KEEPING PACE

A Monthly Newsletter Devoted to the Darkroom Arts

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Which way to go? And Why?

Photographic printing.
Which way to go? Digital or conventional? This dilemma has most of us confused. But since I have been selling my books on Dye Transfer and Cibachrome, I seem to get an earful of information that is hard to discount. Most of cannot afford to get an accurate digital system without mortgaging the house.
The feeling that I get is that most darkroom enthusiasts are still enthusiastic about doing their own thing.

This seemingly simple process of producing your own work is not that simple at all.
If you are a serious darkroom enthusiast, whether it be in black and white or in color, printing demands that you truly understand the differences in contrast control, density requirements, cleanliness, sharpness, and how to achieve an emotional impact.
The next time you visit a book store or a picture and frame shop in any mall in America, examine the books by Ansel Adams or any other great photographer. There must be hundreds of books available authored by photographer who's works are legend. How did these images come to life in a book? The answer is quite simple. Some one made the original prints that were eventually copied and turned into screened images ready for reproduction. Who was that some one?
This is part of the photographic business that I was involved in even before my getting involved with color. I worked as a black and white technician for a few companies in my youth. I learned from master printers. One 80 year old gentleman from Germany was my first instructor. A simple chore such as getting the developer ready for the days efforts was an eye opener. Mixing the different chemical components, one at a time, and waiting for each bit to be completely dissolved before adding the next batch on the list. It was almost a religious act. The amount of care that was necessary was never before explained to me. I learned about sticking to accuracy.

Then, I learned how to see. I would be asked to print many images in this company I worked for. It was one of the forerunners of the Image Bank. Many thousands of negatives were on file and they were pulled from their protective sleeves and placed into a bin next to my darkroom door with the instructions for size and corrections written on the envelope.

After printing thousands of images, using different grades of paper, I began to understand the importance of reaching the bottom most part of tonal scale of the image by making sure that the proper developing time was always met. Pulling the sheet of paper out of the developer tray before it's time was up was considered very wrong.
The photographic artists of yesteryear never did that. They made sure that the exposure time was correct and that the developing time was fixed.

The contrast was relatively simple to achieve. All black and white papers came in different grades. Your eye soon told you if you had the correct paper or not. Choosing the correct grade was soon learned. When the first variable paper was introduced to the world (Varigam) it was almost a boon to the darkroom worker. This paper was exposed through a colored filter, much in the same vein as it is now. However, a set of contrast correction filters were produced for the act of contrast choice, but they were designed to be placed under the lens, the worst place for any kind of filter to be placed.
I learned how to dodge and burn with much accuracy.
Of course, the aim for any "company" involved with making prints for the public, or even for professionals, is to make money.

How do they make money? You would think that the first thing they did was to make sure that the chemicals were fresh, and that the perfect paper grade was chosen. The company that I worked for did just that. Quality was their first aim and intent. But most firms want to make money and if it means short cutting something somewhere, the short cutting will take place.
However, we are not concerned with "companies." We must be concerned with our own abilities and honest working habits.
The first thing on a list of necessities is an enlarger. What kind of enlarger to get? Should it be a diffusion system or a condenser system?
Must it be autofocus or not? What size film will it accept? What kind of lens should be purchased? Spending money on purchasing an enlarger need not bankrupt you.
Are these silly questions? Not on your life. I get them all the time. Some people can afford the best and get the best. Some people cannot afford the best and still get the best. How is this done? Not with mirrors. Take my case.
In New York City, I purchased a 5x7 Elwood for about $100. I used it to make black and white prints of 4x5 wedding pictures that I shot on Saturdays and Sundays.
The enlarger was far from being even. I had to modify this particular enlarger because it was the most uneven enlarger ever produced. I made all kinds of light heads and eventually eliminated the original dome that came with the unit. I finally was able to produce a flat even light source without any hot spots.

I later purchased a surplus Navy Omega D2 which I used for 50 years. My original darkroom was in my attic. Hot? And how.
But I processed the films in a chilled tray and made very good prints with minimal equipment. I forget what kind of lenses I used, but weren't all lenses the same? I quickly learned about quality lenses.

