

KEEPING PACE

A Monthly Newsletter Devoted to the Darkroom Arts

Volume 101 Jan 1966

Using Transparencies to Make Black And White Prints

This month's letter is to do with making great black and white prints from transparencies and about making great dupe transparencies.

The question I have for all of my readers is this: "Which is better, to make great black and white prints from original black and white negatives or from internegatives produced from transparencies?" Think about this for a moment.

Consider the choices for producing original negatives in a camera.

In my opinion, the best films are Kodak's T-Max and Ilford's FP-4 and the new family of Delta films. These panchromatic films allow you the opportunity to use color filters to make differences in the different areas in the print. As an example, a red filter would block out most of a blue sky thereby rendering the print with an almost black sky.

For a dramatic experience, this will surely do it. However, variations on the filter color can make a great difference in how the print is perceived. A light yellow filter will let the green areas of a photograph become slightly lighter, while a deep green filter will really allow the Green areas to become much lighter.

The degree of intensity is what you should be after. The array of color filters that you may have to carry with you on a shoot, could be extensive.

However, if you are familiar with the Zone System, your negatives should give you enough information so that with proper dodging and burning, and by using a quality fiber based black and white photographic paper to work with, great images can be made. Check the work of Bruce Barnbaum, Cole Weston, and the great

Ansel Adams.

The quality papers available are many. It depends on your personal choice.

The biggest challenge you will ever face is the ability to produce a black and white negative that will fit the range that your enlarger can produce.

Making any negative seems to be a simple operation, but in reality, it is complicated. For instance, if you own a condenser enlarger, the need for a snappy negative will not be required. In fact, you may have to make a negative with a density range of 1.0 or lower. On the other hand, if you own a diffusion enlarger, with a color head, you may have to produce images with more contrast in the negative range, probably around 1.20 or higher. If you own a cold light enlarger, your range of contrast may be as high as 1.40 or higher.

What? You don't own a densitometer? You had better get one soon. The only advantage you may have is that you can use variable contrast fiber based papers. This will help correct the problems associated with variations in contrast.

Here is a simple solution to finding the correct developing time in order to arrive at the proper contrast for your individual enlarger and image. Make your own grey scale using 8x10 sheets of paper. Make about 11 steps from pure white to rich black. Mount these onto a sheet of board so that the entire set of prints is visible in the camera's ground glass.

Then, on a sunny day, place the board with the grey sheets on it in the sunlight, and shoot 4 sheets of film all at the same exposure time. Then process these four sheets at different times, some above and some below what is considered "normal."

Check out which negative works out best when using a # 2 grade paper. Once you have found the correct result, record the exposure time (and correct it if necessary) and the correct developing time. Take the same board with the different grey's on it and place it in the shade. Do the same thing again. Then place the board in the open with a dull,

sky, and do the same. Place the same board in a shaded place and do the same.

In a few days you will have garnered enough information for your own individual needs than you could ever find on the side of a can or a package of developer.

All this can be done without the need for a densitometer. But, what do you do when the image has blue sky with clouds and red flowers in the foreground? If you want to increase the cloud contrast by using a red or deep yellow filter, then the flowers would be adversely affected. The flowers would look white or light grey.

It would be almost impossible to get both areas to be affected in the correct way at the same time.

For some images, using black and white films is the easier way to go, but not necessarily the best way.

On the other hand, you decide to use color transparency film in your camera instead, what are the chances of getting a better print? You have a much better chance of making a better print from your transparency.

Why?

First of all, you are out shooting with your eyes and not being intimidated by the fact that you are shooting in sunlight or shade, but just getting the best image

possible. Here is where you can place the strength of your camera ability to it's best purpose. Your eyes should be concerned with composition and proper lighting for the image, not for your enlarger. Finally, you can easily determine the ability of your enlarger to produce a great print.

Choose one of many great photographic papers, such as Ilford's Multi grade Fiber papers. Stick with your paper until you have found out all that you can about it's range and detail. Try different manufacturers papers, but when you find what you like, stick with it.

However, we now have a transparency. What can be done to make a great, black and white internegative that will give you the opportunity to produce a fabulous print. Here is what can be done.

