

Booklet #13: The Northern Virginia Alliance of Camera Clubs

## **MULTIPLE EXPOSURE PHOTOGRAPHY**

by

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## PREFACE

The Northern Virginia Alliance of Camera Clubs (NVACC) is an informal organization started in 1997 by Joseph Miller with the assistance of Dave Carter and Ed Funk. Our purpose is to promote communication and cooperation among camera clubs. We accomplish this by (a) publishing a monthly calendar of the member clubs' activities; (b) conducting training seminars for photographic judges; (c) maintaining a registry of trained judges who serve the clubs' monthly competitions and critiques; and (d) maintaining a directory of speakers who have been recommended by the various clubs. You can learn more about NVACC by going to our web site at [www.NVACC.org](http://www.NVACC.org).

This booklet is one of a series that was developed by NVACC during the period 1998-2008 to capture the considerable expertise of the many accomplished photographers in Northern Virginia and share it with others. Over recent years, we have seen significant change in the photographic art form and very rapid technical advance in both the media of photography (film and digital) and the tools (cameras, lenses, computers, and software). For that reason, the detail of some of these booklets may seem "dated", although the ideas and techniques presented transcend "progress" and the digital-film divide. Watch the NVACC web for new booklets as well as revisions that incorporate new technology and ideas into the existing ones.

Originally, our booklets were made available through member clubs for a small fee that covered the cost of reproduction. Now, however, the booklets are available on [www.NVACC.com](http://www.NVACC.com) where individuals may download one machine-readable copy and one print copy per page for personal, noncommercial use only. Written permission from NVACC is required for any other use.

If you would like to know more about NVACC or have questions or suggestions concerning our booklets or services, please feel free to contact us at [JoeMiller@NVACC.org](mailto:JoeMiller@NVACC.org).



# Multiple Exposure Photography

## Introduction

Imagine creating photographs with the look of fine impressionistic paintings. This booklet explains how you can achieve these results. Creating images using multiple exposure techniques is great fun and easy to do with modern camera technology. The term multiple exposure, as used in this booklet, is the exposure of a single frame of film between four and sixteen times.

Freeman Patterson, a great photographer, writer and teacher introduced me to his multiple exposure technique during one of his workshops. I was captivated by the beautiful painterly quality of Freeman's images. After viewing his beautiful creations and watching his camera handling techniques I began experimenting. Although some of my early attempts were of poor quality, I surprised myself at the number of good images I was able to produce almost immediately. I attribute this quick start to the excellent instruction Freeman provided, and his clear demonstration of camera handling techniques.

The early successes fueled my desire to continue practicing multiple exposure techniques. I also expanded my range of subject matter beyond the colorful flowers that dominated my first attempts. I hope this booklet will inspire you to make an excursion into the realm of multiple exposures.

## About Multiple Exposures

There are an enormous variety of cameras. Consult your manual as to how your camera handles multiple exposures. If your camera does not have provisions for multiple exposures, get one that does.

Some cameras will count the number of multiple exposures for you. On other cameras you will have to count the number of exposures yourself. On some cameras counting is done by a data back. If you have a data back, consult your manual.

On some sophisticated cameras there is a lever which makes possible the creation of a multiple exposure. The lever disengages the advance mechanism allowing the shutter to re-cock without advancing the film. This allows a second, third, etc., exposure on the same frame of film. You can get as many exposures on one frame of film as you desire.

## Sharpness

Don't be fooled by the soft impressionistic look of these images. I cannot stress enough that no matter how many exposures you place on a single frame of film, each one

should be "tack sharp." Hand holding your camera causes each of your exposures to be slightly "off register" and this is how the desired effect is achieved. (This is one of the few instances that failure to use a tripod improves the resulting image.)

## Exposure

Since this technique lays multiple exposures on a single frame of film, the build-up of light on the film would normally over expose the frame, washing out the image. Therefore, we must provide exposure compensation. To avoid over exposure, we must intentionally under expose each single exposure which collectively makes up the multiple image. The necessary under exposure results in higher than normal shutter speeds helping you to produce sharp images while hand holding the camera.