This brings me to today. What kind of prints are being made today?
The parade of electronic printers is mind boggling. However, in order to use an electronic color printer, your image must first be scanned and fed into your work-station.
The steps involved are many and replace the "hands on" approach.
We begin with the scanner, brought to a work station,

and at this point, photo retouching, restoration, removal of blemishes or backgrounds, replacing, recoloring, editing, merging photos, adding text or graphics, and finally recreating new images as transparencies or color negatives, and finally, making color prints. All this without getting your hands wet.

Let us begin with the scanner. Should it be a reflective kind, or transmissive? Positive or negative? Color? Black and white?
Some companies, including Kodak, have low priced scanners for work from 35mm originals. These are not costly.
Isomet offers an upscale scanner, at a higher price. So does Imapro, and Agfa's Wing. The prices for the low end scanners begin at around $700 and go up to about $25,000. The drum scanner is considered more accurate than a flat bed scanner. The prices for drum scanners run from $30,00 to well over $100,000. Scitex, the worlds leader in quality scanners include among their scanners, a 30x40 flat bed scanner for reproducing paintings and other works of art. The Crosfield scanner is another high end unit that costs around $100,000.
Are you prepared for this? Your darkroom enlarger can be obtained, used, for around $400. Adding a good lens for a little more. Even with the necessary registration equipment from Condit Mfg. the cost for all your needs, need not exceed $1,000.
Wait, we are just beginning. The next step of course, is a work station.
A modest investment of $12,000 can give you all the tools you need to be able to dodge and burn and recreate the world. Learning how to play with this part of the process is the heart of the whole electronic world. The scanners, for the most part, simply put your image on a screen. The more money spent on the scanner, the more accurate will be your screen image.
But the work station is the critical part of the process. Every manufacturer of processing equipment, such as Colenta, Hope, and all of the other giants in the processing world have gotten involved with putting together programs and equipment, much like assembling your own Hi-Fi set from various components. Now that we finally own a scanner and a work station we turn to the final output.
Do we want a color print? Or a new transparency? Or a new color negative? The choices are here.
There are at least 20 printers that could be used to produce color prints. How good are they?
Don't take my word for it. Here are some facts.
For $6,000 a little gem can produce images using a thermal wax system images up to 8 1/2 x 11 inches. The quality is low end.
The same company makes a unit that sells for $8,000. The only difference is that it prints up to 11x17. Same poor quality.
The lowest priced unit sells for $900. The quality is not acceptable. Compare this price with your enlarger.

The better machines sell for considerably more. They use Dye Sublimation techniques. These printers do a better job than most printers.

Then we have the ink jet family. Iris is one of them. The results are amazing. So is the price. Around $20,000 for the small size systems. Compare this quality and price with the enlarger of your choice. Nash Editions in Los Angeles has 2 large Iris printers and turns out great work. Unfortunately, the prints won't last for more than two years. The investment here is well over $1,000,000.

Next on the list of printers is the solid ink systems. Little sticks of color are heated and melted, then sprayed through tiny nozzles onto the page. The Wax cools quickly .Finally, we have the laser printers.

These printers are great, but are mainly used by fast print shops for making color copies of your original image.
Even Zerox has a big 40 inch wide machine that will take your computer image and produce a large poster size print.
So does LaserMaster and a few other newcomers into this remarkable field.
In Las Vegas, there are over 200 casinos. They all use colored posters either as prints or backlit transparencies. The use of digitized imagery is here to stay.

Litho shops have sold their great enlargers and densitometers and have all jumped into the frenzy of image manipulation. If you are looking for a place to find bargains in equipment, look into the graphic arts suppliers for used equipment.

