

KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

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Which is Better, Scanner or Optical?

Have you noticed the clarity of a reproduction from a scanned transparency when compared to a print made via the normal and standard negative enlargement?

The reason for this clarity is the fact that we have had to use optics ever since the enlarger was invented.

All images, no matter how contrasty or flat will exhibit some form of loss in the shadow areas when making an enlarged print from a negative, or in the highlight areas when making an enlargement from a transparency. **Flare** is the reason. Remember, the scanner is an extremely sharp light source directed to a very small area, and virtually produces a contact print, regardless of the size of the final image.

The revolving drum moves at a fairly fast speed, but the stylus that encases the light

source moves very slowly across the film plane and by comparison, will take a longer period of time for a top quality scan. A fast scan can also be made but at the expense of the quality of the final image.

The important thing to remember is that we can play around with masking and development changes and alter the image to a certain degree, but not as easily as does the scanner.

Perhaps you may remember one of my early articles about restoring the shadow punch and highlight separation to an image that had been copied and re-copied too many times, until the image had little detail in the shadows or in the separated highlight areas.

I had to actually make a positive image by contact, on a contrasty film such as Kodalith Film, Type 3.

I processed the film in a weak developer such as 20cc of HC-110 developer concentrate per liter of water and developed with continuous agitation for about 2 minutes. The exposure had to be kept short so that the middle tones and highlight areas would not appear. Just the shadow areas were needed.

I then reversed this image by contact onto the same film, with enough exposure so that the top 3/4 of the image would remain solid and just the shadows were open.

This open shadowed negative could be used to increase the amount of tone in the dark areas, and still keep a photographic look.

The highlight areas were re-enforced by making a very deep and strong positive, again on the same Kodalith film. This time we used the

deep positive so that we could make an exposure by contact but so short that the details in the highlight areas were gone.

All of these corrections are easily understood, but making the masks is not an easy task, however, if you have perseverance, anything is possible.

When I began making professional color prints, I worked for the best lab at that time, in New York City, called **Evans and Peterson**. We copied much art work for commercial purposes and found that the problems associated with the method that we used was not accurate enough.

Remember, masking was a necessity, if we wanted to get an image that was close enough in color and contrast to the original to be accepted by a fastidious advertising art director.

However, when making copies through the camera, using a set of pins so that the image could be pre-masked, the shadows would easily be opened up, at the expense of the highlight areas. We could easily make a contrast reducing **post mask**, but in doing so, we would make the shadow areas too flat.

Evans had an idea. Why not make a set of color separation negatives without pre-masking, then make a set of contact separated positives

on Kodalith film but exposed in such a way that only the extreme shadows were visible in the positives.

Then place each of these masks with the proper negative, and make a set of principal masks using the positives to expose through.

This would allow one to open the dark areas without touching the very deep blacks.

Did this process work? And how.

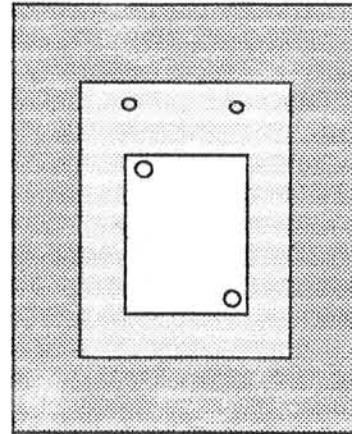
But you had to be very accurate with the chosen densities otherwise distortion would occur.

I personally have made many hundreds of copies of paintings using a graphic arts camera. We used a Brown Commodore 30x40 model. My technique was to first establish the proper exposures for the negatives. This meant that I had to copy a grey scale and find the correct exposure times for each filter, as well as the correct developing time to find the correct gamma.

Once these times were established, I made principal masks by placing the 10x12 sheets of Pan Masking film on the camera back, over a spacer sheet, and exposed the image through the base of the masking film. I used a set of register pins that were made solely for this purpose. (See diagram)

Then I would remove the spacer from the camera back, place the 8x10 Super XX film on it's own set of

pins, turn on the vacuum system, retract the 8x10 pins, and place the mask on it's own pins.



The vacuum would pull all of the elements together and make a very tight fit.