Achieving proper exposure with multiple images is critical, but not difficult. Fortunately, Freeman Patterson's experimentation has provided the square root rule formula which makes it easy for us. This formula states that for each exposure on a single frame of film we should underexpose in stops by the square root of the number of exposures. (See chart below.) This works well in the range of multiples from four to sixteen. The formula will probably work beyond this range, but I have not tested this.

In my experience, I have found that nine exposures produce very pleasing effects. Many of today's cameras allow you to "dial-in" up to nine exposures. A greater number can be achieved by resetting the number of exposures before you reach the ninth. For example, to get 16 exposures, set nine exposures, shoot eight and then reset to eight again, then finish shooting. I dislike this method since I must remove my eye from the viewfinder to accomplish this. In addition, I have not found that my images improve by going to sixteen exposures, although I'm sure certain situations can be enhanced by the larger numbers.

### EXPOSURE COMPENSATION TABLE

Number of Exposures	Exposure Compensation	ISO setting with 100 speed film	ISO setting with 50 speed film
4	-2 stops	400	200
9	-3 stops	800	400
16	-4 stops	1600	800

One way to make the exposure compensation is by changing the ISO rating. Increase the ISO film rating dial for the number of stops indicated in the table above. With ISO 100 and ISO 50 speed films the ratings for multiple exposures are provided. This is a simple and straight forward approach. However, it is easy to forget to change the ISO

rating back to its original setting because the ISO rating usually does not show in the viewfinder.

Another way to make the exposure compensation is by using the Exposure Compensation Dial. This usually shows in the viewfinder. Many modern cameras have exposure compensation dials. That's the good news. The bad news is most of the cameras only provide two stops of compensation. Usually you need more. If you need more than two stops of compensation, and your camera covers a large enough range, you may prefer to use only the compensation dial.

The exposure compensation dial on my camera provides only two stops. If I need more stops of compensation, my preferred method is to use the exposure compensation dial for the first two stops of adjustment and the ISO film speed dial for any remaining compensation. The bad news here is that I must make two adjustments instead of one. I have resorted to this combination because the exposure compensation dial is clearly visible in my viewfinder display. I am much more likely to return both the exposure compensation and the ISO dials to their proper settings because of this visibility.

As in single-shot photography, tonal conditions may require additional compensation. For example, your in-camera meter is often fooled by lighter than normal subject matter leading to underexposure. You can adjust as you normally would (unless your exposure compensation dial is maxed out) or you can take additional shots, thereby increasing exposure.

Darker than normal subject matter would normally lead to overexposure. To correct for this, dial in fewer exposures than you would normally use. On a nine-exposure multiple, one or two more or less exposures will have little exposure impact on the resulting image. I have frequently made the minus three stop adjustment for nine exposures but dialed in seven or eight, or ten or eleven exposures. Experiment with this to learn the exposure impact of one or two more or less exposures.

## **Tripod vs. Hand Holding**

If you placed your camera on a tripod it will most likely cause each of your multiple images to register exactly over each other. This will not achieve the effect we are looking for. Because of the random registration of each image, I have had success hand holding.

If you want to use a tripod, it must be adjusted before each exposure. Using a tripod can permit precise movement with each exposure. This may not be as desirable as random movements. If you wish to use a tripod, I have found the Bogen Geared Head (model 3275) particularly useful. If you own one, try it.

## Creating Effects

The varying registration of each image on a single frame of film produces the impressionistic look. Try setting your camera for nine exposures with a minus three stop exposure adjustment. Choose a scene with average brightness. Select an area of the image in the viewfinder and try to keep it close to the same position for each of the nine exposures. Don't get too tense trying to hold the camera in the exact same position. The slight off-registration is what produces the pleasing effect. Remember to use good camera holding techniques to insure that each of the nine exposures are individually sharp. Take several different multiple exposure pictures of the same subject. You will find each image to be slightly different. That's why this is so much fun.

Try moving the camera systematically between exposures. Experiment with each of the following camera movements to learn and understand how to achieve different effects.

