

# KEEPING PACE

A Monthly Newsletter devoted to the art of darkroom photography

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## My Best Wishes To You For a Happy New Year

### More about masking

This business of masking has become a problem for me. I have been subscribing a method that allows one to be very precise. I realize that there are alternatives to my methods that require very little knowledge or equipment. Some of the methods do have merit.

I have tested the **Dye Chrome Research Co.'s** method of processing Cibachrome prints. By varying the time in the dye bleach, even as little as 10 seconds, you will achieve a contrast shift. Exposure must be adjusted when changing bleaching times. This requires a standardization of times versus temperature tests, so that accuracy can be achieved. However, I did notice one thing. As the contrast was lowered, the color

saturation was also affected. The average color enthusiast will be able to make acceptable color prints in his bathroom, and will probably be satisfied.

**The Minit Mask** is another approach. With this system, you tape the transparency to the Minit Mask glass and then make a series of exposures through the transparency onto the glass, using a strobe flash, or a strong light bulb.

The amount of flashes determines the degree of density that will appear on the glass. With enough experience and time, one can pre-judge the number of flashes needed to accomplish the masking effect that you think is needed.

Once you have reached the necessary density in the glass, you place the entire sandwich in the enlarger

with the transparency and it's emulsion facing the easel. The great thing about both of these systems is that there is no registration equipment required. Nor is a densitometer required. In fact, there is no necessity for learning about curve shapes or any sensitometry or densitometry. It does seem rather simple, and it is.

On the other hand, it depends on you, the reader. If you are satisfied with this kind of approach to making a print, then you will be as happy as a clam.

Your approach to understanding the complexities of the masking methods that I advocate will not hinder your making prints. Just what am I advocating? I believe that there is a specific density range that your own individual enlarger is able to produce with any

given process.

Every enlarger has its own unique ability to produce a specific contrast.

This is only one of the reasons for Kodak, and others to make variable contrast black and white papers. The manufacturers realized this fact many years ago.

There are too many variables in our path, and they sometimes prevent us from making precise negatives, when making black and white prints.

The next time you shoot black and white film, look at the instructions on the container of the developer you plan to use. The times usually say something like: Process from 6:30 min. to 7:30 min. at 68° F.

This would really be a crap shoot if it weren't for the Polycontrast papers.

I remember when I began in the photographic world. I worked as a black and white printer for a large stock house in New York City.

This is before the first variable papers were invented. We had stacks of boxes of paper on our shelves. Different sizes, and most importantly, different grades.

We used Kodak, Dupont, Agfa, and Ilford paper. My job was to make reproduction quality black and white prints from a stockpile of various kinds of negatives.

These negatives consisted of all sizes.

The frustration that I experienced was enough to keep me up at night, wondering why I ever got involved with such an uncontrollable method of making prints for a living.

Then along came Dupont's Varigram Paper. This was the first of the variable contrast papers. My life was forever changed.

Making quality black and white prints was now a simple chore. If my test print exhibited too much contrast, all I did was to change my filtration and make another test, until I was satisfied with the contrast level.

Then I became involved with color. My first experience was with the Carbro process.

This process began with receiving 3 separation negatives from a client, and they were supposed to represent the 3 primary colors that we used to assemble the print. The nightmares began again. The negatives were all over the place, as far as contrast was concerned. We could see the inaccuracy by eye, as there were few densitometers on the scene.

When densitometers were finally available, the out of balance negatives were easily discovered.

Remember, with the Carbro

process, contrast control was still a shaky premise.

The contrast changes were made when the bromides were combined with the sensitized colored pigments.

All of this was done by "feel." This involved a 2nd bath that had to be timed accurately in order to make a contrast change in one or all of the colored pigments.

So, as you can see, the battle with contrast has been going on since the dawn of photography. The two English scientists, Hurter and Driffold were the first ones to realize that there was a method of controlling contrast. But their methods were so far advanced that we mortals could hardly understand what they were talking about.

Besides, who ever even saw a densitometer?

When I worked for this photo stock house I made prints from a series of negatives shot by an amateur photographer named Gustav Anderson. He worked as a photo-engraver in New York City.