I then exposed the image through it's correct filter and through all of the films. This produced a set of negatives with all the details in the entire curve shape of the film.

Post- masking and pre-masking.

This simply means that you either make the contrast masks **before** making the final separation negatives, or you make the contrast masks **after** the negatives are made.

You actually have a clear choice of whether to pre-mask, or post- mask. **It depends on the original art work.**

Most illustrations or paintings that have full densities need pre-masking. However, light and delicate images need post masking. This is **because** if the light

areas are masked, the detail will be lost and no amount of highlight masking will ever bring it back.

Using the post masking method means that the mask will not pick up any details in the highlight areas and as a result, this will not flatten the details in the highlight areas and will therefore, preserve the highlight detail.

The shadows however, will suffer unless you use the trick that Ed Evans thought up.

This system can also work with black and white printing

Most of us shoot with Ektachrome film or Fuji film which use the E-6 chemistry. Do you send your film out to be processed?

There are a few processors available today that are small enough to hide under the kitchen sink and will do a better job for you than most labs. This is **because you will be using one shot chemistry.**

Any system that requires one to add replenisher to the chemicals cannot be as accurate as fresh chemistry used once and then discarded. A few systems are as follows:

Jobo has one of the best systems around because it is so versatile. One can process any kind of film or print with very accurate repeatability.

The new Arkay film processor and others that look like it, allows one to make different chemical runs in rapid succession.

Every system should have it's wash water supply temperature controlled

If the temperature fluctuates to much in the first wash, the film's color balance will be affected.

Too cold a first wash will produce a colder tone and too warm a wash will affect the image by adding warmth to the transparency.

If you are serious about doing some of the photographic processing, then an investment in a film and print processor can be made without going to the poor house.

I would recommend an **Arkay** processor for processing the film, whether it be color negative or color positive

.I also recommend Ilford's new ICP 42 Cibachrome processor.

If you are intent on doing Dye Transfer, then just use the film processor for your own transparencies.

I have received calls from students and subscribers asking about tray processing, and why can't they get even processing.

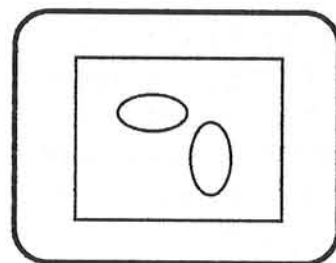
They ask, "How does one get even processing when working in a tray?"

The procedure is a little

different than most would imagine. The answer is that you must understand what happens to a sheet of film when it is in the tray.

Try this test.

Take one 8x10 sheet of clear film and plop in into an 8x10 tray of water and look at it. There will be bubbles all over the place.



If you work slowly, and you might when you have three sheets of film to contend with, the bubbles that are trapped under the film will cause unevenness, even though they do move around.

The trick is to slide the film into the tray so that no bubbles appear.



Try this with one sheet, and if you are successful, try it with two sheets. Eventually, you will get the hang of it and will be able to handle three sheets with ease.

Certain films are more susceptible to being uneven than others.

Kodak's Separation # 1 or #2 films were made for machine processing such as with a Versamat, (\$35,000.)

I once decided to use Kodak's Separation # 1 for separation negatives developed in a tray.

The transparency was of an image from Max Factor and consisted of a few white powder boxes and white powder puffs, shot against a white background.

A very difficult image to hold without getting wedging. (Color unevenness.)

I thought that I did a great job of making separation negatives, but was shattered when the proofs showed a very unevenly developed set of images.

I switched back to my favorite film, Kodak's Super XX..

I have used Kodak's Super XX for almost 50 years and have found it to be sharp enough, very easy to process in a tray and has a very well distributed color balance range. It is user friendly.

Most of my separation negatives were enlarged to fit my 8x10 Elwood or Durst systems. I made my negatives fit the 8x10 format and as a result, the grain of the original was almost invisible. The cost of a Durst 8x10 enlarger without a color head is somewhere around \$20,000.

The cost of a used Elwood is

around \$500.