You have a perfect opportunity to adjust the overall contrast range of the image so that when it is exposed and processed, it will fit the range of your enlarger. In short, the enlarger is the first place to begin the search for a perfect negative. Your enlarger has it's own negative's range requirements depending on what kind of paper you are going to use.

Does this make sense?

I hope so. Because, all of the effort to make a great print is first done with your brains, and not your eyes. Did I say brains? I sure did.

When you make a negative from a transparency, you are usually forced to mask the transparency in order to reduce its contrast range before making an exposure to turn it into a negative and make it fit the enlarger required range. An example, If your negative required range for your enlarger is 1.20 and your transparency density range is 2.15, it is obvious that you must make a mask with a specific percentage of coverage so that when the image is masked and exposed, the resultant negative will fit your enlarger's range properly.

You can make every transparency ready by first masking it then exposing it onto a sheet of panchromatic film and after developing it, fit the required range. This is absolute gospel.

Now for the best part.

Color filtration at both the masking level and at the final stage of exposing the negative material. This is where we can take advantage of the ability to use colored filters to change the 'look' of a print.

The use of any color filter at only the masking stage will darken that color in the final negative.

The use of the same filter will lighten that color in the final negative.

A blue sky will be darkened if a blue filter is used to make the mask.

The use of a red filter will

lighten the sky when the red filter is used to make the mask. So we now have areas where the mask can be used. Sometimes when the mask is exposed, and sometimes when the negative is being exposed.

In this way you can darken skies and also lighten green trees at the same time.

If you split the exposures between the colors when making masks, you can make a better image. A flesh tone can be improved by using a warm filter when making both the mask and the final negatives, if it is a woman. A man's flesh tones can be improved with the use of a warm filter at the mask stage and a green filter at the negative stage. The choices are numerous and infinite.

An excursion into this possible field of making better prints is wide open.

At one time, during my hectic days as a Dye Transfer printer, I was asked to make quality black and white prints for advertising agencies. The sources that they were using made horrible prints, usually on RC based materials that did not react properly to the eye when dry. To make matters worse, the labs would short-cut the wash after the fix and left too much hypo in the emulsion. When the retoucher got hold of one of these prints and tried to use a light touch of reducer, (Potassium Ferrocyanide) the image would

suddenly go to pure white. We made our negatives using the techniques discussed here and made sure to use hypo eliminator in our print baths to get rid of any excess hypo. We were able to charge \$150 per print. We sometimes made more money per month with our black and white efforts than anything else.

My friend Bob DeSantis made some of the best images I have ever seen using a technique similar to mine.

The use of enlarged negatives made interesting 20x24 prints.

The darkroom layout is very important.

I would make sure that I have a backboard (use white formica) and place it in the sink and at an angle so that you can place the paper image on it without it slipping down. Make sure that you have an adequate light source to examine the print. Look at it carefully, and when you think you have a winner, dry it in a microwave. (Ansel Adams' idea.) Then take another look at it. The differences will amaze you. Use this technique to zero in on the quality you are after.

Don't be afraid to use bleaches and selenium toners to modify your image. After all, what really counts is what you have to deliver. The use of Potassium Ferrocyanide (about 1/4 teaspoon to 8 oz. water) to lighten an

otherwise dark area. If mixed too strong, and then cleared with hypo, the result will be a white area. If you are trying to get a white effect try this method using a tiny brush and a wad of cotton soaked in hypo to clear the area and to stop the action. The use of toners can increase the black content of the silver print. In other words, you can increase the salability of your work by "retouching." All of the top black and white masters have used similar methods.

So, the trick to making better images comes from the ability to be able to reconstruct the curve shape of the original and the ability to pick and choose the density of any particular area. Can this be done digitally? Yes, it can. However, the cost of the equipment, and the learning curve for mastering programs such as Photoshop, is not that inviting.

Using Photoshop, I have been able to distort an image beyond imagination and get incredible results. But, I like the natural look of the hands on technique.

Making enlarged dupe transparencies.

Making good dupes is not that difficult. It takes some equipment that you may already have. A good enlarger with a great

lens (I prefer Apo lenses) and some equipment that you may not have. If masking is required, then a film punch and platen or print frame may be necessary, and maybe even a registration enlarger carrier. If you have a 4x5 enlarger and need 8x10 finals, you may need to purchase film punches and platens for both sizes.

