

KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

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How critical is the Size of the Original?

Definition. What is it?

It is the ability of your eye to see fine details in a photographic print.

If you were to make a book about the New York scene in the 1940's such as the famous book by Adreas Feininger entitled "New York in the Forties" then you would understand his reason for working with large 8x10 view cameras. During the 1940's the 35mm camera, and film were still in the development stage. Sure, there were instances where photographers such as Henri Cartier Bresson used the small 35mm camera with distinction. But if you examine his early work, the impact that was delivered was one of pattern and design, not detail.

Even though work of Andreas Feininger had to do with composition and emotional impact a rather great

system was used primarily for recording history. The details were the main objective.

The last photograph in his book is a two page spread of a cemetery in Queens, N.Y. in which it looks as if every grave was in view, as well as the New York Skyline in the background. The effect was, and still is startling.

It is even more striking to me because my Dad is buried there.

Being a former New Yorker, makes the book even more important to me. The details are fantastic.

Most of the shots are of the skyscrapers and large buildings and the necessity for camera swings and tilts was quite obvious. Without the mechanical devices on the camera to straighten out the otherwise distorted images, the book may have been a failure.

Some of the pictures of brownstone fronts of homes, look more like geometric patterns and are quite interesting.

As a historic memory of New York City, this book is fascinating.

The early cameras were large boxes and were the "state of the art" in their time. The early works of the fine photographers such as Steichen, are full of soft images that were purposely diffused in order to achieve a specific effect.

But what about today? How critical is it that each picture be as sharp as possible?

In the early days of fine painting, detail was everything. The works of Van Eyck were so detailed that even a loose thread in a garment was noticed. The exact perspectives were so precise that building plans

could have been drawn from them. Then along came Degas, with his soft pastels and impressionists eye and a new world of art was born. Is it necessary for every rock in an Ansel Adams photograph to be seen clearly in order to know it is a rock? I doubt it.

In the early days of Dye Transfer, all of the technicians wanted to work from large originals. All of our original equipment for making contact separations was designed to be used with films from 4x5 to 8x10. Some of the early images we worked on were cosmetic ads for the Max Factor Company. The transparencies of women's heads were 8x10.

This made printing a simple procedure. Since everything was handled on a large scale, it became routine. During the next 40 years, the size of the original film became smaller and the prints became larger. The first time we worked from 35mm we turned out the worst images you could ever imagine. We were not used to working from small "postage stamps" and could not make satisfactory separation negatives.

Even though the original images looked sharp when we used a loupe, the final printed results were far from being satisfactory.

Making enlarged separation negatives became a matter of fact. However, it took a while to decide on a positive plan of action.

Various labs had their own ideas of what a enlarging system should be. We made three or four attempts before we settled on system that we now know is accurate.

Now it didn't matter what kind of original we had to work on. We knew that if the original had fine details, we could capture them with ease. The sharp 35mm originals now had a chance to be compared with the larger images.

The last 20 years of making prints for Max Factor was an experience for my lab.

Virtually all of the original transparencies were shot on 35mm with a few exceptions of 120 size. The reproductions were great. Every pore and skin texture was evident in the final Dye Transfer prints.

The prints we produced for Max Factor Eye Make up were all shot from 35mm originals. The results were great.

However, at the same time, we were making prints for Doyle Dane Bernbach, for Volkswagen. These images were all shot on 8x10. The photographer used a 19 inch Red Dot Artar lens and shot extremely accurate images of the cars, with all of the expected swings and tilts to

make sure of the accuracy of the perspectives.

The images were great.

On the other hand, we made some prints for Mitsubishi, of trucks running through the desert, over rocks, sand and water and these were shot on 35mm. The billboards that were produced would defy anyone to say which film was used for which image.