Throw away the light head and buy one from Aristo, in Long Island, NY. Ask for the white light color corrected head and build in your own filter drawer, using drop in Kodak's color correction (CC) 12x12 filters. All you will need is the 5, 10, 20, 40, 40, of Cyan, Magenta and Yellow filters. In this way you can have filtration in .05 increments from .05 to 115. of each color.

The resulting prints from either enlarger will make it almost impossible to determine which enlarger made which prints.

I recently spoke to Frank McLaughlin, formerly the head of the Kodak Dye Transfer Division in Rochester, N.Y.

He was forced to resign a few years ago when Kodak was trimming their staffs. Murray Patten took Frank's place, and now, he too is gone. The company seems to be wanting to get rid of any process or product that isn't a million dollar money-maker. Dye Transfer is on the list.

However, as I have said many times in the past, National Graphics can produce the Matrix film and even the dyes. I understand that Dr. Goldberg, formerly with the Technicolor Co. of Hollywood, may give the Technicolor dye formulas to National Graphic. The tech-

nique for handling the film, as well as it's chemical developing formula for processing the film may also be included.

The original Technicolor dyes had a more true Cyan dye than the Kodak dye ever did, and all the colors are thought to have an even longer life than the current Kodak dye set.

One look at an old Technicolor movie that was produced in their early days will prove that the dyes do have a very long life.

The new photo marketing show in New York City is focusing on the new digitizing systems rather than on the conventional darkroom equipment. This makes me rather sad, but one must keep up with the progress of the new inventions or be lost in the shuffle.

The main market for the Dye Transfer and Cibachrome processes will be in the hands of the individual artist. The days of large Dye Transfer labs that cater to the whim of the advertising agency is about finished. My old competitors and friends that I have worked with for many years are losing the dye business and have had to convert their systems to making Large C prints for point of purchase displays, or salesman's samples.

The field of photo composition is still here and in great

demand, especially in Las Vegas, because of the constant demand for dazzling colors and bright lettering displays.

The knowledge needed for this kind of activity is still scarce, even in Las Vegas, where one would expect the field to be more competent. But the scanner and the workstation are creeping into the scene and will soon take over this last commercial stronghold.

Imagine one person sitting at a computer, making the layout for the eventual 30x40 poster, and choosing the type font from hundreds of choices, making the layout and choosing the various colors and matching them to a Pantone color chart, then outputting the entire assembly to a number of choices. The first would be an **Iris print**, which could be used as a proof print to show the client for approval. The second choice could be the production of a color transparency by bringing the saved image on a removable disc to a service company that uses a film recorder. (Up to 8x10) The third choice is to use the same film recorder to produce a color negative for further printing by a lab for producing either a Kodak Duraflex or Duratrans print. The final choice would be directly to a film service company where the image could be printed onto a set

of screened, color separated films, ready for the press.

The **Iris print** is a proofing system that the scanner companies use to show their clients a proof of their work before the work was committed to any of the aforementioned methods of completion, but a few enterprising individuals have made this machine into a producer of fine art prints. Graham Nash, of the famous musical group, "Crosby, Stills and Nash," is an avid photographic collector and quite a good photographer himself. He has purchased the larger model of the Iris printer and is making large art images on fine art paper and is exhibiting them and selling them through the Susan Spiritus Galleries. I heard that the prices are quite high.

The Iris printer can produce the image on a number of surfaces, including fixed out photographic papers, water-color paper, and many others.

Ray DeMoulin, of Kodak, feels that the Digitizing systems and the familiar Silver Halide methods will help photographic labs serve their clients better. He feels that the superiority of the film image, combined with the electronic ability to change and manipulate the final image will be the driving force for many years to come. I hope he is right.

Kodak has already introduced a color desktop scanner that includes color enhancement capabilities and options such as editing, and transmission to any place in the world in a matter of minutes.

In fact, the new camera back disc systems that fits the Nikon F3 35mm camera is available and is being used by photojournalists. Here in Las Vegas, a ringside photojournalist took shots during one of the many fights at the big hotels. After the bout was over, he inserted the disc into a monitor. He then chose the pictures he liked best and using a cellular telephone, transmitted the images by modem to his office in New York City, in minutes. The picture was ready for publication in minutes.

Quality? maybe not great, but I am sure that eventually this problem of quality will also be resolved.

