Booklet #9: The Northern Virginia Alliance of Camera Clubs

BLACK LIGHT PHOTOGRAPHY

It's inexpensive! It's fun! It's easy!

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.

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.

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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.

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Black Light Photography

Introduction

So much of today's photographic creativity is done after the photograph is taken and scanned into a computer. This is all well and good, BUT—how about being "old fashioned" and creative BEFORE taking the picture.

Manipulation with a computer can be very expensive… while two fluorescent lights, some inexpensive props, and a little imagination can keep you entertained for hours and the results can be just as rewarding.

The basics of "black light" (ultraviolet) photography are the same as any other. You use the same equipment such as cameras, lenses, and tripods. Composition, technical quality, and impact are just as important as ever. What really makes a winner is CREATIVITY.

Understanding the physics of fluorescence is not essential for creative imagery. (Thank goodness!). Whether you know how many nanometers are in an ultraviolet wavelength or how the energy conversion occurs doesn't matter. What you do need to understand about ultraviolet light is that SHORT wavelength ultraviolet light causes sunburn and can damage your eyes. The kind of ultraviolet light that is used in "black light" photography is LONG wavelength and does not cause damage to the human body.

Subjects to Photograph

There are three basic kinds of props which can be used effectively to produce "black light" photographs.

1. Fluorescent Items

You can find many items which are already fluorescent. Some toys and children's clothing are manufactured with these bright neon colors. In craft stores, seasonal items bring forth new ideas every month.

2. Metallic and Glass Items

Metallic items will reflect neon colors placed around them. Glassware also reflects and distorts the colors as they pass through their shapes. Luckily, the cheaper glassware with its imperfections offers even more interesting distortions, particularly for close-ups and abstracts.

Reflectors can be made from neon poster board, papers, post-its, index cards, plastic

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cups, neon slinkys, etc. Cut shapes to fit in and around your subjects as needed. Some white papers have fluorescent brighteners in them and they will appear blue. We have found it convenient to wrap neon paper around cardboard tubes from paper towels or wrapping paper. These will stand alone as you place them around your subjects. You can also hang papers or items above your subjects.

Be observant. Look carefully in your viewfinder to be sure the reflectors themselves are not in your picture. Study your subjects to be sure there are no unwanted recognizable shapes in them.

3. Painted Items

You can paint or color almost anything. (Spraying styrofoam may be the exception.) Small items can be painted with tempera paints. Crayons, chalk, and magic markers can be used to add color or detail. Chalk and tempera paint can be dissolved in water to add a fluorescent glow.

For larger items and more even coverage, you should use neon spray paints. Good ventilation is important. A garage area works well. Careful attention should be paid to protecting the area around your spraying. (We suggest you take the car out!) An old sheet or bedspread works great and the abstract patterns left behind may prove interesting later. A large cardboard box with an inexpensive plastic turntable inside makes a very useable painting area.

Fluorescent sprays come in several colors. You can probably find green, yellow, red, orange and pink. We suggest Krylon quick-drying spray paint. (They are available in craft stores, hardware stores, and paint stores.) Make a test of each to see how they look in ultraviolet light. It is suggested that a white primer be applied to items before spraying with neon colors. Fluorescent paints are somewhat transparent and may not show their full color without a primer coat of white. (The primer may also help the fluorescent paint to adhere better.) However, if you wish gradations and translucence, try without the primer.

Mix colors and spray paints under "black light" if possible, or at least check occasionally during the painting process. Try "natural" colors (similar to the item being painted) as well as outlandish ones. Remember, "warm colors advance and cool colors recede".

The Set-Up: The "Black Light" Theater.