My question is quite simple. **Does it really matter?**

If detail is very important to you, then use a large camera. The images produced by David Muench and John Sexton require great detail. If this is your bag, then do it. On the other hand, if you are in the same frame of mind like Galen Rowell or Ernst Hass, the size of the camera is not relevant. The convenience of a small camera does not diminish it's importance.

Check out the price for a new Nikon F4. These are not toys.

I have already written about a gentleman that uses a large 20x24 studio camera to shoot original images on Type R material. The beauty of this method is that an original is shot. Period. There isn't any more. There is no negative or transparency, just a finished print. If this system were archival, I could see it's

merits.

If you visit galleries and look at photographic images, you will notice that most images were made from large format cameras.

Elliot Porter used a 4x5 and a 35mm camera. The differences were difficult to discern.

Have you ever seen the prints of Ernst Hass or Galen Rowell?

These men used 35mm cameras almost exclusively. Their work is outstanding.

I personally made many images for Philippe Halsman and even though he used both 35mm and 4x5 films, it was impossible to determine which was shot with what after looking at the resultant prints

The main reason for the acceptance of 35mm film as a professional medium is the way separation negatives have been made over the past 30 years.

If contact separation negatives were made from 35mm originals, the grain of the separation material would create a grainy appearance in the final print.

However, if the image was first enlarged when making separation negatives, the resultant grain of the separation negatives would not have to be enlarged to the same degree and the grain would be negligible.

If a 16x20 print were made from a set of contact negatives, the resultant image would have to be enlarged 16 times. The grain of the separation negatives, regardless of the film, would be easily seen by the naked eye.

On the other hand, if a set of 8x10 separations were made from the original 35mm, the separations would require an enlargement of only two times. This makes all the difference in the world.

While we are on the subject of fine grain, have you compared the difference between Kodak's Super XX and Kodak's T-Max films?

The difference is quite remarkable.

I always thought that Super XX was adequate until I tried T-Max film.

The processing of Super XX is complicated by the fact that the curve shapes require very different developing times in order to make a matched set of curve shapes.

However, T-Max 100 has a very close set of developing times in order to make a good set of negatives.

One of my students used T-Max film and processed all three sheets in a Jobo processor for the same times. Any adjustment needed to bring the contrast levels together was accomplished by adding Acetic

Acid to the dyes.

I don't recommend this kind of correction. I would rather use the exact times needed to produce a set of matched curve shapes.

I was recently asked "would it be possible to have a set of screened separation negatives made and then use this set to make a set of matrices and eventually produce a "modern" Dye Transfer print?"

Why not?

The only technical problem you would face is making a good black dye. The screen systems would have to work as a four color set rather than three colors.

Try this. Find a local scanner company near you. Ask to have a set of 16x20 screened separations made from your original. If they offer you the chance to see the image on a video screen and whether you would like to see some corrections, don't hesitate. When you are finished with any corrections, ask for the finest set of screens possible. They will offer you some sort of proof. It may be an Iris proof, or a 3M proof. Take it. This will show you if you have a reasonable chance at producing a good print. Don't worry about how fine the screen is at this point.

The separation films will be 4 mil. Litho material. The registration marks can be

used to re-register the films. In order to find the correct exposures for the matrix film, try using the opposed grey scale technique to establish the correct exposure. If the negatives are made correctly, there should be no variance in exposures.

You can use the enlarger as a light source. All you will need then is a registration vacuum easel.

Once the exposures are completed, process the matrix films in a normal manner. Dry them and make sure that you have plenty of dyes mixed and plenty of conditioner. Transfer the images in the normal order, unless the image is in a warm cast. If so, then transfer the order as magenta, cyan, yellow, and black.

The advantage of making a set of matrices in this fashion is to see if the shadows open up properly, since the negatives represent a straight line reproduction of the original, rather than a distorted set which is usually the case with conventional methods.

If the image is crisp and detailed, and needs a little coercion to become a more accurately colored version, then the normal Dye Transfer running controls can make the difference.

