

"How to color stage lighting to enhance the color in scenery, costumes, and makeup"

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How can you coordinate the color in stage lighting, costumes, makeup and sets so they all work well together?

An outstanding professor of theatre, the late Gilbert Hemsley, developed a unique approach. He gathered the design team responsible for costumes, sets, lighting and makeup and sent them off to have lunch together.

His point, of course, is that all these crafts must work together because the audience sees these elements as a whole. What follows is not so much a discourse on why colors should be coordinated, but some practical tips on how to make them work together.

DETERMINING THE EFFECT OF COLORED LIGHT ON SCENERY AND COSTUMES

There are two ways to determine the effect of your stage lighting colors on costumes and scenery. The hard way and the easy way.

The hard way is to mix colors mentally. As you know, red, blue and green light combine to produce white light. (This differs from paint pigment, where the primaries are red, blue and yellow. See [Figure 1](#)).

For example, if we mix red and green light we'll produce amber light but red light turns green scenery grey.

And that's the problem. Given a complete understanding of the physics of color, one could predict the theoretical effect of colored light on pigment. But

since several colors of varying shades are almost always involved, it is difficult, imperfect, and enormously complicated. Colors also shift on stage when dimmed making it even more difficult to predict their effect on pigment.

In short, that is the hard way. However, there is an easier way.

HOW TO EXPERIMENT WITH COLOR ON COLOR

There's hardly anything that will happen on stage that can't be done beforehand, in miniature.

For example, to see the effect of your lighting colors on the scenery, paint a section of wood or a flat with the colors used in the scenery. Then use a small lighting fixture (a 3", 125-watt fresnel is good for this purpose) and a range of Roscolux samples. Experiment by changing the color media in the fixture until you have the paint effects you want.

Some lighting designers take the process a step further by equipping the small fixture with a common dimmer, available in a hardware store. This allows them to experiment with intensity as well as color since the color is rarely used at full intensity on stage.

To see the effect of lighting on costumes, use swatches of the costume fabrics. Tack them up on your painted wood or flat and shine the filter-equipped light on them (see [figure 2](#)). This technique permits the pre-testing and coordination of colors in scenery, costumes and light.

Be sure to use swatches of costume fabric large enough to see the effects of light on the shadows of the folds in the fabric. Light, especially sidelight, sculptures costumes and the results are often surprising.

WHAT SHALL WE CHANGE?

In the early stages of the production's planning, it is generally a simple matter to get the individuals responsible for scenery, costumes and lighting to agree on the color palette of each scene.

That's why it's so important to get the design team together early.

As corrections are needed, however, it's usually simplest to change the color of the lighting. For this reason, every good production facility, including high school and college departments, should have a range of Roscolux on hand. The swatchbook contains samples of each color and is available free from Rosco. A representative sheet stock of the broad range of colors is a worthwhile investment for experimentation and quick changes.

MAKEUP AND LIGHT

Makeup presents special color problems. It's special because makeup usually involves last minute decisions and many actors don't realize that even the most natural-looking makeup reflects a color of its own.

As indicated earlier, it is easier to change color filters than costumes or scenery. But it's even easier to adapt the makeup to the overall color scheme.

To properly develop makeup for the production, try this simple technique: Equip the dressing rooms with color filters that will dominate on stage. It would be best if you could use a theatrical fixture, such as a small fresnel, but if you can't, any kind of high intensity lamp will do (see [Figure 3](#)).

Another good idea is to ask one of the principal actors or actresses to appear on stage, in makeup, some days before the first performance. Try the actual lighting on that performer. If the effect is poor, there's still time to suggest changes in the makeup. Most of the cast, particularly in school productions, will be using essentially the same makeup so changes suggested for one actor should suit them all.

Both of these methods avoid the common problems encountered when the color elements (light, makeup, scenery and costumes) are brought together for the first time at the last minute.

Certain Rosco colors have predictable and specific effects on makeup. Here are some general guidelines:

The famous Bastard Amber is one of the most popular theatrical colors because it flatters most makeup by adding life to the flesh tones. The Roscolux color range includes four useful Bastard Amber shades, #01, #02, #03, #04 and two Rose shades, #05 and #305. Another popular Roscolux color for flesh tones is Pale Apricot #304.