Where does this leave the average guy or gal that simply wants to produce great art with his or her own skills and emotional tendencies?
I feel that the time for great photographic art has been here for quite some time now, and is here to stay.
There will always be room for the fine art digitized companies.
There are only a few such companies in America. The top of the line is EverColor, followed by UltraStable and Nash Editions.
Their work is extremely fine and will easily fall into the category of fine art production companies.
Their investment is substantial, and has been spent only for the fine art field.
They have steadfastly refused to get involved with the commercial field. Their list of clients is growing every day.
But for the average enthusiast, working in your own darkroom is a high that cannot be easily duplicated.
The question is this. Do you want to make your own prints, or would you rather send your transparencies out to a service company that can produce the prints for you?

If you decide to do your own thing, and build your own darkroom and go through the learning time, you will learn how to manipulate and adjust contrasts between colors and how to isolate a specific color for improvement.
The world of creativity is yours. Your print will be yours alone. No one else can match it.
It all boils down to being creative.
This is why my involvement in the resurrection of the Dye Transfer process is so important to me.
Some of my former students have been turning out great images and have their work hanging in galleries around the world.
The future of any print process is in the hands of the photographic artist.

Luke Powell, is a master landscape photographer. He still makes his own Dye Transfer prints. He has enough Dye Transfer material to last for a spell. He, like John Wawrzonek of Boston, has a backlog of images on matrix film and when the need arises, pulls a few more prints and gets them ready for shipment.
The world of creating your special images is still with us.
If you are a commercial lab, then the only choice for survival is to get involved with the digitized world as quickly as possible.
Some of the best Dye Transfer labs in the world have closed down simply because they relied on the ad agencies for their livelihood, instead of the fine art photographer. Two such labs that have succeeded in staying alive because of their love for the fine art field are CVI labs in New York, and my old buddies at Frog Prince labs in San Francisco. Their devotion to the art of fine color printing has not wavered at all in the past 20 years or more.

Years ago, one of my competitors was Don Browning.

He specialized in making prints from 35mm. His prints were great. Unfortunately, he passed away many years ago, but his wife Helen has been able to save the matrices and has pulled prints for many years. However, she has decided to retire. She has a backlog of Dye Transfer paper that has not been seen for almost 40 years. "G "surface, a beautiful slightly pebbly mat surface and "A" surface Dye Transfer paper, a very flat paper. This paper is great for portraits. If you are interested in getting a supply of some rare surfaced paper call her at 516-671-5252.

The point of this newsletter is to explore the different attitudes and procedures facing us today.

On the one hand, we have the "hand's on" approach to producing fine photographic art.
On the other hand, we have the latest electronic invasion of the photographic field.
We have all been bombarded with advertising that virtually eliminates the darkroom as a place of invention and enjoyment and has replaced it with the new sterile environment that looks more like a dentists office than a lab.
Creativity has not been driven out of existence but the new digitized systems have altered (probably forever) some methods of producing an image on paper.

When making a color print, whether it be a Cibachrome or a Dye transfer, the understanding of the relationship between the curve shapes and the accuracy in making a print that resembles the original transparency becomes very important.

In order to make a great print by hand, one must be aware of all of the pitfalls that stand in the way of a creative artist. The work is more of eliminating errors than anything else.

The professional print maker realizes that the **curve shape of the original image** will be distorted unless something is done to prevent this from happening. We must have proper exposures and processing, so that the shape of the curve is kept as close to it's original shape as possible.
Masking the original is another approach to perfection.
The average computer hacker is happy that he is able to place an image through his equipment and end up with a print.

Of course, no darkroom is needed, but have you taken a good look at the final results that the electronic printer can produce?
With very few exceptions the hand's on approach delivers much more quality.
Most computer operators have never made a professional print by hand. They have little knowledge about curve shapes or what a specific kind of mask is capable of producing.
The word "gamma" is a mystery to them.

There are exceptions to this view.
EverColor is the one lab that can use digitized information and produce a spectacular print. Why?
Because, the founder of the company, Bill Nordstrom is a master printer. He has worked at the lab level and is aware of all of the pitfalls of making quality color prints.
When he uses a computer, he knows what he is doing.
The cost of his operation places it out of reach for most of us. But the price for his services are much lower than getting a Dye Transfer print made by a quality lab.
So, for those who would rather have a master printer do the work, the prints that EverColor produces are just great.
Another such operation is Graham Nash and his Nash Editions in Los Angeles.
Nash has purchased large flat bed scanners and uses two large model Iris printers to produce magnificent works of art.

