

# KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

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## Large Format VS Small Format

**Does the size of the camera make that much difference in the production of a fine photographic print?**

Let us examine the options. The first cameras used to capture nature were usually very large. Some of the earliest pictures of Yosemite were shot by Henry Jackson in the late 1800's. In order to make some of his images, he used 20x24 glass plates, which he coated on the spot, just prior to making the exposures.

His mule drawn wagon converted to a darkroom tent. The camera was a large box with a long lens, without a shutter. The shutter of the old days consisted of the photographer's hand covering and uncovering the lens.

Can you imagine what his tripod looked like? I have seen reproductions of his work in a Los Angeles art

musuem. They were very impressive.

**The most important detail to be concerned about in any photographic or painting art form is composition.**

This is the foremost consideration.

Placing some color in the image also requires some knowledge of color composition. (Such as which color goes with which color.)

The image itself must be able to capture the viewers eye and to be able to hold the attention for a considerable time. Pictures of little children or small animals usually fit this category, however, any image, regardless of the content fits the bill.

I have made prints of the interior of a jet engine that would take your breath away.

It all depends on the image.

The next item to consider is detail.

**How important is detail?** Again, it depends on the image.

I remember making high quality fashion black and white prints for a New York photographer named Zoltan Farcus. His images were as smooth as silk, and the sharpness was precise. He spent much time getting prepared for a shooting session.

He used 8x10 film for his images.

The results were worth it. I have also made many Dye Transfer prints for Max Factor produced from 35mm slides shot by Albert Watson, that were needle sharp and also as smooth as silk.

It wasn't always like this. The early days of 35mm

photography didn't have the luxury of the fine lenses we are now accustomed to. But let's get into the 20th century.

The large 8x10 camera has the definite advantage of capturing fine detail. It also has the definite advantage of being equipped with swings and tilts which allow one to easily place different parts of the image into sharp focus.

This is the main reason that allows the large format camera to really make a big difference in producing a quality image.

Learning how to use your eyes to achieve the correct composition while looking at the image up side down is difficult for some people (like me) but it really is the essence of composition.

Not being swayed by the image but by where the parts are positioned is the correct method to achieve the correct composition.

The professional commercial photographers that I have been associated with for the past 50 years have all used different kinds of cameras, depending on the final use.

For instance, it wouldn't be wise to shoot food layouts with a small camera because of the loss of camera adjustments, while on the other hand, it wouldn't be wise to use a large 8x10 camera to shoot a candid wedding.

In other words, each camera should be used for a specific use.

But, what about fine art photography?

Is it imperative that a specific sized image be used?

This is the one field that has most amateur photographers confused.

Some professional scenic photographers use 8x10 or 4x5 cameras because they also want to get as much detail as possible.

The works of Josef Meunch and David Meunch are fine examples of using 4x5 format cameras to get the detail and the fine grain as well as the adjustments they require.

Their details are great, but the quality of their work is in the way the image is captured and held with the correct shutter speeds to allow water to look as if it is moving and not just a marshmallow, and how much back lighting allows for that special amount of translucency in a group of leaves.

The work of John Sexton is also a fine example of great photographic art.

His work is not only well composed, but has the ability to capture the eye of the beholder

Does John Sexton produce detail? Yes, plenty.

However, if the image was slightly soft in detail, would the picture be that much more diminished? I doubt it.

I made some prints for a well known photo journalist, Cal Berstein.

Cal became interested in the advertising field and felt that his special brand of camera work could be used by agencies. He was right.

He essentially worked with two cameras, a Bronica (2 1/4 sq) and a 35mm Nikon. I made a 16x20 print for Cal consisting of two young women in bathing suits, lying on the black beach in Hawaii. The shot was from above, (probably from a crane) and the composition was superb. The main thing I want to say here is that the detail in the black sand was all there. And this was from a 35mm image.

I would venture to say that many of the images on America's billboards today are produced from small originals.