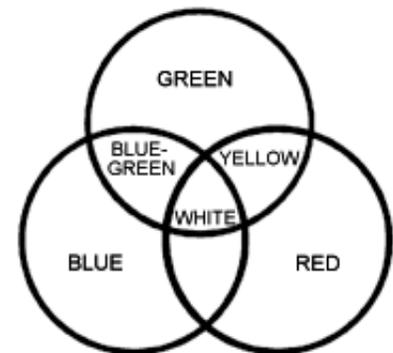
Surprise Pink is another color that has proved very useful for flattering makeup. There are several Roscolux shades in the Surprise Pink or Special Lavender category: #51, #52, #53, and #54.

The Flesh Pink filters, such as Roscolux #33, #34, and #35, enhance the effect of most makeup by reinforcing the pink tones. But be careful of some of the other "pinks". Roscolux #37 for example, leans toward lavender and tends to warm up colors in the makeup base. It may even turn cool makeup grey or blue.

Blue filters transmit little red, so red and pink makeup appear grey and dead under blue light. This is important since makeup normally is pink or "rosy" in tone. Blue filters are important in lighting many scenes (moonlight, for example), but care should be exercised when blue light falls on the actor since it tends to give makeup a cold look. Even greater care is necessary when the darker Rosco blues are used, since they tend to create "holes" in the facial structure such as hollows in the cheeks. Performers should be cautioned to use rouge sparingly. Pretest makeup especially when blues dominate the stage lighting.

Figure 1. The Hard Way With The Color Wheel

This is the color wheel that gave us so much trouble in high school. It shows that red, blue and green light produce white light when blended together. It also shows what happens when just two of the primaries are blended.



we call this the hard way because it is so difficult to predict what will happen on stage when you mix two, three or four (gasp!) colors together. Besides the physics and mental agility required, there's the practical problem of achieving a perfectly saturated color, when you mix pure red, pure blue and pure green you'll sure enough get white. But suppose you're not using primary red, but scarlet, or rose? The results will be hard to predict.

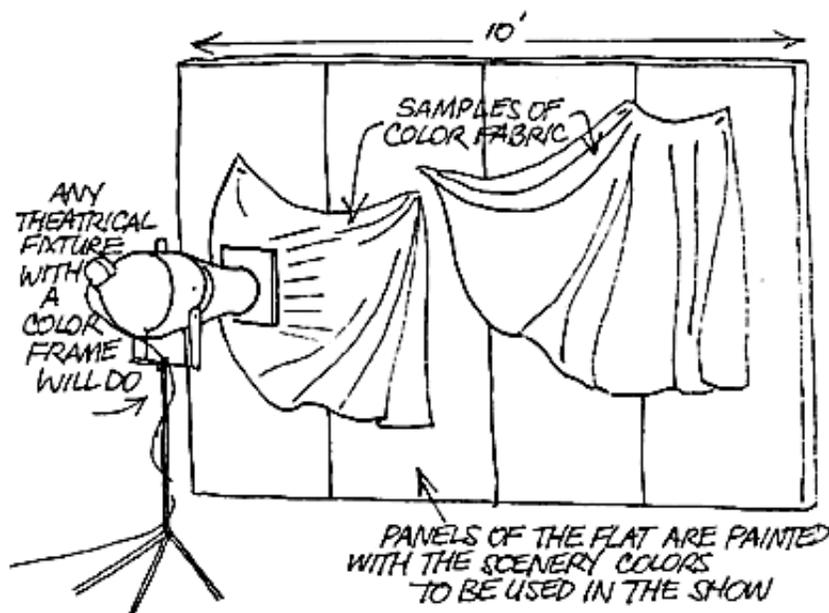


Figure 2. The easy way to mix colored light with costumes and scenery

A 10' flat is painted to represent what will be used in the scenery. Samples of fabric, large enough to have folds and dimension, are attached to the appropriate sections of the flat. This will help determine what a pink dress might look like used against blue scenery.