Any quality enlarger will work fine. The color film material that is produced by Kodak, and others, lends itself to the diffusion color head enlarger. If you are sure that you will always be working from original films no larger than 4x5, then any quality 4x5 enlarger will work great.

Anything from the least expensive D2 Omega to the great ZBE systems will work without any problem.

It is very convenient, indeed, to have the comfort and flexibility of using a color head, but I have produced very professional dupes for years with a simple D2 Omega and drop in filters which can be purchased from Kodak or Ilford.

The beauty of my methodology is that I can either increase or decrease the overall contrast of an image to my own standards. The production of a dupe is usually constrained to matching the original.

This, however is not always the case. Making the best image may require much

more knowledge than just simply making an exposure that comes close to the original. In fact, the images produced by the great Pete Turner usually involves making a dupe transparency from a Kodachrome onto a new sheet of Kodachrome film. In doing so, Pete produces very exaggerated finals but they are so mind boggling that they overwhelm the viewer. This is the part that I like most about making dupes. It is when the client will allow you to express your individual taste and produce a fabulous piece.

The most important piece of equipment that you will need is a quality easel meter. ZBE makes such a meter and so does Pixtronic's in Brooklyn NY

Here is the reason for the meter.

Once you have established a color pack for a box of unexposed dupe material, the color pack should remain close to it's original set of filtration numbers. The only thing that will change the filter pack is the accumulated amount of color in any transparency that affects the whole exposure.

A person wearing a large red coat may add more red to the entire image and require that less red is in the filter pack.

Also, as film ages (if not kept refrigerated) the overall color response may be different.

The meter is the key.

Once the image has been either enlarged or placed for contact use into a vacuum easel, or into a contact frame, and then after the color balance has been chosen, that a reading of the light source (with no image) is read and recorded. This recorded number is used to see if any differences occur when filter changes are made. If they do occur, use the meter to make the *f* stop adjustments. Then if any real change in density of color balance be needed, after adjustments to the filter pack and to the overall exposure, then re-adjusting the *f* stop to it's original reading to make the next exposure. It is really as simple as that. There is no magic involved.

The different films produce different degrees of contrast.

Kodak films can be pushed and pulled to a certain degree of density, which in turn also changes the degree of contrast. Kodak films are also geared to be used at an exposure time of ten seconds. (Reciprocity) This is one area that you will have to experiment with on your own. There is no information available that will successfully help you produce a proper dupe. Fuji's dupe film exhibits more contrast than does Kodak or Agfa.

If you are working from Kodachrome originals, the old method that I used was to find the degree of contrast my enlarger would produce and mask my originals down to that level. This is done by projecting a 21 step grey scale and exposing it, After processing, examine it and find the extreme ends where detail disappears. Read these identical areas of the original grey scale with a densitometer and record the density range requirements. After that, read the original of a new image and if the scale is not where it should be, make a mask. However, Kodak has seen fit to produce a Dupe Film just for such work. It is called **Kodak Duplicating film Type K 7121.**

Use this film for reproducing Kodachrome films. This film was specifically designed to be able to be used with Kodachrome film which otherwise would have to go through a real challenge in masking and filtration. Fuji also emphasizes the use of flashing to reduce the overall color contrast. I prefer using silver masks to accomplish this chore. With a mask produced on Pan Masking film, you can rely on repeatability. The "easel" could consist of using a film holder or a simple leaf easel. Place a sheet of white paper on one side of the holder, and loaded film on the other side, and use it to focus the

image. After the preparation has been completed, turn the film holder over and if you used some sort of positioning device, such as magnetic strips, you can then position the holder and then (in the dark) remove the slide and make the exposure, shove the slide back and you are ready for processing.

Processing is a snap. If you are working in a one room flat, you can still process your own film. A simple Jobo system is all that you will require.

It can fit on a table top in your bathroom, if necessary. Processing film is not an art experience but rather an academic process that needs little or no adjustments to produce a professional image. The easiest processor that I have seen is the **Jobo CPE 2 plus.** It will handle films from 35mm to 4x5 with accurate temperature control. It can also process color prints, (R4, C41, R 300 Ilfochrome, B&W films and prints.)