The current amount of pixels that can be captured from a 35mm transparency is about 350,000. The average 35mm Kodachrome transparency has the equivalent of 1.5 million pixels.

The price difference is also coming down rather quickly.

The eventual goal of the scanner and workstation companies is the fast printer such as P.I.P. Desktop publishing will grow.

It is possible at this present time for computer operators to produce an image and send it directly to a fast service printer for a short run of 500 color sheets.

If any one tried to have a 500 run made, the cost for the pre-press and press preparations is rather high. It almost costs as much for 500 sheets as it does for 1500 sheets. In the near future it will be possible to send the image directly to the fast printer and produce printing plates with virtually no environmental problems. If you were not aware of this, making plates produces toxic waste.

Another problem which is being addressed is the fact that the new flatbed scanners are still short when it comes to quality. The high cost drum scanners still produce the finer image, but the difference is closing rapidly.

Soon the rapid printers will be installing pre-press systems so that they can compete with the large printers. The events are unfolding as we write this newsletter.

This brings me back to the three systems that will be the most valuable to the fine art printer, the Dye Transfer, The Cibachrome and the UltraStable processes. The individual that wants to make his or her own prints can do so with the knowledge that the fine art photo

is here to stay.

The art buyer is not apt to spend money on any mechanical process, but rather he will still demand the kind of quality that only a human being can invent.

The works of the old masters in photography will always be in demand. The reason for this is simple. The quality of their work is viewed upon in the same way that the old master were. They used their heads and their hands.

The works of some of my students have already approached that of the most famous. Some have surpassed them.

My most favorite subject is that of film size.

It is true that the larger the camera and lens, the better the definition. But is that all there is to photography? I don't think so.

Some of the great 35mm images produce by Galen Rowell, Reid Miles. Art Kane, and many others produce images that move you. This is art.

If the larger cameras could capture the fleeting images as easily as the 35mm camera, then you would see much more use of the large format systems.

If you notice, almost all of the images captured with the large format cameras are of landscape or tabletop scenes. Some are portraits, but most are of inanimate

objects. In fact, the larger of the small cameras are used in a similar fashion as the 35mm cameras.

There are time when the use of a tripod is not possible or necessary. The fact that a small camera cannot use swings and tilts the way a view camera does, does not change the fact that a small image that is well printed can have the same impact as any large camera.

The famous billboards that feature the Marlboro man is an example of what I am trying to say. The degree of sharpness and detail may not be as sharp as a landscape shot with an 11x14 camera, but the impact of the intimate image is still impressive.

I am not downgrading the large camera, instead, I am coming to the defense of the small camera.

Photography is sometimes a study of the photographer. I made many prints for the great photographer Tom Kelley. His images reflected his personality and his quest for impact. I never saw a photo by Tom Kelley that was static. His food shots could be hung in any museum. They were that outstanding.

Some of the the images I made for Voque magazine were shot by Richard Avedon. I only met him once, but made many prints from his transparencies.

His images are sometimes stoic and do reflect the kind of person he is. He doesn't think out loud, but he is always thinking of the image and what he is trying to portray.

The finest portrait photographer that I had the pleasure of working with very closely, was Phillippe Halsman.

He once told me that the soul of every person is there to be captured. Some are easy to capture, but some are almost imposible.

He told me a story of shooting portraits of the famous Edward Steichen for a Polaroid Camera ad. Knowing what a rough time he was about to have with an almost impossble model, he tricked Mr. Steichen.

He shot for over two hours and said that he was finished. The finally relaxed Mr Steichen sat down on the couch next to Phillippe. Then Phillippe showed Mr. Steichen a new Polaroid camera and was in the act of explaining how it worked, and how it made a useable negative as well as a print, and then suddenly said, "hold it a second, I want to show you the resulting image." With this staement, he "grabbed" a quick shot of his unaware model. The strobe lights were already positioned. One shot. That was all that it took.

The inquisitive expression on Mr. Steichen's face did it.

Halsman had a gift with getting people to do what he wanted. The sizes of his films differed. Sometimes they were on 35mm, sometimes they were 4x5. It didn't matter. The image was all he was interested in.