Every time I had to print one of his images, I only had to use #2 grade paper. Every time.

I called him and asked what his secret was. He asked me if I ever heard of H&D. I told him that I didn't. He said to look them up. I did. And it changed my working habits

ever since.

Contrast can be changed in various ways. The chemical method is fine, except that the color saturation, as well as the contrast, is also affected.

If you are outdoors and are shooting a scene using black and white film, you can predict in advance to what gamma you should process the negatives. Ansel Adams called it a Zone System. Hurter and Driffold were even more precise.

With a modified Weston exposure meter, I was able to read the light and dark areas of a scene, and determine in advance, the proper gamma of development of the negatives.

I began to place all of my work on # 2 grade paper.

I also began to make self masks for the out of balance Carbro separation negatives I used to get from our country's leading photographers.

This leads me to the current method of making things fit. Color papers are not able to have their contrasts manipulated the way Polycontrast papers can. Until this day comes, we must use one of the methods that I have just described.

Chemical changes in processing, or a negative mask attached to the original transparency.

### **Think about this for a minute.**

What kind of work are you interested in producing? If this is a hobby, do you want the best that you can do?

If you are in the business of making prints, then I am sure you want the best quality possible.

If so, then I recommend the avenue that I have been advocating for the past 45 years.

You can control your print quality by making accurate masks and by understanding the densitometry and sensitometry of the materials you will be using. It is not that difficult.

The nice thing about understanding this method of masking is, that it works with any process.

Here is another problem one of my students has had.

When making Dye Transfer prints, sometimes little spots of color appear on the paper print. This is called skipping. This occurs when air is trapped between the paper and the matrix film as the matrix film is being rolled down into position.

This trapped air can come from different sources.

If the 1% acid rinse is mixed with cold water, the probability is that air will be trapped in the solution and will eventually form bubbles. We recognized this in the 1940's.

We used to mix our 1% acid rinse in large quantities, and we used hot water.

This allowed the air to eventually rise and escape from the large tank.

Another reason for the air being trapped was if a pump were being used to transport the acid rinse to the sink area. Any air leak in the pump would allow air to be mixed with the rinse and this would carry air in the line.

There is more than one way to skin a cat.

I used to roll my paper down on the transfer board, and really put pressure on the roller. Then I would squeegee the paper. I then made sure that I sponged the surface of the paper with an almost dry sponge with 1% acid rinse. Then when I carried my matrix to the transfer area, I also carried as much acid rinse as possible.

I placed a bead of liquid at the beginning area of the roll down. This flooded the area and prevented air from being trapped. This is not always a perfect solution, but it did minimize the problem.

Don't forget to squeegee the matrix. This will help to force air out from between the paper and film.

If air does get in the way, when you remove the matrix from the transfer paper, look at the print.

If you see evidence of skipping, use a piece of cotton and moisten the paper with paper conditioner in that area, and replace the matrix for further transferring. Practice makes perfect.

Incidentally, **Murray Patton, of Eastman Kodak**, has been promoted to a new position.

He is in charge of the law enforcement division of photography for the entire country.

His replacement is **Sally Robson**. She is now the marketing director for the Dye Transfer Process at Rochester.

We will have to contact her if we have any questions about the Dye Transfer Process.

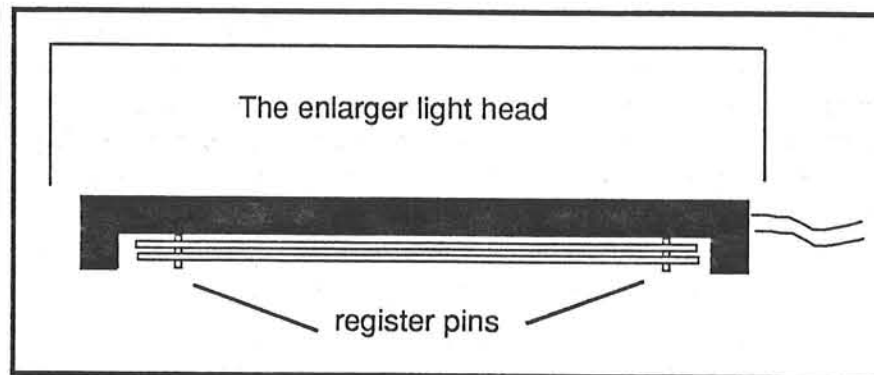
Here is an idea for making an almost glassless registered film carrier.