This is an accurate little piece of jewelry. If you decide on this gem, ask for the starter kit which includes all of the bottles, graduates, film tank reels, print drum, magnets, color thermometer, film wipes and more. Best of all, when you are through using this work of art, it can be hidden away from prying eyes and little hands.

If all you need to do is make prints from your newly produced negatives or masked transparencies, consider the **Jobo Nova processor**.

It can produce a print in 2 minutes.

It can handle RA-4, Ilfochrome, B&W.

All systems are easily handled and easy wash up is certain. Sizes up to 16x20 are available.

I almost feel as if I am a spokesperson for Jobo. I am not, but I recognize good products when I see them.

The ability to make sound judgments about your color work.

Being able to know when you have an acceptable image is not that simple. Your eyes can be feigned into accepting a wrong image because of many factors.

The light source that you use to look at the original and the final dupe. If you use a darkened room, as opposed to a well lit room, the results can be deceiving. In a light room, you will be affected more by a dark image than a light image, and visa versa.

I have written about my "magic box." All I have done here is to take a simple light head from an enlarger and use the guts of it to make a little portable light box so that I can view an original transparency by first setting the light level and color balance (by eye) to match a

good 5000°K light source.

Then I use the numbers on the dials as "normal."

If I decide to make changes in color balance or density, I can dial it in until I am satisfied. When this is done I can either subtract or add to my "normal" filtration and exposure time, note the differences, and make a dupe that is more in keeping with my own taste. Incidentally, Condit Mfg. is in the process of developing a "magic box." I couldn't get a patent for my system, as it is just that. A "system."

Making prints from color negatives presents a different problem.

Every piece of film containing a color negative image requires a specific color balance depending on how and where it was shot, and how it was processed.

In other words, there are unlimited differences in how a color print can be exposed, and with which filtration.

Compare the difference with transparencies.

When you view a slide, that is it. It is either too light or too dark, too cold or too warm. You can see it easily. The manufacturer made sure that the film is supposed to be shot using the "kind" of light required for the photograph. Daylight or Tungsten.

But with a color negative, who knows?

Pictures are exposed with every kind of situation possible with color negative film. The chances are that most color negatives are very difficult to print.

But with a simple overall reading, a fair amount of work can be produced. Look at the experiences of the "one hour" shops. If they had to fine tune all of their work, they would hardly ever get work done in time.

There has to be some sort of system for the professional individual.

What kind of meter is available that will tell you what you need to know when making color prints from color negatives.

The first thing that comes to mind is the Video Color Negative Analyzer. Is this the kind of machine that you could use? Sure it is, but it doesn't come free.

For the individual, there are a number of meters on the market that come to mind. The Speedmaster is certainly one of these. It is able to be set to analyze a specific set of problems and allow you to get a close image on your first try. The Jobo meter is another example

The latest device is from ZBE. Here is what I received on my Fax machine.

"ZBE designers and manufacturer's of the Starlite 1080W closed loop color head announce the

introduction of the **Color Scan**.

The **Color Scan** is a color analyzer which compliments the **Starlite Color Head**. To operate, the user simply scans the projected image of the negative in the enlarger and the **Color Scan** will read both color and density. This information automatically adjusts the Starlite to the correct color balance and exposure.”

For more information about this device, contact Anthony Baker at 805-564-7891 Will wonders ever cease.

I can still remember making color prints by making a “ring around” set of images. I could then use the best image to either produce a print, or modify it. What about contrast control? It didn’t exist then and hardly does now.

There are methods of contrast correction that are inexpensive and very reliable. **Masking**.

I t almost seems like a dirty word. But let’s face it. Unless you can change the curve shape you are in for a lifetime of mediocrity. Adding image and density to the lower portion of the scale of an image can dramatically change the image quality.

For instance, if you were able to make a contact exposure from a contrasty original, using a film such as

Kodalith film, and after processing it, place it back over the original and make another exposure with the original. the result would be a new image of the the shadow areas of the original. Now,when you are in the process of making your black and white negative, or even a color negative, after making the exposure of your choice and processing it, **add this mask** to the new negative. The difference in the recorded detail in the shadow area will astound you. Now make a print, and watch the eyes of the viewers open wide.