He was certainly interested in sharpness. He made his own bench tests of any lens before he would buy it.

Speaking of sharpness, the images created by Reid Miles, a California commercial photographer, were about the sharpest things I have ever seen. They were shot with a Nikon.

Ernst Hass shot most of his images with a 35mm system. I think it would have been impossible to get the same impact with a larger format. Ernst used his imagination and made some remarkable images by sometimes moving his camera and always finding some incredible images to capture.

What do you want to do with a camera? Are you interested in landscape images, or in people? Elliot Porter's work reminds me of Mozart. He was so prolific. The images that he created were simply beautiful. He concentrated on intimate natural objects, not the grand landscapes that Ansel Adams envisioned.

Elliot Porter has earned his place in photographic history and his work will be seen for many years to come. The Dyes used in Dye Transfer have a very long life.

Some of the names that will be creating a stir in the field of art color photography are just beginning to be mentioned.

If you get the chance to visit San Francisco, visit the many photographic galleries that this city has to offer. If you are in Carmel or Monterey, Ca. visit the "Friends of Photography" galleries. The images will astound you.

Some of the artists that I know are working in the construction industry in order to keep food on the table. But their dedication to this field of art is overpowering. Their work shows it.

If you are currently making Cibachrome prints, or Dye Transfer prints, you owe it to yourself to visit a photographic gallery and find out whether or not you have the ability to capture an audice.

Some new names to be reckoned with are Verne Clevenger, Steve Solinsky, Clinton Smith, Steve Nelson, and many others. The main thing they all have in common is "imagination."

This is the common ingredient that all fine artists possess.

Does one need to have color in a layout in order to produce color in a print? No. Not at all.

Many years ago, I worked with a very interesting art director named Bob Abel. This is the gentleman that produced the very impressive advertisements for 7-Up and Levi's.

He began with an idea for a layout. He placed white lettering on a sheet of black paper and then using a graphic arts camera, shot a picture of the image through a filter. The result was of a colored lettering against a black background.

Then he tried it on film. He found that if he diffused the image he would get another result.

The fact that a graphic art camera is operated with fine threaded screws made it possible to re-position the image exactly to the same place with ease. He then decided to use a dichroic light source on the art board and used transparencies instead of paper art.

The art board was also movable with fine screw systems. Eventually, he was able to re-position the original transparencies, and the back of the camera.

All of the movements could be repeated easily.

The next idea was to hook up a computer to the entire system so that images could be made and corrected with precision.

All this was done much before the computer era that is now in progress.

This was also the fore runner of the Lyse Camera systems, based in California. Their camera's did the same thing with at least 24 images.

I have already written about Don Mitchel and his amazing instrument for producing very tight and beautiful photo-comps using optics and of his ability to compete with the big scanner companies.

The idea of shooting some lettering or a logo, diffusing it, and exposing it through a color filter, is the basis of any fine photo-comp job. We do this all day long at Photo Finish Labs in Las Vegas.

Making a color match for a client is not easy. If the client hands you a Pantone color to match, it will be difficult to match it. In fact, it will be impossible to match many of the colors of a Pantone set.

The color matching system of Glen Peterson, from Bronxville, NY is great. His system will produce 540 colors that are repeatable with any enlarger.

The trick here is to make a set of the 540 colors on 4 sheets of 8x10 and hand it to your client. Tell him to choose from **this set** and you will be able to match any color at any time.

The system costs \$1400.

A mis-understanding of the terms "optical and digital" is causing much confusion about which system is better.

Let us take an imaginary 8x10 transparency.

Make a set of separation negatives by contact, and then make a set of screened separations via a scanner.

The first thing that you will notice is that they will both look sharp, however, the detail in the shadows and highlight areas of the scanned image will appear to hold more detail. This is because the scanner can electronically produce a straight line reproduction of the original, whereas, the details in both the shadows and highlight areas of the continuous tone contact negatives will display a sharper all over image because of the lack of a screen, but will lose some of the detail because of the fact that a straight line reproduction is virtually impossible with today's current continuous tone films.

We make many masks because of this failing, but never enough to produce a straight line reproduction. If you don't understand this explanation, write to me at:

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Thanks.