You can use Sodium Acetate (in liquid form) in the first acid rinse to lighten any specific color.

You can add Acetic Acid to the first rinse in order to produce a slightly heavier version of that layer.

You can also add diluted Acetic Acid or diluted Triethylanomine directly to the dyes in order to make a change in the contrast of that particular color.

In other words, the best part of the Dye Transfer system is still a valid method of fine tuning a print.

If you are lucky enough to get a set of separations with a fine set of screens, such as 300 or 400 lines, so much the better.

This is one way to get involved with the new digitized systems without going to the poor house. If you are set up for making Dye Transfer prints, You already have all of the equipment necessary to produce a "modern" Dye Transfer print.

The beauty of making contact matrices will eliminate most of the problems associated with highlight loss and flare when making enlarged images.

If you want to keep the costs down while you are toying with this method, make a smaller set of screened negatives.

The main difference between the new digitized systems and the old conven-

tional system of making a color print is this.

When you were making separation negatives by hand, you already will have chosen a specific contrast range for your image. The density and color balance will be all your own determination. If you want a bright "look" or a quiet dull "look," then how you choose the specifics of the separations will allow that to happen. In other words, you already will have chosen the kind of "look" the print will have. You will gear the mechanics of the process to end up with the kind of print you desire.

When using the digitized system, you will have an unending choice of contrast and color balances and will choose one that suits you.

I have been thinking about this revolution in our business for quite some time. I have come to some conclusions.

Fine art photography is still a "hands on" process. For the most part, collectors are still mesmerized by the quality of an Ernst Hass Dye Transfer print, or by a great Ansel Adams print.

These prints were made by craftsmen who spent the better part of their lives making images that captured the attention of the world of art.

It seems to me that any person with the right amount of money can produce a digitized image that can startle you. However, if you have been getting magazines in the mail that specialize in showing the latest digitized images, they all seem to have specialized in "tricks" instead of the improvement or correction of the contrast or density of a landscape.

I have seen images with as many as 22 different images involved in the layout.

Art? Hardly.

Impressive? Without question.

To make my point. I recently saw an ad produced by a young assistant that was created using a scanner, a workstation, and an output device.

Until this time, this person never made a set of anything, much less separation negatives. Couldn't make a set of highlight masks if his life depended on it. Never processed anything important, not even a quality black and white print. But the scanned image was pretty good.

The skill that it once called for to make an important contribution to the world of art, apparently, is no longer needed.

Let me change the subject slightly.

If you are still using film to make separation negatives

the "old fashioned way" then make sure that you understand the reason for making highlight masks.

If you begin the process by making contrast masks for the original, before you make separations, the trouble has already begun. You have already flattened out the highlight areas.

You have a few choices to consider before you "spoil" the highlight areas.

1. You could make a highlight mask first, then add it back to the transparency when making the contrast reduction masks (called the principal masks.)
2. You could make highlight masks that you could add to the separations when you are ready to make matrices, or;
3. You could make straight separation negatives without contrast masks, and make contrast masks at the end of the process (called post masking) which will affect the highlight areas the least, and then, if necessary, make a thin set of highlight masks to be added to the package in the carrier when making matrices.

If you have ever seen a dull Dye Transfer print the cause can usually be traced to a wrong application of the highlight mask.

If you are making a Cibachrome print, and have already made a contrast

mask, the highlight areas will also be affected. My simple cure consists of making a "bump" mask to restore the brilliance of the highlight area.

A "bump" mask is simply a very deep positive image produced on a reversal litho film. This image is so dark, that only the highlight areas are able to be seen.

After the initial exposure is made on the Ciba material, then the contrast mask is removed and the "bump" mask replaces it and an additional exposure is made. This is a trial and error system. You will have to make prints until you are satisfied with the results.

The principal masks are the most important masks in the entire Dye Transfer process. Yet, some technicians make the masks with little concern for positioning or for the accuracy of the exposure. Once a set of numbers has been chosen to be the correct exposures for a specific transparency, the tendency is for the technician to give any future transparencies the same exposure.