He also uses a computer to make his adjustments in contrast and color balance, but again, this cost of his operation is beyond the pocketbook of most of us. **Remember, the prints are not archival.**

As you can surmise, I am in favor of keeping the "hand's on" approach alive as long as I can.
I will continue to promote the Cibachrome process and the newly re-born Dye Transfer process. The galleries are full of great works of art, some of which have been produced by my former students.
When a Dye Transfer print is produced, there are so many places where one can stop to reflect on the work done so far, before proceeding to the next step. This to me, is a great advantage. Speed is not the requirement for making great prints, but instead, accuracy and creativity.
What do I mean by **"great prints?"**
A good print is any print that moves the viewer. A fine print is one that moves a group of people. A great print is one that is recorded in historical displays, galleries, museums and books. How many people and their works fall into that category? Very few.

As many of you must know, I have associated with the greats in this photographic world. I have seen their images before they were transformed by a professional print maker. I believe that the photographic work is a two edged sword. First comes the camera image. This is the most important part of the process. Without the great image, any print is worthless.
But the printer must match or surpass the ability of the photographer, otherwise, just simply send the transparency to the nearest drug store and get a set of 3x5 prints and be done with it.
I believe that we must understand all of the various methods of producing great prints. There will be times when a darkroom enthusiast will become disappointed with the results of his labor. We all have gone through that.
This is really a good thing. It shows that this person is a perfectionist and wants only the best image he can conjure up.

The next time you see an Ansel Adams print, look at it closely. Is it clean? It most certainly is.
Does it have a dramatic and dynamic contrast balance? And how.
Believe me, this image didn't just come from producing a straight print. It came from a series of interesting steps called dodging and burning, chemical manipulation and toning. You didn't know that?

Most of the photo magazines have been digitized for quite a long time. All of the reproductions have been scanned and reproduced with the latest electronic devices. However, only a small handful have "stuck to their guns" and have promoted the hand's on systems.
One such magazine, "Darkroom and Creative Camera" has seen fit to print a review of my Cibachrome book and Video in their Sept. /Oct. issue. I say thanks to them.

The latest news form Kodak is that they are discontinuing the production of the famous film, Super XX.
I can't believe it.
I believe that Kodak is getting out of the film market, except for money makers such as Kodachrome and Ektachrome.
However, there are other manufacturers that can produce quality panchromatic continuous tone films for separation negatives. Incidentally, at one time there were about 90 Dye Transfer service companies in existence in the U.S. I can't find more than 6 at this time.

Most of the labs that resisted getting involved with the digitized world have succumbed.

Remember, the need for Dye Transfer prints was mainly in the advertising community. Great prints were required so that they could be retouched to perfection before reproduction. Since the advent of the digitized systems, this need is no longer present.

The future of the Cibachrome and the Dye Transfer business and even the "hand's on" pigment color fields, therefore, is in the hands of the art photographers.
I an going to see Rene Pauli this coming month. I will try to induce him to reveal some of the techniques that he uses to produce some very exciting "Carbro" prints.
His work is catching on and is selling quite well.

His technique is rather involved. His long association and experience with Peterson Color labs in New York has enabled him to devise a method of making enlarged separation negatives, including all of the built in masks for contrast, color correction and highlight restructuring.
These negatives are made to the actual size of the print.
I don't really know what he does, but if I were doing it, here is my method.
First of all I would run tests on my enlarger to find out what the correct level of contrast is. Once I determine this fact, then I can proceed to make the masks required to reach this desired degree of contrast in the combined mask and transparency. (Emulsion to emulsion)
I then place the transparency and mask in to the enlarger carrier, with the transparency emulsion up and the mask emulsion down, size up the image, read the highlight levels for accuracy in setting my *f* stop where it belongs and exposing the images on Kodak's Separation film, # 1.

