

KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

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A Few Ideas to Keep the Dye Transfer Process Going.

The first issue of "Keeping Pace" described a system for correction that has not been mentioned at all by other proponents of the Dye Transfer system.

Basically, it is the ability to reduce the density of an area either by individual colors, or to make a color shift in the same area, after the matrices were exposed and processed. It is called the "Dye Withdrawal Method."

It was first suggested by Bob Speck, along with Louis Condex, the original inventors of what finally became known as "the Dye Transfer Process."

The original thought was to be able to reduce the overall contrast and density of the entire print by making a contact image through one of the matrices, then use this same image to transfer to

before actually transferring the image to a prepared sheet of Dye Transfer paper. The idea had little merit. No one that I knew of had ever tried the system. In fact, one of my early students sent out questionnaires to 100 Dye Transfer labs throughout the country and found that not only did the labs not use this technique but most thought that it was a waste of time to even consider it.

Here is how the system was supposed to work;

1. Place a sheet of unexposed matrix film, emulsion down, on the vacuum easel under the enlarger
2. Place an imaged sheet matrix film emulsion up, on register pins, also on the vacuum easel under the enlarger. The enlarger

will only be used as a light source. If necessary, make a simple "gasket system to make sure that good vacuum contact is obtained.

3. After making tests using small sheets of matrix film, make a full sheet exposure, process this sheet of exposed film in normal Kodak's A & B tanning developer and then dry it.
4. The trick here is to place the new matrix film on the transfer board, using register pins, and after dyeing the original matrix films in their own dye solutions, rinse the first color, (usually the Cyan) and then transfer it to the sheet of film already on the transfer board. Make sure that you time it.

5. Do this with all colors or with any one or two that you prefer. The amount of time spent in transferring the color to the new sheet of film will allow you to make the final print lighter or flatter, or both.

6. After the timed transfer to the new sheet of matrix film, remove the dyed sheet of matrix film, remove the receiver sheet, replace it with the prepared sheet of Dye Transfer paper, and continue to rinse and transfer the image in the normal fashion. Wash the receiver sheet and get it ready for the next color to be adjusted.

In some degree, this could be considered "masking." This technique can make a contrasty print less contrasty and lighter. I always felt that if my matrices were this poor, it would be easier and less time consuming to remake the matrices.

But a thought came to me. What if, instead of making a withdrawal sheet of the entire matrix, why not isolate the area in question, and make a frisket that could cover that specific area? No image reversal, but simply a complete area. This area alone could then be lightened,

without causing any change in contrast, but just the density.

Picture the possibilities:

A person wearing a black hat. The client calls and wants to know if you can change the black hat to a blue hat? Here is how.

With this new idea, place the imaged matrix film on register pins on a light box. Punch a sheet of Rubylith film. Place it over the sheet of matrix film. Using a sharp Exacto knife, score the image and peel away the area that is needed.

Then place this Rubylith image upside down on the vacuum easel.

Make a short exposure, using the enlarger as a light source only.

Process the matrix, and dry it.

Proceed to make the full set of transfers, using prepared Dye Transfer paper.

After the Cyan and Magenta have been transferred, and using a separate area for the withdrawal procedure, place this new matrix film on pins on the transfer board, emulsion up, and transfer the yellow matrix film. Time the transfer for 30 seconds, then remove the yellow matrix from the board, rinse it in 1% acid rinse, then transfer it to the paper sheet.

You will have removed some of the yellow dye.

The print will definitely look bluer.

After a few sessions with this system, it would be possible to correct any area for density and / color.

Is this a feasible method to use in a normal situation?

No. It is not.

But if you have just made a series of exposures in a multiple image set of matrices and find it too much trouble to make the entire job over when all that is needed is to correct one small area, then this is one method that works. I know, because I have used this technique many times.

Enlargers.

There are many different kinds of enlargers. The one that I grew up with was the Elwood. This old fashioned enlarger was designed in the early part of the century.

The light source was unique. It consisted of a large stainless steel polished interior dome. It produced a semi-condenser effect.

The images I have produced with this old enlarger have never been printed any better.

But the enlarger had it's faults as well as it's virtues. The body was made of cast aluminum.