Use only one sheet of glass. Make sure that it is anti-Newton ring glass. Condit Mfg. of Sandy Hook, Ct. sells this kind of glass.

Install it in your film carrier. The carrier should have a set of register pins installed in the glass, or in the outer edges of the system, away from the glass.

The idea is to use the carrier up side down. The carrier should also be a vacuum carrier.

In this way, a mask can be made through the original transparency, and then



placed back in position and used to reduce the contrast of the original.

The vacuum pressure may have to be modified in order to prevent Newton rings. Using a pressure gauge and valve can accomplish that chore quite easily.

By using the carrier system up side down, you are able to eliminate the bottom glass from the carrier, and thereby also eliminate the refraction problem. The last thing your enlarger lens will see is the emulsion of the transparency. This can produce razor sharp images.

I would suggest that a diffusion enlarger be used to make the final image. This is a technique that was used by a former competitor. His prints were very well made and exhibited no masking fringes or Newton rings. Using top quality apochromatic lenses would enhance the images even further.

This brings me to another point.

Most professional "art" photographers use large format films. Unquestionably

the larger format produces a clearer picture than does a smaller image. But does that limit you to always carrying a large camera when out hunting for scenes? No.

Some of the finest images that I had to work from were 35mm.

The images created by photographers such as Reid Miles, Tom Kelley, Ernst Hass, Galen Rowell and Dimitri Kessel of Life Magazine were outstanding.

The prints that were made for these photographers are among the finest in the world.

Could their work have been improved if they used a large format camera? Of course the images would have been clearer, but is that the most important part of photography?

I don't think so. Emotional impact is the most important part in the "art" of photography.

Some of the images captured by photographers using small cameras couldn't be captured with a large camera.

If you can manage an easy climb or walk and are not interested in becoming a mountain climber then a large format is what you should use, but when you have to run or drive fast to get to a specific place in order to catch the rainbow over a building, then a small camera is a necessity.

Do both images fare well in a gallery exhibition? Of course they do.

One of my students, **Steve Nelson**, has a showing at the prestigious G. Ray Hawkins gallery in Los Angeles. His format is the small Minolta 645. It is almost as small as a 35mm. He specializes in shooting night scenes between midnight and 4:00 a.m. on moonlit nights.

His shooting area for capturing these incredible scenes is all over the world, but he has been primarily working in the big national parks.

He has been producing 16x20 and 20x24

Cibachrome prints. He uses contrast masking, bump masks to increase the star shapes and brilliance, uses color filters when dodging the prints and has an outstanding selection of prints for viewing.

Would a larger camera have made a better image?

Probably, but the impact of the scene did not depend on image clarity, but emotional impact. The smaller and

more compact camera gave him the time to set up quickly and capture the image before it disappeared. So, for those of you who are able to carry a back pack, like Josef Muench or Vern Clevenger, use a larger format. The emotional impact is still there for these people also.

What I am driving at is this: The size of the camera is not as important as what you are trying to say with your camera.

One of my students has made a Dye Transfer print using my isolation color correction system. The image was that of a sea scape. The sky had large beautiful clouds against a big expanse of blue. His print was made using a split masking technique. However, the sky did not look clean.

He made a positive, by contact onto Kodak Separation #1 film from the red filter negative, and then combined the positive with the blue filter negative and made a short exposure onto Kodak Pan Masking Film, processed it to a gamma of .25 (approx.) and then added this new mask to the blue filter negative when printing the yellow matrix. The mask eliminated the yellow from printing in the blue sky area, but did not interfere with the neutral clouds. The result worked.

If you have a similar problem, read the information in Volume # 2 August 1987. If you need a back issue, let me know.