This is totally wrong.

The reason for choosing a correct exposure for the mask is to make sure that the image is completely captured. If you were under exposed or over exposed on the mask, the rendition of

the print could be adversely affected.

"But," you might say, "the mask image was fine for print number 1, why would it be different for print number 2?"

Each and every transparency has its own overall density and density range. If you gave the same exposure to a transparency that was deeper and contrastier, and used that mask to further complete the set of separations, trouble would be visiting you promptly. If you plan to print grey scales, then you will have a valid point. But you are not printing grey scales. Use the grey scale as a reference, not as a crutch. This subject is known as "average density."

The reason for changing the exposures is quite simple. We want the image to be recorded on the straight line portion of the Pan Masking film's curve shape. The less distortion the better.

This procedure of allowing for the average density of the original is of paramount importance. Placing the important part of the image on a straight line portion of the receiver sheet of film is the most important part of reproduction.

When I first worked for the famous lab in New York City,

Evans and Peterson, in 1948, every transparency was treated with the same set of exposures and developing times. As a result, some prints looked good, but many more looked inadequate, and quite a few were terrible. At one time we didn't know what was causing this dilemma. However, as time went on, the intelligent area of the mind took over and after much testing, we discovered the problem. Our simple solution then was to give dark originals more exposure and light originals less exposure.

The fact that the image was being distorted was still to be discovered. I found this out about 30 years ago. Unfortunately, some labs have never learned of this problem or its solution. The methods used to determine the exposure balance of the matrix films is another area that has been overlooked for many years. I remember when I worked for Evans and Peterson, that they were primarily a Carbro house. In order to understand the method I am going to explain, you must understand the Carbro procedure. Car-bro.

The word is made up from two separate items. Carbon (the color tissue) and bromide, the photographic paper that was used to be combined with the sensitized carbon tissue in order for an

image to be formed on the carbon sheet.

In order to make a Carbro print, we began by making black and white prints from each negative. These prints were called bromides.

The secret to the success of the Carbro process was the accuracy of the bromides. The density and balance was all measured and produced with the eye as the only meter.

As a result, the more accurate the bromides the better the print.

We used the same procedure when we began to make Dye Transfer prints. We used regular black and white paper to make "bromides" from the different color separations.

These black and white prints were made to establish the density and the color balance of the image. We compared the "bromides" to the different layers of the transparency by using separation filters to examine the results. When we were satisfied with the corrected "bromides" we then computed the difference in speed between the paper prints and the matrix film.

We exposed our matrices and were usually happy to see the results of our first roll out.

What about the labs that did not have an association with the Carbro print system?

The methods used to establish the correct exposure times were many, and most were totally unreliable. One lab used to make a test matrix (8x10) and laid a small paper clip on an area of a white shirt, or a white cloud during the exposure. The matrix was processed and dried and simply looked at against a dark background. If the image of the paper clip could just about be seen against the white area, then we were to assume that the exposure was correct. All three matrices then received the same exposure. Were the prints good? No.

Another method was better but still not near the accuracy needed.

A 21 step grey scale was taped into the sheet holding the transparency and was included in the separation negatives.

These grey scales were read and used to establish the overall density and color balance. What was never considered was the effect of subject failure caused by the different densities of each negative. As a result, a photograph of a red rose against a red background would be horribly distorted.

A method that I have used is quite simple. I always included the 3 step grey scale in the edge of the separation negatives.

I would place the probe of my digital log meter on the easel on the center step of the projected grey scale. I began with the cyan. I recorded the density. Then without moving the probe, I removed the cyan negative and replaced it with the magenta, and read it also in the same exact spot. This was then followed by the yellow.

All three readings were recorded.

Using a log scale calculator, I was able to establish the differences between the three negatives.