It remained square forever. It was always true to the perpendicular and horizontal. It could be taken apart and mounted on the wall, instead of the old fashioned mount-

ing parts that sat on a table. The rack and pinion system for focusing and sizing was simple and reliable. The area for a film carrier could be easily modified to accept a pin registered carrier for the Dye Transfer process.

The only real drawback was the light source. It was ideal for the quality of the image, but extremely uneven. Ed Evans came up with a simple solution for making the light source even.

He removed the silvered dome from the enlarger. The materials in the light source path consisted of a sheet of ground glass, and a sheet of heat absorbing glass, sitting on little posts that raised them higher above the film plane.

He made two marks on the extreme edges of the ground glass.

Then he replaced the dome, and sized the image so that the two dots were the same size apart. 100% in size, exactly.

Then using reduced voltage, he made an exposure on Kodak's #33 glass plate negative material.

This was processed in Kodak's D 11 developer. After processing, the dome was again removed, and this new glass plate was registered with the ground glass. The two dots were used to place the images in the

correct place and position. An "X" was used in one corner and an "O" was used in the other. The dome was then replaced. This "masking" system reduced the unevenness considerably. We eventually had to replace the glass sheets as the heat caused them to turn brown, thereby causing more trouble than it was worth.

I eventually used an Aristo Grid lamp with a Vari Green color. This smoother and very even light source required a new set of numbers for my calculations. But it worked.

Where can these old work horses be found? Look into **Shutterbug magazine**. There are always a few of them offered for sale. The cost should be somewhere around \$400.

Compare that cost with any other enlarger.

Why do I like the 8x10 size? The larger the image before making matrices, the better. A 35mm or 120 size film would reproduce better if the image was first enlarged when making separations.

I have also written about the possibility of Kodak quitting the manufacture of the materials necessary for producing Dye Transfer prints. If you examine the materials that have been used, you will notice that

Kodak's dominance of the materials has been depleted.

The film used to make highlight masks are being produced by Agfa and Fuji.

I have used both and found them to be very acceptable. Pan Masking film is probably the only masking film that Kodak still produces that has a universal appeal. Even the making of Cibachrome prints require masking, and Pan Masking film is a proper film to use.

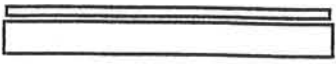
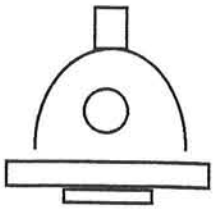
Ilford doesn't even mention any other kind of film to be used for contrast reduction. At one time in photographic history, Kodak produced different emulsions coated on glass. Their # 33 plate was universally used as a masking material. It was an orthochromatic emulsion and could not be used with transparencies, but with separation negatives, instead.

The separation material was also coated on glass plates. I used Kodak's Super Pan-chro Press emulsions. The advantage of using plates was found when placing the negative in the enlargers film carrier. No other glass was needed.

The plate would lie flat and as a result, had fewer surfaces to contend with, which allowed for cleaner prints.

I remember using a Kodak Acorn Safelight as the exposing light, and a simple

contact frame as the tool for getting sharp negatives.



The results were never great, but since none of us were that experienced, we looked pretty good. Today's emulsions are better, regardless of the film's manufacturer. The registration systems are better and can still be quite simple.

On of my students uses a separation system built into the glass. The results are very professional, indeed.

The use of sophisticated vacuum systems are fine, but not really necessary. A good contact frame, especially the kind that Condit Mfg. produces is really all that is needed for making great images.

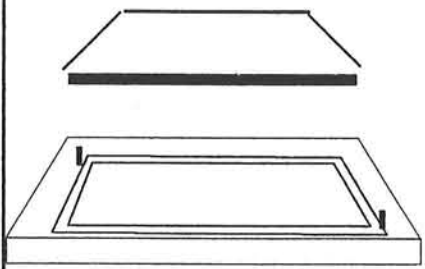
The problem with dirt and Newton rings are always present when using glass and pressure, and do present a problem during damp days, but on the average, the contact frame works fine. If you do own a Condit Vacuum frame and find that even though it is built to

handle two sheets of film, sometimes the middle of the sheet remains loose while the edge of the film is vacuumed tightly. The air between the two sheets is trapped. **Try this.**

Cut a piece of thick board and then place it in the space inside the frame and press it down tightly, before turning on the vacuum. The procedure will hold the two sheets of film without any air trapped between them.