Take a good look at the latest images produced for Marlboro cigarettes. The close-up details of a cowboy's boot and a stirrup are detailed beyond description. I would bet that the image was from a 35mm transparency.

I have made prints for cigarette ads in New York during the 1950's and I remember the 35mm images and how the entire professional color printing community would hope to get a chance to show their skills at reproducing these fine images.

### **What I am getting at here is reproduction.**

We have all looked at a 35mm image projected on a screen and marveled at its sharpness. The current family of camera lenses are equipped with enough accuracy to fit the bill.

When reproduction is concerned, it is much simpler to make a set of separation negatives by contact than to make an enlarged set. The reasons should be obvious. The contact system will produce no aberration, refraction, and especially flare. It obviously is a better way to make a set of separations. (other than a set made by a scanner.)

In the early days, when ever a 35mm transparency was used for reproduction (and it was very rare) the method used to make the separation negatives was primitive.

In fact, printers made separations for these small originals by contact for the very reasons that I mentioned, however, not realizing that contact negatives from small originals produced much more grain from the negative material and contributed to a loss of detail.

Fine grain films were used, but the improvements were only superficial. Try making a set of negatives using Kodak's Technical Pan film. The wide difference in the film's color sensitivity was enough to dissuade anyone from using it.

The processing times needed to bring all of the curve shapes into reasonable accuracy was almost impossible to achieve.

As a result, films such as Kodak's Super XX and Separation #1 & #2 were-considered.

But the methods used to make enlarged separations, whether or not they were made by color labs or by lithographers, were not made properly and as a result, the 35mm image was considered inferior.

This attitude is still prevalent among today's color print enthusiasts

The reason 35mm film was considered too difficult to use to produce great prints was the fact that when they were enlarged in order to make separations, registration was difficult, refraction was an unwanted partner, and flare completed the destruction of the image.

Well. I have news for you. Photographers such as Galen Rowell do much climbing. Some of the images that Galen produces are almost impossible to find and shoot with a large format system. He carries a Nikon Body and a few lenses and possible a tripod, and still manages to make an important climb to get a specific vantage point. Many wild animal photographers are in the same predicament and have to shoot

on the run.

There are all kinds of situations that will allow you to make a clear judgement about which method and size equipment to use.

With today's systems for producing fine quality enlarged separation negatives, there is no longer the fear of registration, refraction, or flare. These elements have been eliminated from the world of quality color printing.

### **Here is how:**

#### **Step 1.**

The original small transparency, 35mm or 2 1/4 size is first mounted into a larger sheet of film for convenience of handling.

A set of contrast and/or color correction masks are made by contact, in register, using a set of register pins and a very precise film punch. This first step is critical. One must make sure that the film is not scratched during handling or processing.

Every little imperfection will be magnified when making the final print.

This first step also eliminates most of the unwanted flare simply because of the fact that the areas that produce flare are the lightest portions of the image and these are the first areas to be held back.

When processing the small



sheets of film in a tray, one must float the film across the developer and never touch the bottom of the tray.

Step 2.

When placing the mounted 35mm or larger film into the enlarger carrier, the image must be emulsion down, with the mask above it also emulsion down.

The image should be sized to fit the enlarger you plan to use for making the final image.

The use of some sort of immersion oil is imperative at this point.

The use of immersion oil does a number of things.

- A. Eliminates most scratches and abrasions on the originals surfaces.
- B. Totally eliminates any refraction.
- C. Eliminates any Newton rings.
- D. Keeps the films in the carrier perfectly flat, thereby allowing a corner to corner sharp image.

**What kind of oil could be used.**

Caster oil, is one kind of oil that could be used, but it has the capability to soften the emulsion and must be used with care.

Scientific immersion oil used in microscopes works as well but is difficult to clean.

Perchloric acid, (used in the dry cleaning business) is also fine but highly toxic.

I personally prefer silicone. It is available from electronic companies.

It is used in electrical capacitors and is perfectly inert, and has the same refraction index as glass, and is easily removed from the slide when you are through.

