage, but less will not work, and more will overload the dimmer, resulting in damage. (Warning: It is essential that a trained and experienced electrician do the actual connecting of the current).

I have already mentioned the most important piece of equipment, the dimmer. Quite naturally all equipment is important, and should be cared for. Defined, a dimmer is an electrical device operating on the principal of resistance, reactance, autotransformation, electronic tubing, or magnetic amplification. The controlling effect of the intensity of lighting is called "dimming". Obviously, dimming is used to change the lighting in view of the audience. It is also used to "set the lights". Setting the lights is a process of fixing the levels of intensities while focusing the instruments to achieve a desired effect.

Before setting the lights, the set is constructed. (See diagram for a working drawing of the set). When the construction is completed, the lights are "hung" on "light trees". And because we did not have a teaser bar to hang lights on, we had to build two extra trees joined in the middle with a bar, for our outdoor production. We did not use this invention for our

touring. However, in our outdoor productions, we had it located toward the back of our audience. This gave the proper angle and throw for the ellipsoidal spotlights. We also hung fresnels on this bar to wash our "acting areas". There were two light trees stage right and left about 10 feet from the stage to light our other areas.

The three type of lights which were used are called the fresnel, the ellipsoidal reflector, and the flood or scoop light. Our lights were hung or mounted to the pipes with a "C" type clamp which is attached to the yoke which supports the instrument from both sides.

After the lights are mounted, patchcord is run from the tree to the dimmer. A "twist-lock" plug is used to keep the cord from coming unplugged at either end of the cord. Now, the adjustment of the lights occurs. Focusing the lights properly is extremely important in terms of over-all effectiveness. Next, gelatin, commonly called gel, a gel with an aniline dye to produce the color, is cut and placed into a gel frame, and then the frame is taped shut to prevent the gel from slipping out. The gel is placed in front of the light in what is known as the color frame. The color frame is open at the top and closed at the sides and bottom. Side openings may cause the gel frame to fall on actors, crew members, or spectators. (Och) The color of the gel is selected by the director because this is so important when creating a certain mood. Once this is done the actual focusing occurs.

Floodlights were used in the dream scene with red gel to create the effect of the bloody horrors of the Mexican War. The light was filtered through a cloud of smoke produced by a fog machine. A floodlight, as the name suggests, throws a broad wash of light over a wide area. With floodlights, the technician just aims the instrument and that's about it.

The fresnel is another type of light which we used. It is second only to the ellipsoidal-reflector spotlight in popularity and importance. One reason it is such a good instrument may be because its short focal length keeps it from losing its intensity. Its beam is not as strong as the ellip, but it does not have a sharp edge, as the ellip does. And focusing this light is as simple as aiming a flashlight, once a person learns how. But, practice is the only way to learn to use lighting effectively and artistically. Also, in focusing the fresnel, one rule should be kept in mind: "THE LONGER THE FOCAL LENGTH, THE SMALLER THE ILLUMINATED CAN BE MADE WITHOUT PRODUCING A FILAMENT IMAGE(blurry shadow), but AS THE FOCAL LENGTH INCREASES, EFFICIENCY DECREASES. Therefore, distance is the first important factor when focusing. A focusing slide allows the lamp to be adjusted. In a play production class, which I had last year, I learned: THE FOCAL POINT OF A LENS IS THE POINT TO WHICH, AFTER PASSING THROUGH THE LENS, ALL PARALLEL RAYS OF LIGHT CONVERGE. The slide keeps the lamp at the proper distance in the light, which is, no further than half an inch in front of the focus, yet not approaching the lens any closer than three-eighths of an inch.

My first experience in using the focusing slide came under the direction of Al Dunavan (Mr. D.), in the production of a comedy by Neil Simon, in which we used "general illumination". However, in our productions of Thoreau we used area lighting.

We focused the lights on five defined playing areas in our outdoor production, and adapted our light plot to suit the other stages when we toured. This adaptation was basically determined by the stage space available and the director's sense for environmental Theatre.

The ellipsoidal-reflector spotlight was necessary for our outdoor lighting. The location of these lights were high front, to begin with, but since it did little for the actors and accentuated their shadows, the director and light technicians decided to move them. So we changed their locations to the side trees and cross lit in front of the jail cell to create a thrust or acting area which was near the audience.

The ellips were focused with shutters on both sides and on the top and bottom. Where these are used to control the spill, we would use barndoors to control the spill on the fresnel. (The bottom shutter shapes the top beam, the top shutter shapes the bottom beam, ect.).

One definite advantage of staging the play outdoors was the environment, which brought the audience closer to Thoreau and his love and feelings for nature. Also, in practical terms, the all-engulfing darkness was truly an actuality. Yet, blackouts would not have been effective for a long period of time. Nonetheless, the way the show flows allows transitions with lighting to be smooth, natural, and unified.

Talk of an open-air production was quickly faced by everyone's reaction, "What if it rains". But, our director, Don Dalton just smiled and said positively, "It won't rain". Much to our surprise, it did not rain during our production dates. However, weather must be considered when planning an outdoor production.

This type of environmental Theatre demanded environmental lighting. And we were able to expand our use of lighting to put the audience in an atmosphere or environment by lighting nearby trees, including a big oak behind the set, which seemed to contain the essence of the Walden spirit.