So, it is possible to make better black and white negatives from transparencies, than it is directly from nature.

This is my opinion, and I hope your’s, after my explanation.

I have always been on the side of the printer. It is my opinion that the photograph can be taken and then **made**. It is with the making that I have spent my life. I feel that without a great print, only part of the story is being told.

The image must be great. I repeat, Must.

One good friend Rene Pauli, a Carbro printer, has spent many years making great images, but had trouble getting his method of making a great Carbro print to fulfillment. Now he has succeeded and is getting rave

reviews. The shot, as important as it is, was left behind by viewers because they could not see a print.

When you visit a photographic gallery, what are you looking at? Certainly, not a negative or a transparency, but a print.

What kind of print? I don’t really care, as long as it moves me.

If we examine the progress of photography over the last 100 years, we will find that it has changed little except for the fact that color is here, and that quality is still as elusive as ever, even though speed has accompanied it. If we study the works of Ed Steichen shot in the early 1900’s, the images he produced are still valid.

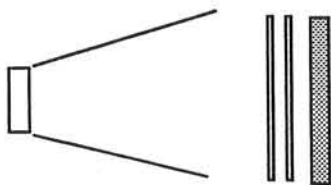
The quality of a portrait is still not as advanced as we would like to believe. There are a number of very fine books that dwell on the aspects of Black and White photography. If you have difficulty in understanding some of the difficulties about black and white film or paper, there are a number of books and people that are interested in making sure that the field of black and white is preserved.

Unsharp masks?

This is a topic in which I have had a great deal of experience.

During my early days in making Dye Transfer prints,

We had been using Pan Masking film from the day it was announced. The film is unique in the fact that it contains no anti-halation backing. This means that you could expose this film through the back. In fact, shooting a set of separation negatives with a graphic arts camera was the ideal place for this film.



Using a vacuum backed camera, we exposed an image through a sheet of Pan Masking film through the back, on pins and in register.

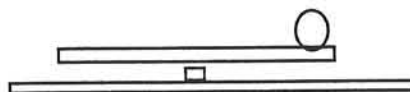
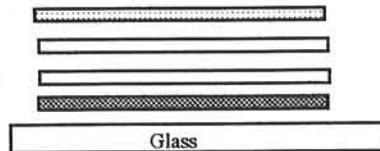
The second sheet was just a spacer, the same thickness as the Super XX film we used for the separations. Then after we process the film and dried it, we removed the spacer, placed a sheet of fresh Super XX film on the register pins, emulsion facing the lens, and the already processed sheet of Pan Masking film back in its original position. In this way we could get maximum sharpness of the image as the emulsion of the Pan Masking film was directly in contact with the Super XX.

But, what about sharp control?

During those early days we had to print an orange.

It sounds simple, but it wasn't. The texture of the orange had to be kept, in fact, even increased for the effect we were after. Here is what we did:

We made a contrast mask as follows.



With the exposing light from below, and using a contact frame, or a vacuum platen, the films were placed in the following order. The top sheet was the unexposed Pan Masking film, Emulsion up.

The next 2 sheets were clear film used as spacers. The bottom darker sheet represents the transparency.

Our light source rotated around the bottom of the area. I could set the bulb at different locations so that I could control the spread of the light source. This produced a very diffused contrast mask.

The way it worked was quite simple.

The main parts of any image would still be controlled for contrast, but the individual tiny areas would not be

affected and as a result, the tiny areas of the orange skin remained unmasked. The sharpness was not really sharpness but an optical illusion. The light and dark areas were separated better than if they were masked normally. The effect was startling.

We did the same thing with a football, and also with a shot of an old man's face with gnarled wrinkles and a stubble of a beard. The latter print was part of an exhibition for Kodak. It was chosen as the main piece as people entered the front door. The print was so sharp, no one believed that it was produced from a 35 mm original.

This is an old technique that has been written about lately as if it were just discovered.

One of my subscribers is toying with Pigment prints. He has found that the speed of his magenta layer was considerably less than the cyan or yellow.

This must be taken into account before one begins to make adjustments for balance based on density readings.

Have a great New Year.

**Bob Pace
2823 Amaryllis Ct.
Green Valley NV 89014**

**702-896-2515
Fax 702-897-4295**