Processing can take place in large trays, one at a time to keep the processing as smooth as possible, or if you already have a Jobo processor, use it instead.
Remember, all of the masks for contrast and highlight restoration must be made by contact to the original transparency. All you should have to end up with are three large separation negatives.
The reason for placing the transparency emulsion up is because the image on the easel must also be emulsion up and eventually used emulsion down to make the pigment sheets.
(Figure it out.)

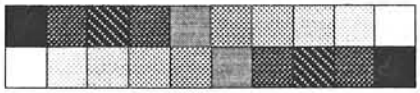
The separation negatives need not be screened. But they certainly must be accurate.

The production of the pigment sheets is the one thing I will grill Rene about when I see him. He does this in his kitchen, so it can not be an impossible task.
His colors are purchased from an art supply store. He uses Winsdor Newton water color pigments.
I am not sure, but I'll bet he uses a simple formula such as Knox gelatin.
The results that Rene achieves are amazing. The third dimensional relief image is outstanding.
The two top colors, the Cyan and the Magenta are transparent and the colors are quite accurate. I don't know what the longevity is, but I can guess that it is very archival.
I will ask many questions and perhaps I can get him to reveal some of his thoughts and secrets.

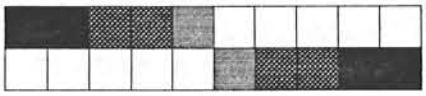
Galleries are always looking for Cibachrome prints, Dye Transfer prints and Carbro prints.
However, it is a good idea to have some sort of theme when presenting your work to a gallery owner.
Make at least 15 prints 16 x 20 in size.
Some of the best places to consider for showing your work is at a gallery in a resort area.
Photo's of any resort area will sell more easily because people want to be reminded of where they were.

If you wanrt to make your own assemblies of pigment images, you must have some inexpensive equipment in order to do so.
The first requirement is a platemaker or some method of using an ultra violet light source for producing the correct exposures.
An intergrator is a special device that measures the light output so that you will neither over or under expose the pigment sheets.
It takes the place of a timer.

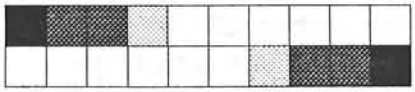
The sink size is just big enough to hold the trays that are required for the soaking and washing down of the pigment sheets.
A register punch and transfer board with a built in pin system is a necessity.
A simple Dye Transfer roller is also required.
Plenty of hot water and a drying area for drying each stage of the process. It should be dust free.
The room can be lighted using yellow "bug" bulbs. Plenty of light and your images will still be protected from any fogging light source.
Care must be taken not to use a water softener as the pigments will not harden sufficiently and the image won't stick to the receiver sheet.
Pigments can be purchased from Chas. Berger and it is possible to expose your enlarged separation negatives. However, a procedure for finding the correct exposure for each color is not that simple.
One method is to find the correct level for a grey scale for each color.This is done by purchasing two 21 step grey dcales and placing them in opposing positions.



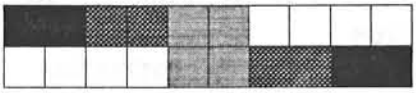
Then make a series of exposures to each color to achieve the following look.



If the exposure is too short it will look like this.



If the exposure is too long it will look like this.



Rember to make a test for each color to find the exposure time for the color.
The next step is to find the correct exposure for the cyan image.
Make test cyan exposure and compare it to the transparency looking at both through a red (29) filter.
When you find the right level of exposure, a simple reading of a neutral area in the image will give you the differences in exposures for the other colors.

An example:

Suppose the correct ratio of exposures for the cyan, magenta and yellow pigments are 10,15 and 20 seconds.
If you find the correct level of exposure for the cyan is 12 seconds, the correct exposure for the magenta would be 18 and the yellow would be 24.

Any further corrections could be made after the first test. I usually work using cc correction. If the image needs 10 more of any color I use .10 and my log scale on my TI 30 calculator to find the new times. Percentages also work. It takes a little practice to get used to any new approach.

Remember, this set of exposures is only good for one print. Other variables may interfere with making a repeat set of images.

If you try this, let me know of your results.

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