With the use of a high quality Apo-chromatic lenses (such as Apo EI Nikkor, 105 mm, or Rhodenstock's 50mm and 90mm Apo lenses the critical sharp details of the original are held intact and difference between the small original and the larger format film size is minimized.

I once produced prints for Reid Miles, a Los Angeles photographer whose trade mark is extremely sharp focus and detail. All from 35mm.

I have produced many prints for Phillippe Halsman, mostly from 2 1/4 originals. I used the method described above to produce the best detailed separations so that I could accurately make prints that showed the details in the shadow areas as well as the highlight areas.

**When making Dye Transfer prints, I had to know the limitations of the films curves shapes and my masks were made to fit this criteria.**

When making Cibachrome prints I had a completely different set of circumstances to contend with and had to modify my masking approach.

But the final result was there.

I knew that I had to do change the the image in the enlarger to achieve a specific look on paper.

As a result, it was sometimes hard to tell what image was made from which size original.

Grain is the give-away.

My sample case is full of images made from various sized originals, and I have to think twice to remember which was made from what. When you have been in the business as long as I have, you begin to remember images and can almost recall the exposure times required to make the print work.

One thing I have done for many years is this:

I try to visualize the final print hanging on a wall complete with a blue ribbon attached that signifies it as having won the competition. I actually can see the finished print in my minds eye. Then I look at the original and try to determine the correct steps to take in order to achieve the final result.

I have used this systems for many years.

However, I sometimes interpreted the image in a different way and as a result

it was a different conclusion than the clients, and a re-make was in the offering.

To those of you that use large format films and cameras, I say, "keep it up."

I have been looking at the works of some up and coming photographers that use 4x5 formats and the images are just great.

Choosing the correct film for a shoot is a personal choice. Some prefer Kodaks Ektachrome professional and some prefer the more saturated colors produced by Fujichrome film. The choice is individual.

If you make your own prints and are using the latest Cibachrome materials, make sure that your enlarger is fast enough to make the printing chore more pleasurable. Many of today's enlargers are much too slow for me.

I used to make Ciba prints using a Dichroic head on a 4x5 omega. Some exposures that I had to contend with were as long as 8 minutes. This would sometimes drive me crazy, as I have a short threshold for such long exposures because of the reciprocity produced by such long exposures.

It would be enough reason to almost want to make Type R prints instead.

However, I made very accurate comparisons between Cibachrome and Fujichrome

prints and came to the conclusion that the Ciba print had much more detail and separation in the image than did the Fujichrome print, and being interested in quality, above all else, I stuck with the Ciba process. I did manage to find a light source called Xenomega. A pulsed xenon system that would fit on an Omega enlarger, which produced over 600 watts of bright light and when used with a condenser gave me the shortest times possible with absolute clarity and reduced reciprocity. I used this methodology to make separation negative, by using contact contrast masks and then silicone oil when combining the mask and the transparency to eliminate all of the other problems associated with enlarging small originals and produced very sharp and detailed prints from small originals.

My walls at home are covered with prints produced from Tom Kelley's (8x10 originals) and Phillippe Halsman's (35mm originals.)

One of my students has prints produced by Elliot Porter, Ernst Haas, and others, all made from from 35mm.

Some of you like to shoot color negative film. This is fine. However, if you like what the resultant C print looks like, and want to produce a print with more

longevity and are forced to make either a Dye Transfer or a Cibachrome print, then simply make a top quality Vericolor print film using either Kodak's or Fuji's materials to produce a colorful transparency. When making this transparency, you will have the opportunity to use some creative printing skills to improve the overall image. There is some grain problems to be considered when using print films. I recommend making the image as large as possible in order to minimize the grain problem when producing a larger print.

The color saturation and detail produced by the print film is far superior to a C print.

The question of enlargers becomes a bit more critical. If you use a large format camera, you do have a few choices.

First determine the kind of print you wish to produce. Cibachrome, Ektacolor (C Print,) Type R, Dye Transfer, or the new UltraStable carbon print.