The results will be sharp and tight.

Remember to remove the board before making the exposure



More important is the handling of any film.

Getting fine scratches on a sheet of film seems to happen without any help from anyone.

Let us examine the many places where scratches can and do occur.

Taking the film out of the box. Do you remove the film from the packing envelope, or no? If you leave the film in the packing bag, and must dig into it's innards in order to find the sheet of film, then drag it out of the envelope

and place it into another safe box, the chances are that the simple act of taking film from the envelope will cause minute scratches.

Maybe you remove the film from the envelope and place the film, and the cardboard protectors, into the box. This is fine, but when you remove one sheet of film from the box, do you slide the film out of the box? If you do, then you have created another place to produce scratches.

Perhaps if you first lifted the cardboard protector, and then **lifted** the sheet out of the box, you may reduce the chance of scratching.

The next step is to punch the film.

This simple act can also produce scratches. However, if you place a sheet of old film, processed or not, face down in the punch area, and tape it into place, emulsion down, and using double sided adhesive tape, the smooth surface of the film will not produce scratches.

The placing of the film into and out of the carrier must also be handled with care. Sometimes, the wrong approach to placing the film on pins will cause an out of register effect.

If you place one end on the punched film on a pin, and press it down to the bottom, the other hole will find difficulty in reaching the other

pin. Try placing them on the two pins at the same time and lowering them together. This action alone will save a re-registering job.

This is especially true for Cibachrome. If the mask doesn't fit properly because the pins are not being used correctly, then edge effects are possible in the print. This will be unacceptable, if you are serious about quality.

Let assume that you are planning to make a 16x20 Cibachrome print from a 35mm original. Masking is necessary.

If there is a hint of a scratch, or any other kind of imperfection, that could probably be unnoticed when working with a larger original image, it will be magnified and become a very obvious imperfection.

That is one of the why I once explained the method of processing called "float" processing. Using plenty of chemistry, I float the sheet of Pan Masking film emulsion up, into the tray without ever touching the bottom of the tray. I simply rock the tray from side to side and from front to back.

You may have to modify your processing times to accomodate this kind of agitation.

If more than one sheet is processed in the same tray, then place the sheets, in succession, face down, again making sure not to

touch the bottom of the tray. Handle the film as if your life depended on it. No scratches or marks of any kind must be tolerated.

When you place the mask and transparency into the film carrier, the fit must be perfect. However, the fact that two sheets of film and two sheets of glass are being used to hold this little 35mm transparency and it's mask in place, we wind up with 8 surfaces to contend with.

Do you think that you can produce a print with no dust spots? If you think that you can, then I would like to sell you a bridge in Brooklyn.

This is where the use of some sort of immersion oil is needed.

If you can eliminate the dirt from the mask and transparency, and the glass, the simple fact that an immersion oil is being used will help to seal the film sandwich between the two sheets of glass.

This is the first benefit. It will remain clean as long as the images were clean to begin with.

Every piece of film has little imperfections. **Every piece.** You may not notice them when examining the films with a 5 or 7 power loupe. However, when the prints are made to 16x20, this means that they have been magnified 16 times. I guarantee you that you will find

little specks and imperfections.

The immersion oil eliminates the imperfections by filling up the spaces with oil.

Simply keeping the top and bottom surfaces of the glass is all that will be necessary for producing clean prints.

A few more benefits occur when using an immersion oil. **No Newton rings.**

This is an important item to remember. No Newton rings ever again.

The most important benefit is the elimination of **refraction**. This is the phenomena that produces rainbow effects towards the outer edges of the image.

This is caused by the fact that light has to pass through two sheets of glass and bends during the trip. The use of the proper immersion oil will eliminate this from occurring.

Is this step necessary?

In my opinion, if you want to produce reproduction or gallery quality in your print work, then yes, it is necessary. What kind of special equipment is needed for this operation?

A film punch, and a registering Cibachrome film carrier. That's it.

Condit sells them both.