Then I used an inexpensive photographic paper stabilization processor. I purchased mine for under \$150. The photographic paper has most of the required chemistry built into the emulsion. A fifteen second run through the machine gave me a "bro-mide."

I compared the Cyan bromide against the transparency by examining both through a red 29 filter.

When I was satisfied with the density comparison, and I knew the difference between the speed of the paper and the matrix film, correct exposures were calculated and a small 8x10 set of matrices were produced.

In a short while I had a small color test which could then be analyzed for density, color balance and contrast.

When the final corrections were made, I could then make a full set of matrices making sure that the amount of chemistry was in the same proportion as the small test, and that the agitation was the same.

It worked, and still does.

If you have experienced difficulty with the production of matrices remember to examine the following steps.

Pre-mix the A and B portions of the developer for no more than 15 seconds.

Add the sheets of matrix film to the developer in 15 seconds intervals.

Make sure to place the processed films into a 1% acetic acid bath for 45 seconds. Also in 15 second increments.

It takes at least 30 seconds for the acetic acid bath (short stop) to penetrate the films swollen emulsion completely. 45 seconds is a safety margin.

The fix can be a simple non-hardening fixer. It is the cheapest part of the entire process. The fix used in the C-41 process can be used. Dilute it to the specified amount found in the instructions for its use in negative making.

Or, a one quart graduate filled to the top with Hypo crystals, plus a capful of sodium metabisulfite, mixed in one gallon of water will also be adequate.

This one gallon fixer can be used for many sets of matrices. Don't be concerned about the yellow color, but whether or not it still clears the film properly.

News about the digitized systems have been frightening the labs that have made tremendous investments in the new technology.

In Chicago, Leo Burnett, one of the largest advertising agencies in the world has organized their own color lab complete with scanners, workstations, and output film recorders. They have already expanded to over 100 people in this single department.

Many photographic companies in Chicago are experiencing a loss of revenue. The dupe business is about gone, as is the need for assemblies by Dye Transfer labs, and the retouching that once was such a necessary evil in our business is gone. Large labs are beginning to convert to "people" labs. This means that portraits and weddings will be on the front burners again. Labs that once were the mainstay of Sears Catalog business have just about disappeared.

One large firm owned by Rusty Pallas in Chicago has closed it's doors, however the other two labs, in Milwaukee and Denver are still going strong.

A large British business group with over 26 different labs in the U.S. is offering all 26 companies for sale. The dividing line now is between "commercial" labs and "people" labs.

In my early days, the labs in New York City were involved with commercial work. We were considered to be among the five finest labs in New York. These were all commercial labs. We didn't fool with weddings or portraits.

Most of us, who stuck to the principals of hard work and superior quality were proud to be in this small field of elite printers.

The labs that did get involved with a mixture of "people" and "commercial" work usually were not considered very professional in their work quality, but these are the labs that have held on and are still operating.

Still on the front burners are the different Carbro systems now available.

The original Carbro system is still being handled by Reece Vogel in Los Angeles, CA. He purchased the entire laboratory that once belonged to McGraw Colorgraph. The only U.S. company that once made the necessary pigments and equipment.

Then Rene Pauli of San Francisco is still making Carbro prints in his small

space and is turning out great work.

Both Reece and Rene are only printing their own work. However, I think they would share some of the details of "how" they do their thing.

Bill Nordstrom (Evercolor) is up and running what is considered to be the most elaborate system for producing extremely fine photographic color prints. Evercolor is making prints for the public. If you want to see one of your transparencies converted to a work of art, give Bill a call at 926-939-9300.

Last, but certainly not least, is Charles Berger and his UltraStable Carbon process. All you need to get into your own Carbro process is a small amount of equipment and his materials.

This process allows you to be in charge of the outcome. If you want to contact Charles, 408-335-2169.

All of these ingenious men have revitalized an old method of making top quality color prints and are available for information and help. Give them a call.

Thanks,
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