It really depends on your pocketbook.

If you have the funds, and need a large format enlarger, examine the one currently being produced by Condit Mfg.

It is rock steady, level, square, and will accept a host of light heads.

Also investigate the new Durst, DeVere, 8x10, Omega 8x10, and the Fotar.

For the best buy, if you are handy, find an old Elwood (usually listed in Shutterbug Magazine) and modify it with a new color head. You can save much money if you have the hands.

The need for speed is only applicable to the Cibachrome process, and not to any of the other processes available.

If you are serious about quality, the enlarger should be equipped with some registration system. The easel should also be similarly equipped.

The lenses are quite important. I would suggest that you use an Apo-chromatic whenever possible.

If the cost is too high, then a quality lens such as a Schneider Componon or the equivalent should suffice.

The darkroom is another problem. Obviously, with an 8x10 enlarger you will not be able to use the kitchen or a closet to make your exposures. A larger area, such as that found in a two car garage or large basement will be fine.

The other elements in a darkroom are room for a sink, work table, large lightbox, dryer, possible squeegee area, and room for a possible processor such as a Jobo or Cap 40.

I was able to make a 12x18 ft. room work perfectly.

If you are interested in the new color carbon processes, all you really need is a sink with a squeegee area, a drying system, and an exposing system such as a platemaker.

**Is it possible to make your own quality negatives and make a quality carbon print?**

It sure is.

I wrote about Rene Pauli producing Carbro prints, using his kitchen to coat his own pigments and the same kitchen to make the necessary exposures from the negative to pigment.

Rene shoots 4x5 format. He then makes separation negatives to print size using Kodak's separation negative # 1 film. He uses large trays to process the materials. He exposes the negatives to the appropriate color pigments and transfers them one at a time to a final support base, after they are individually hot watered and dried. His negatives require no screen.

In fact, Charles Berger told me that his new pigments can also be used without screens.

From my personal experience, quality negatives can be made by any individual, however, when a set is made through the new scanner systems, and then examined, the difference in the results can be like night

and day.

**All films have a curve shape.**

It is in reproducing this curve shape and it is most important to keep it in a specific shape and contrast level.

Once a sheet of film is exposed and processed, the original scene from which it was made is changed on the film. The highlight areas and the shadow areas are flattened, but when a scanner makes a set of negatives, the highlight and shadow areas are reproduced in a straight line, unless otherwise indicated.

This means that the detail in the top and bottom of the image will reproduce with more accuracy and detail than it otherwise would. The results are so different, that I would find it impossible to match with any conventional system.

The newest craze among computer enthusiasts is that fact that the Mac-II computer can be used as a work station. In fact, a \$3500 investment in a Mac-II CI, is the beginning step in making a workstation of your own. The image must first be scanned by an outside source, then a removable disc is sent back to the computer operator, and the image is placed on the screen.

With the correct equipment, you can modify and change the image until you are



pleased and happy with the results. The saved image is then sent back to the scanner company and a proof print or set of screened separation negatives will be sent back to you. If you have the necessary simple equipment, and some pigment sheets you should be able to make a superb color print with pigments rather than dyes and produce a very long lasting print. If you are gallery or museum concious, the making of a fine print can be the way to fullfill a life long dream. If you have the hands, and are interested in the pigment process, write to:

**Light Impressions**  
**439 Monroe Ave**  
**Rochester, NY 14607**

They have books written by Luis Nadeau, and one of the best is "Modern Carbon Printing." It details the carbon coating systems and some of the most important formulas.

You can also write to Charles Berger, the inventor of the new UltraStable process for more information about his remarkable process. His adress is:

**Charles Berger**  
**UltraStable Color Systems**  
**P.O. V2**  
**Felton, CA**

Since the production of

separation negatives has been, and always will be, the key to making quality prints, it is important to know what kind of negatives you will receive if you send the transparency out to a source that is not in tune with the way you see the final image.