What kind of immersion oil can be used? It should have the same refraction index as the glass being used.

Some oils are the kinds that are used with microscopes, but they are difficult to clean

at clean-up time.

Castor oil is a fine product, but suffers from the same clean-up problems. It also softens the emulsion of the film, making it a distinct possibility to ruin your favorite image.

Some of the finest photographers in the world use a 35mm camera to produce their images. We made prints for people such as Irving Penn, Philippe Halsman, Reid Miles, and many other world class photographers. We used Silicon oil manufactured by Dow Corning, # 200, 100 viscosity.

This "oil" is easily removed from the transparency with film cleaner and it has no effect on the emulsion of the film.

I purchase my supply from "K A Anderson" in Santa Clara, CA.

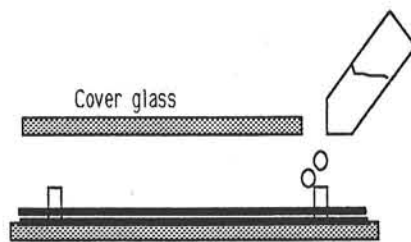
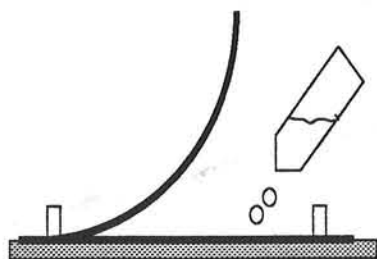
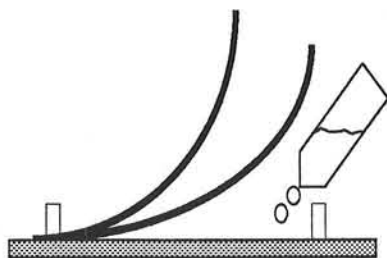
They will try to sell you a 55 gallon drum, as it is used primarily in electrical capacitors, but just ask for the one gallon size. Price is approx. \$80. It will last you quite some time.

One of my pet peeves is the lack of interest by some labs about what constitutes a "quality" image.

In some cases, as long as the print is free from scratches or specks of dust, it will be fine.

The idea that the image quality must be such that it will provoke a response from

a viewer is not nonsense. It is the whole reason for making remarkable images that stand the test of time. Ansel Adams's images will be with us for ever. Why? Because they are truly works of art. The fact that they are scratch free is also a necessity, but the image better be worth the trouble to keep clean. The ability to make prints is just as important as shooting the original.



I am currently working part time as a cross trainer with a lab that produces large Duratrans of images and colored lettering. The method that I use to process the litho films is "float processing."

The sheets of film must be clean, as they will be sometimes be enlarged to 40x60 when finally finished. The problem I have found is one of matching colors. I have been using the Peterson Make and Match system. It works wonders. But occasionally the processing of the internegatives, or the print processor go out of line and the results can be irritating.

One of the annoyances is the fact that every hotel that buys our work use many different kinds of light boxes for these Duratrans, and few of them match each other. As a result, we sometime make things over that should be the responsibility of the final buyer.

Don't let this happen to you. If necessary, carry a smaller light box with you and show the client a small sample of the colors that you plan to finally end up with on the sheet of film.

This has been the problem with color printing since the first print was produced. Light sources can be, and are, very different. I made it a practice to carry my own special light source, called the "Magic Box" to my clients.

It was a converted enlarger dichroic light source. I set the light source to resemble a 5000K box. Placed the transparency on the box, then adjusted it until the client liked what he saw.

Matching the color balance and the contrast was then a matter of technical accuracy. At least we knew what the client liked, sometimes.

For the past few months I have been examining my positions pertaining to all of the new methods of producing color prints.

The new digitized systems are here to stay. The new approach to making color prints is not a cheap approach, but a fairly costly one.

Has the new carbon systems regenerated new support for the "old" process? It has to some extent, but the high cost is only one of its problems.

Making a set of screened separation negatives is a risky business. The image must first be scanned. The eyes that do the scanning are not your eyes.

The feelings about contrast and color balance are not your feelings. In other words, the control of the process is not in your hands, yet.

However, if you find a scanner operator that has your best interest in mind and will make negatives over and over until you are satisfied that this set will work to your satisfaction, you will be fortunate.