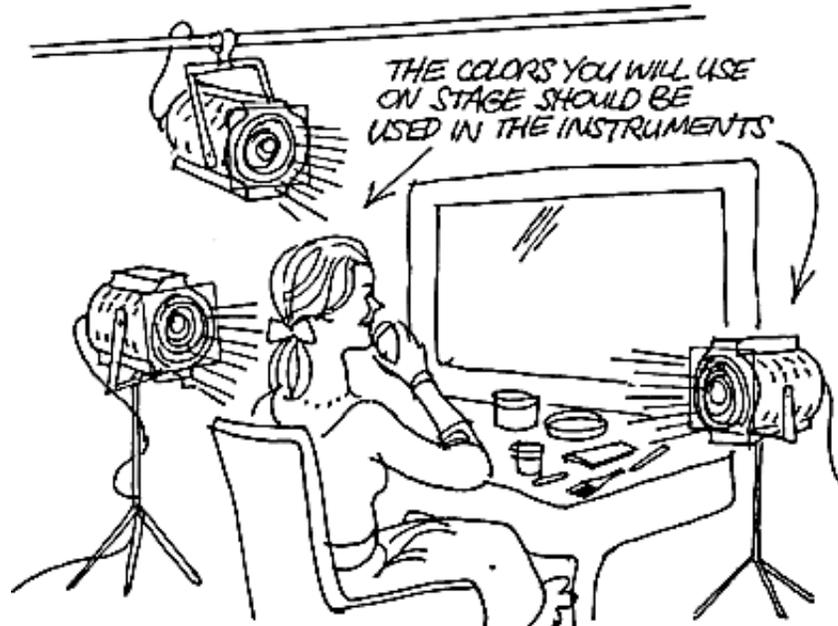
Colored light is added by simply shining a small theatrical fixture that is equipped with the Roscolux colors to be used in the production.

This technique isn't perfect, of course, but it is the best method we know to predict, in advance, what the effect will be when the scenic paint, costumes and light are combined on stage.

Figure 3. Making up with colored lights

This shows one way of equipping the dressing room so the effects of color on makeup can be seen in advance.

The fresnels are all equipped with the Roscolux to be used in the stage production. When the makeup is applied, the actor or actress can see how it will appear.



If it's not possible to use theatrical fixtures in the dressing room, secure the color media to existing fixtures.

Figure 4. The Effect Of Color On You

The table below is offered, with some reservation, as a general guide to what might happen when you shine colored light on eight common pigments. Remember, many different pigments and dyes are used in fabrics and scenic paint as well as many tints of color media. The results will vary widely depending upon

the combinations used. This table can be useful for the design team planning a show. It does show, approximately, what happens when various colors of light are reflected from colored surfaces.

COLOR OF PIGMENT	COLOR OF LIGHT							
	Violet	Blue	Blue-green	Green	Yellow	Orange	Red	Purple
Violet	Deep violet	Dark violet	Dark violet	Violet	Dark brown	Dark brown	Dark gray	Dark violet
Blue	Light blue	Deep blue	Light bluish gray	Light blue	Dark bluish gray	Black	Gray	Blue

Blue-green	Dark blue	Very dark blue	Dark bluish gray	Dark green	Greenish blue	Dark greenish brown	Black	Dark blue
Green	Bluish brown	Light olive green	Light greenish gray	Intense green	Bright green	Dark green	Dark gray	Dark greenish brown
Yellow	Scarlet	Greenish yellow	Greenish yellow	Greenish yellow	Intense yellow	Yellow-orange	Red	Orange
Orange	Scarlet	Light brown	Light brown	Light brown	Orange	Intense orange	Intense orange-red	Scarlet
Red	Scarlet	Purplish black	Dark maroon	Maroon	Bright red	Orange red	Intense red	Red
Purple	Reddish purple	Dark violet	Maroon	Purplish violet	Light brown	Maroon	Reddish brown	Deep purple

From: "Stage Lighting" by Theodore Fuchs

If you have a question about Rosco Color Filters (Roscolux, Permacolor), please email colorfilters@rosco.com

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