As I said earlier, I see the finished print in my minds eye and aim in the proper direction before I make my final judgements about contrast, density, and color balance.

Making a quality black and white print is no different in approach than making a Dye Transfer print.

You must begin with the paper. Experiment with the different brands of the fine quality papers. Purchase the finest paper you can afford. Then, find out what contrast range your enlarger will produce at grade 2 level.

This is easily done.

Place a 21 step grey scale in your enlarger (masked off) and make a series of different exposures on one sheet of paper and process it for the correct time. (Usually about 1 1/2 min.)

Then use you eyes and examine the best image. Find where the top and bottom of the grey scale just begin to show detail, mark the steps and find the identical steps on the original gray

scale ,and using a densitometer, determine what the contrast range should be in order to produce a print with all of the details in the shadow and highlight areas of an image.

If you make your own black and white negatives from prize transparencies, you can produce masks exposed through color filters that will control contrast and also make it possible to accentuate specific areas of the image.

The amount of control using a system such as this is so much more accurate than simply shooting a black and white negative.

When you shoot black and white film you are forever eliminating the possibility for a much better black and white print.

You will be forced to use contrast filtration but never be able to accentuate an area.

I contend, that if a good quality color transparency is used to produce a black and white negative, that a much better version of the image can be produced with my suggestions. I have proved this for many years.

In fact, Bob DeSantis of North Hollywood, CA is currently the best black and white printer that I know of. He works from transparencies and makes whatever masks he deems necessary in order to make a fantastic print.

Bob DeSantis' experience in producing quality Dye Transfer prints for many years has given him and his staff the ability to make any kind of masks and exposure and development changes in order to make a quality black and white print.

I know some quality black and white printers will disagree with me about this kind of system, but if they just try this system once, I am sure that they can be converted.

A darkroom condition is also most important. In order to keep dust out of the area many steps must be taken. I personally feel that a darkroom should only be dark when the lights are out. Paint the entire room as white as possible.

Any stray light from a leaking enlarger should be eliminated. The most depressing thing about a black darkroom is that it makes one feel as if they are working in a dungeon.

I once painted my enlarging rooms solid black from the ceiling to the floor. I tried working in this environment for a few months, then decided to paint all the darkrooms white, and the floors a soft glossy neutral grey.

What a difference. I then painted the entire 6000 sq. ft lab so that it looked like a hospital.

The work improved and so did the disposition of my employees.

The enlarger must be square. It must have no fall off anywhere on the easel. For a few bucks, a system called "Zig Align" can be used to inspect and correct the film plane, the lens plane, and the easel plane so that all the planes match each other in alignment. **This is most critical.** Regardless of the emotional impact you are trying to convey to your client, the image must be square.

Easels are also very important. If you plan to make Cibachrome prints using masks to control the contrast, then a good quality easel such as a Saunders will suffice.

However, if you plan to make advanced quality Cibachrome prints, then a quality vacuum easel with the addition of register pins would be a necessity. With advanced systems, the carrier and the paper on the easel may be moved many times. It is imperative that they all be brought back to their original position.

**Easel meters are very important.**

If you must have a meter that will conclude your exposure and filter pack, then by all means get the meter that you can depend

on. I found the Speedmaster to be a very accurate easel meter. It has enough memory for 8 different image banks.

However, I find that the **Wallace Fisher meter** does all that I need it to do, for a fraction of the price.

In other words, this issue of "Keeping Pace" has been devoted to the idea that quality is not only a goal to be reached, but also a journey.

If you are concerned about the size of your camera, put this idea out of your head for a while and concentrate on the image, it's lighting, and the emotional impact that it must convey.

Josef Meunch and Galen Rowell have much in common, yet they use different formats to capture their images.

Josef uses a 4x5 format, and after reaching his shooting area, will wait patiently for the right moment to make his exposures, while Galen will be climbing a mountain and suddenly see the image and is ready to shoot it immediately.

Use your own imagination and pursue the images you want to capture with your own style.

Good Luck,

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