The same technique can be used when printing Cibachrome. The mask is made differently. The first thing we need is an isolated mask, made on Kodalith film, exposed by contact to the original through separation filters.

The appropriate Kodalith mask is used to cover the unwanted areas and to open the areas that need correction. Then a "bump" exposure is made through the appropriate separation filter (or filters) to enhance the color in the print. Believe me, it works.

Let's talk about electronic imaging.

It is here and there is nothing that we can do about it except smile.

The image correction that can be achieved with the new imaging systems is amazing.

The August 1989 issue of "Photo Lab Management" describes the work done to some poor transparencies. The results were amazing. One of the images shows a transparency that was shot with daylight on tungsten film. The "Crossfield" scanner changed the color balance without screwing up the highlights or shadows.

The resultant reproduction was great. Another image was of some horses shot in a covered building with an outdoor background. The transparency was underexposed, but the same scanner opened up the foreground and brought color back to the horses with losing the outdoor effect.

I know how much work it would have taken to do this correction photographically, but the scanner did it very quickly. The cost of a complete computer slide generation system's cost is down to about \$60,000. A few years ago, the same cost of entry in the system would have cost around \$500,000.

I sometimes wonder what would have been my fate if I stayed in the business of accomodating the advertising agencies. My standards for quality were quite high. I probably would have been an annoying factor to the manufacturers of these scanners. The beauty of making your own prints from your own transparencies is satisfaction enough for me. Retouching Cibachrome prints. This is not an easy chore. The chemicals are supplied by chemical supply houses.

The different chemicals are listed by Ilford. The formulas must be mixed properly. Some of the mixtures may only last a short time and must be freshly mixed each time you have a printing session.

Remember, there are only three layers of dyes to contend with. You must attack the colors, one at a time, to get the proper effect.

Removing the colors from each layer will require a little practice as the entire color balance of the print will change when wet. It is possible to look at the wet print through a 20 cyan filter and see the print as it would look when it were dry. This is not fool-proof, but is a "better then nothing" approach to visualizing the wet print.

Here are some of the formulas.

**To totally bleach all of the colors:**

**Part A**  
500 cc of distilled water.  
3 grams of Potassium Permanganate.  
Add water to make 1 liter.

**Part B.**  
800 cc of distilled water.  
50 cc of Sulfuric Acid (96%)  
Water to make 1 liter.  
(Sulfuric Acid is dangerous.)

**Never add water to the acid.**

This mixture is good for one day. For small areas use a brush or cotton. For large areas use a larger brush or swabs of cotton. The bleaching takes about one minute. To remove little black spots, use a liquid masking material like rubber cement or a commercial material called "Maskoid."

Surround the spot and then apply the bleach. When the spot turns white, stop the action and wash and dry the print. When the print is dry, remove the liquid frisket and proceed to spot the print with the missing color. Good luck. The little white spot will have a colored rim around the spot. It will take experience and patience.

**To reduce the yellow dye:**

N,N'—Dimethylformamide  
2 parts  
Distilled water 1 part

This solution will keep for several months. Add this solution to the print with a brush or a swab of cotton. To stop the action use water.

When you are finished with the bleaching operation, wash the print in running water for 10 minutes.

### To remove the magenta dye:

#### Part A

Add 15 grams of Chloramine T to 500 cc of warm water. Then, when mixed, add cold water to make one liter.

#### Part B

A 10 % solution of Acetic Acid.

#### Part C

Sodium Bisulphite..10 grams  
Water, one liter.

These stock solution will keep for several months. Use the solutions in the following manner:

Place some A solution in a small graduate. Add the solution B, drop by drop until the solution turns milky white. Use a brush or a cotton swab to apply the mixed solution. When you are satisfied with the bleaching operation, treat the print with solution C. Then wash the entire print for ten minutes.

### To remove the cyan dye:

Sodium Dithionite 3 grams  
Sodium Carbonate 3 grams  
Water to make one liter

This solution last for 8 hours, maximum.

Use a brush or cotton swab. Stop the action with water. Wash the print for 10 minutes.