- Rotate *the camera around the center of the image*. First compose the image, then identify that part of the picture which is in the center of the viewfinder. We will rotate the camera around this point. Rotate your camera about 30 degrees to the left keeping the same part of the picture in the center. The objective will be to take pictures while rotating the camera back to horizontal taking five of the nine preset exposures. The fifth exposure should be in the direct horizontal position. Continue taking the last four exposures while tilting in the opposite direction until you reach the 30 degree point. Practice this several times with the camera turned off. You will begin to get a feel for how much to rotate the camera each time to start at 30 degrees left and end up at 30 degrees right.
- Rotate *the camera using a pivot point not in the center*. Compose the image and identify a part of the picture near the lower left corner of the viewfinder. This time start from the horizontal position, and keeping that part of the image in the same place, rotate the right side of the camera downward. Nine exposures taken about five degrees apart will bring your ending position to about 45 degrees from horizontal. Try several variations of this. Select a pivot point near the upper right corner of the frame and rotate the left side of the camera. Select a pivot point mid-way between the lower left corner and the center of the viewfinder. Rotate only 15 degrees or try as many as 75 degrees. These exercises will enable you to learn the many effects of rotation.
- *Move the camera horizontally, vertically, diagonally, or with varied movements*. Holding your camera in the horizontal position aimed slightly down, fire off nine exposures while tilting the camera upward slightly with each exposure. This will stretch the subject matter upward retaining the impressionistic look. Also, visualize an oblique line from the center of the viewfinder to the upper right corner. Fire off nine exposures equidistant along this line. Try it again from the center to the upper left corner. The images will stretch the subject matter

diagonally right or left. Hold your camera in the horizontal position and fire off nine exposures while turning the camera to the right slightly with each exposure. Finally, hold your camera in the horizontal position and fire off nine exposures while turning the camera to the left slightly with each exposure. Analyze the results to learn the effects of these different camera movements.

- *Try multiple exposures while zooming.* This technique produces dramatic effects. The camera handling coordination required here is difficult and mastering this technique requires practice. This is one technique that can work with a tripod depending on the movements permitted by your tripod head. If you really want to be experimental, try combining zooming with rotation. This creates a swirling kaleidoscope of colors. Try pivoting the camera while on the tripod and zooming your lens through it's range with each exposure. You will begin to appreciate the many possibilities. I suggest working on the simpler techniques until you are consistently achieving predictable results before trying zooming with rotation.

The use of lines and shapes as compositional devices is just as important in multiple exposure photography as in conventional photography. Camera movements along lines strengthen their effect. Just as vertical lines suggest strength or growth, vertical camera movement stretches your image and creates a feeling of upward thrust. Horizontal lines are restful and suggest stability. Horizontal movement enhances this feeling. A dynamic feeling of motion is achieved by camera movements along oblique lines.

Shapes are important in any photographic image. Keep in mind that you may create new shapes resulting from camera movements in multiple exposures. For example, with small lateral movements a vertical line becomes a rectangle. The shapes you create will effect the final composition, but will not be seen in the viewfinder. You must see them in your imagination. Always be mindful of the shapes you create using multiple exposures. Also be mindful that multiple exposures may alter the sense of perspective and texture.

## **Warning!**

Failure to set both the number of exposures and the correct exposure compensation can and does result in wasted film. These are the common mistakes:

- Not returning the exposure compensation and ISO dials to their normal positions. On occasion I have forgotten to reset these dials and shot a good number of frames at minus three stops. On good days if I notice this while my subject is still available and in good light, I can retake the images. The only cost is wasted exposures. If I can't retake the image, the shot is lost as there is no recovery for a slide or negative three stops underexposed.
- Another common error occurs when first setting up to do multiples. I set the exposure compensation correctly for minus three stops and fire off nine frames

before realizing I have not set the camera for multiple exposures. I then have nine underexposed images.

- I have also set-up for nine exposures forgetting to adjust the exposure compensation. Result: nine slides or negatives overexposed three stops. You get the idea.
- Remember that multiple exposures drain batteries. For example, if you have a 36 exposure roll of film and shoot each frame using nine exposures, you have used your batteries 324 times for the roll of film. Carry extra batteries with you.
- Try to develop good habits when shooting multiples and you will reduce the subsequent grief.

## **Conclusion**

I hope you will get as much joy and satisfaction from using these techniques as I have. By employing the suggestions in this booklet you may avoid many of the pitfalls in learning this technique. Good Shooting!