The only problems, other than the ones I have already mentioned, were minor. The main concern of the cast, crew, and the director was to set up as quickly and as well as possible. With such a disciplined group of people this was accomplished and we made curtain time, fully made up, costumed and ready to perform.

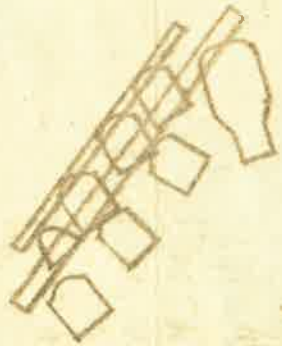
Ofcourse, this paper may enlighten the reader on some of the aspects of basic stage lighting, but all of this has taken me almost three years of practice under close guidance and supervision of two directors. They are Mr. D. and Don Dalton. It was my intention to write another portion of this paper covering the lighting of the Players' production of Pygmalion. The basic challenge of this type of lighting, general illumination, however, was to create an even distribution of light. Whereas, in Thoreau, we concentrated on form and direction with our area lighting. The lighting of Pygmalion depended largely upon intensity rather than color. The lighting in this play functioned for the

sake of visibility rather than establishing mood. I was the light operator in this play and I enjoyed the opportunity to teach myself while having a good time. I also enjoyed playing Thoreau in the other production. Theatre is exciting. Yet, the best way to become interested in it is to "do it". And stage lighting is learned the same way, "do it".

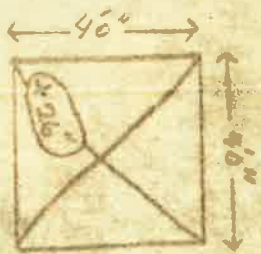
Dimmer



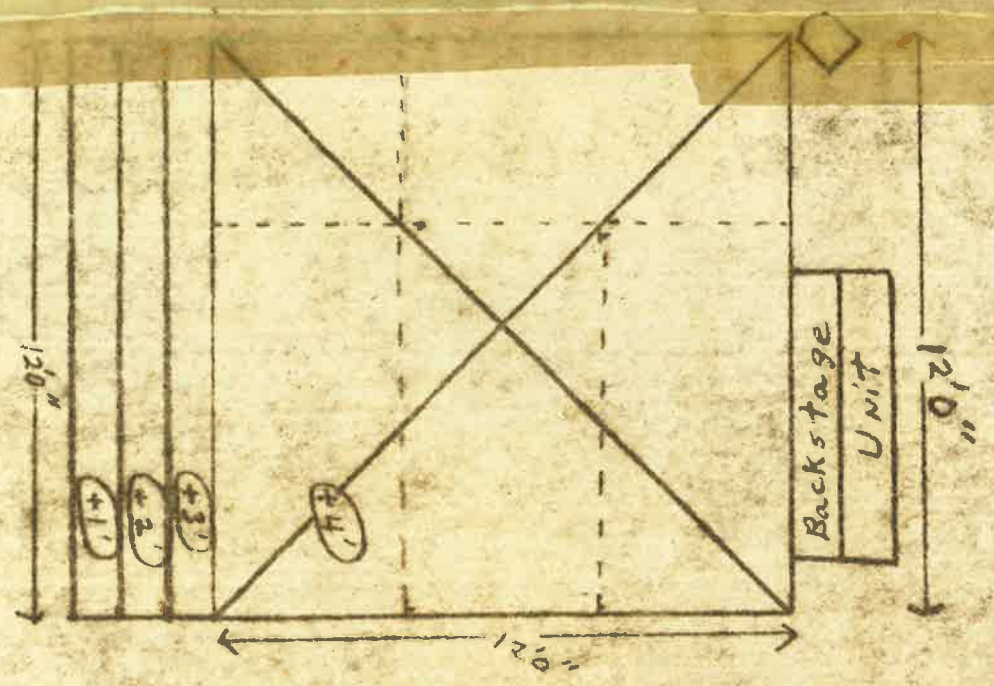
Patch Board



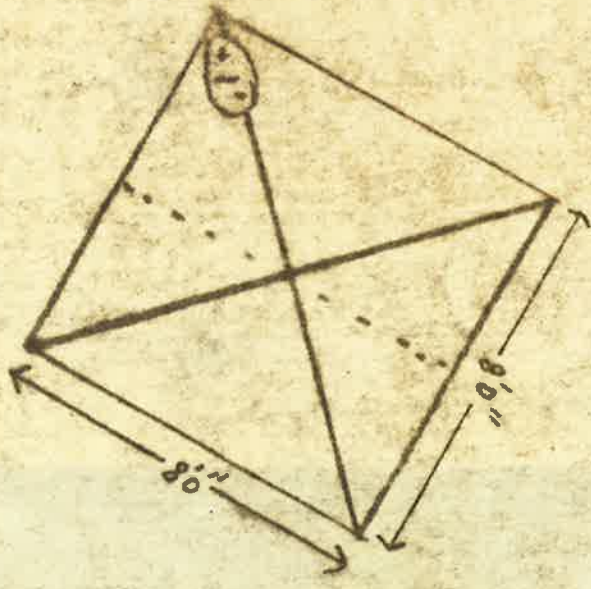
4' X 4'



WORK



12' X 12'



8' X 8''

Scale
 $\frac{1}{4}'' = 1'$