These are the chemicals needed to do some retouching on your Cibachrome print. This doesn't mean that the results will be great. It depends on your ability and your eye.

If you need to add color to your print, use the same Azo dyes that the print has in it's emulsion. The Azo retouching dyes are available through your Ilford dealer. If you must use opaque retouching I recommend using Acrylic paint.

Retouching a print is not easy. The more spots you remove, the more you will be dedicated to the removal of dirt, at the beginning of the operation.

I was so paranoid about dirt, that I made it a crusade to eliminate dirt and scratches from my work.

The oil immersion system that I use, can be used with diffusion enlargers as well as condenser enlargers. The difference in the acceptability of the print is overwhelming. I remember the days when my work was turned

down because of one little speck in the print. My back issues #8 and #18 explain the techniques that I have successfully used for many years.

### Local retouching on a Dye Transfer print is actually easier.

This is because you can see the results while you are working, and do not have to wait for the print to dry. The chemicals for enhancing a Dye Transfer print are as follows.

To remove cyan, Add a small amount of Potassium Permanganate crystals to a small vial of 1% acid rinse.

Mix this thoroughly. The color of the mixed solution will indicate the amount of dye that can be removed in one fell sweep.

If the mixture looks like a light rose' wine, then just a blush of the cyan will be removed.

The darker the color (such as dark ink) will probably remove the dye right down to the white paper level.

Stop the action with 1% acid rinse.

### To remove magenta:

A simple solution. Use Kodak Photo Flow, # 200 or even #600.

Just wipe it on and wipe it off. The change will take place right in front of your eyes.

Don't overdo it as the image may become soft.

Stop the action ,again, with 1% acid rinse.

**The removal of yellow dye:**

This accomplished by mixing a ten % solution of Sodium Thyocyanate, (with acid rinse.)

Use a brush or a wad of cotton to apply the solution. The image will turn purple. You will think all is lost. Don't worry, the color will return as you wash the area with 1% acid rinse, minus the yellow that you wanted to remove.

This must be done in a few stages. You will go from purple too normal, and back to purple and normal, a few times before you are satisfied with the result.

Stop the action with 1% acid rinse.

Under no circumstances should you ever wash the print with water. The analine dyes are water soluble.

If you have a prize winning print that needs some local retouching, use a professional retoucher. There is nothing like experience. The professional retoucher has years of experience and could probably correct your print before you could get the chemicals mixed.

I was lucky. My wife was a great retoucher. We always corrected our own prints.

For those of you who were not involved with the advertising agency lifestyle, George DeGennaro was one of the finest food photographers in the world.

I personally made many Dye Transfer prints for him. We became good friends.

Last week I tried to call my friend George DeGennaro. I was supposed to arrange a time for him to join me for a course in making Dye Transfer prints.

His son told me that his father had passed away two weeks before.

I was shocked.

I considered myself fortunate to know this great photographer and man. The world of photography will miss him. I will never forget him.

During the past 45 years I have worked with many famous photographers. It was because of them that I became involved with the advertising agencies, and became adept at my craft. For years, I struggled with my lack of understanding about this crazy world of color.

People like Victor Keppler, Phillipe Halsman, John Rawlings, Art Kane, Richard Avedon, and many others taught me lessons without their realizing it. Their art was so creative and precise that I had to learn to be able to satisfy their needs.

Some of these great men were kind and understanding with me, as a young inexperienced color technician.

The fact that they chose me was inspiration enough for me to aim to be the best. As a result, I became well known in the advertising community.

I am saying all this to try to convey a message.

Great work is always remembered.

Cheap work is soon forgotten.

**As I said in my previous issue, I am starting to work on a book for the Cibachrome enthusiasts among us.**

It will cover quite a bit. I have had the amount of experience that is needed to share with you some of the techniques that I used in producing billboards and record albums.

For thos of you who still haven't ordered my published materials, The Video and book package is \$200 plus \$12 S&H The Newsletter subscription is \$60 per year.

The back issues are \$4. ea. The book, "The Art of Photo Composition" is still \$50.

If I can be of any help. just write or call,

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