The other alternative is to own your own scanner system and learn how to use it. This is an expensive alternative.

If anyone is interested in starting a company that specializes in making screened separation negatives for individuals that would like negatives made for them at a good price and with a high degree of accuracy. I wish them luck. The cost of such an investment is staggering.

One of my students has purchased the new Macintosh Quadra 900. He also purchased a removable disc so that once an image is scanned for him, the removable disc is sent to him for manipulation and correction. Then the disc is sent back to the scanner operator.

The options now are as follows;

1. Make a proof print via the match print system. Send it to the photographer for approval before making the screened negatives.
2. Make an Iris print and send this to the photographer for approval.
3. Make a small set of screened negatives for the photographer to make his own test print, before ordering the full size set of negatives.
4. Simply make a full set of screened separation negatives and hope for the best.

In other words, there is no cheap way to get into this exciting field.

On the other hand, eyes, hands, and brains are here to stay.

If you must make prints, for the time being, stick to tried and proven systems such as Dye Transfer and Cibachrome.

The materials are here and easy to obtain, and so are the processors.

I still feel that the new Carbon process is a great print process, but until you can afford it, keep making prints with the materials at hand.

The method that I teach in my Dye Transfer book and video is to be as scientific as possible when making the masks and charts and the separation negatives, but once these stages have been conquered, then your imagination can and will take over and force you to be a new kind of creative printer.

I believe that anyone that has pangs and emotional feelings when a beautiful scene is viewed, can make a beautiful photograph and print.

It is true, that most of us have poor ability to measure scenes or even tabletop images in order to create an image with composition and proper color balance.

But for the people that I have been associated with for almost 50 years I never ceased to be amazed.

The great ones were simply great.

Considering all of the many millions of photographs taken each year, how many of them are truly great works of art? This is why I teach the print systems . I know that some great photographers are out there. Some of my students have excellent prospects for gallery showings and possibly and book or two.

As you are aware. I have tried the Peterson system for producing colors in color negatives or transparencies. I have been making numerous color negatives that can be quite complicated. But I ran across a problem that almost had me buffaloed.

The image consisted of a group of lettering advertising a series of restaurants in one of the major hotels, here in Las Vegas.

The lettering wasn't difficult to separate, but the tough part was the lower right hand corner which consisted of a group of very colorful flowers.

Everthing had to be placed into a black background. How to silhouette the flower arrangement became critical.

I had been using Kodalith Ortho Type 3 to silhouette the rest of the images and colored lettering.

I decided to shoot a transparency of the flower arrangement, then using Panchromatic Litho film,

made isolation masks through each of the separation filters. These images were reversed onto Kodalith film by exposing each one separately onto the new receiver sheet. The result was a positive black image with full coverage. I simply made a reverse of this set of negatives and a newly silhouetted flower image was complete and finished the job.

I have also made exposures using separation filters, with such exposures as 20 red, 1 green and so on until I had every conceivable combination exposed. The results were incredible.

I have never seen such saturation before. I will definitely use this system in my new training work.

If any of you are using Kodak's replacement film for Kodalith Pan, called MP2, beware. One of my students has found a box that contains reversable film. Check with Kodak before ordering any.

During the last year, I was able to make screened separation negatives for a local magazine here in Las Vegas. I have been using Fuji Pan Litho Film called Fuji 100. It is excellent. However, the speed difference between the red and the blue filter is quite high. 6 seconds for the red filter and 165 for the blue.

The results wre not considered "art." The images were direct screened images so no contrast control was possible except for some flashing.

However. it taught me one thing. It is possible to make your own screened negatives if you wish to produce a color brochure. The only other piece of equipment needed, besides your enlarger, lenses, and meter, is a platemaker.

The Platemaker is an Ultra Violet light source that is needed to accomplish the hardning of the color sheet so that the unwanted areas can be washed off with the 3M developer.

These little gems can be bought for a very low price, used. With one of these, you could become involved in the new UltraStable color process.

The rest of the equipment is availabe in any hardware store. You must make your own dryer.

So, if you get the urge and don't mind spending some money and time, go for it. I will assist you in any way I can.

In the meantime, thanks for "Keeping Pace."

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