Your basic set-up will depend greatly upon the space and the materials available to you. You must have a room that can be darkened — the darker, the better. You will need some type of sturdy table on which to create your "theater". We suggest a working height that will be comfortable from which to photograph your subjects. We have placed a large cardboard box on top of our card table. On top of the box is a plywood board

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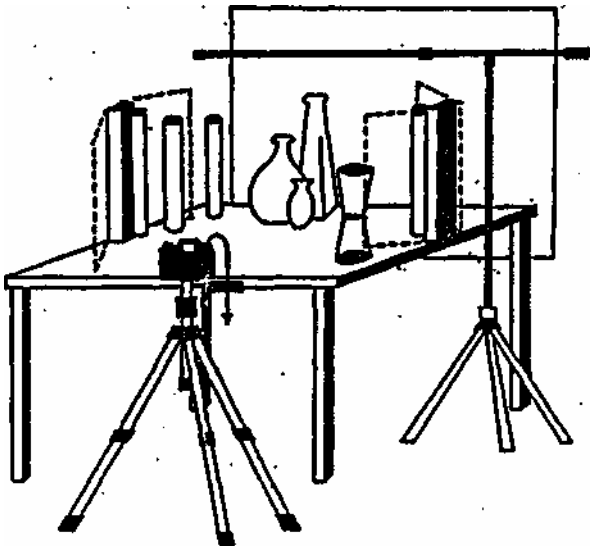
similar in size to the table. This board becomes the "stage".

The essential piece of equipment in your set-up is the "black light". You may find "black light" standard 75 watt bulbs at novelty stores around Halloween, but these bulbs become very hot and are not recommended. We recommend using an 18 inch, 15 watt fluorescent tube in a standard under-counter fixture. Be sure the bulb is marked FI5T8 BLB. You can use only one light by hanging it above the stage. However, we recommend using two fixtures placed vertically on each side of the stage. The placement, vertical or horizontal, right angle or 45 degrees, overhead or on each side, is a choice you will make by experimentation. Vertical placement is possible with clamps, or a wooden base attached to the fixture. You may also attach the fixture to a light stand with gaffer tape.



You should make some "barndoor" type reflectors to go on both sides of the fixture. These can be white foamcore or cardboard covered with aluminum foil. These will direct and increase the light and protect your lens from flare. You will probably also want to have some type of bar across the top of the stage area from which to hang objects. We have used a light stand with a "boom" attachment.

The "stage" (or base) of your set-up is an important element to consider and can be changed easily for different pictures. The simplest and most "eye-catching" results probably begin with black material on the stage and background. Ultraviolet lights will highlight every speck of dust. Use a lint remover roller often. Careful attention to little details like this in every aspect of your photography will pay off in the end.

Other materials you might try as your base are: black acrylic, neon poster board, clear glass with textures and designs below, a mirror, etc. If you use a mirror (or the black acrylic) remember it will reflect not only your subject, but the background as well.

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Backgrounds

Black backgrounds can make your neon subjects "pop" out at the viewer and have great impact, or a colorful background can be an added dimension to your photograph.

Backgrounds can change the overall appearance of any picture. Try a variety with each set-up. You may be surprised.

For a black background, you should use something that is non-reflective. Materials, such as velveteen (less expensive than velvet) and felt, drape easily over any background stand. Flat black mount boards or a painted black board may be adequate. Solid bright colors can be introduced with neon foamcore or poster board.

You can design your own backgrounds as bright or as muted as you wish with any of the neon paints, crayons, chalks, or papers. While smaller boards can be used (depending on the size of your subject) we recommend a 32 X 40 inch size for more versatility. A white board may prove more vibrant after painting. Of course, you may prefer more muted colors. Try spraying a variety of random patterns and colors on the board. Use your own creativity to make unique backgrounds. Items (such as a branch of leaves) used between the spray and the board will make patterns which can be repeated in various colors.

The closer the background is to the light and subject, the brighter it will be. You have control over this. You can simply place your background on a stand behind the set-up and snap your picture. Your background design will be as sharp as your f stop (depth of field) allows. Or, if you wish to have a more muted (out of focus or blurred) background while still maintaining a good depth of field for your subject, try moving the background during exposure.

Much of "black light" photography is easier (but not essential) with an assistant or fellow photographer. In this case the assistant can hold the background in position and gently move the board up and down, side to side, or in a circular motion, during the exposure. You might even try moving it back and forth to give a "zoomed" effect. When working alone, put your camera on timer, plan your route and procedure ahead, press the shutter release, and move your own background during the exposure. Be sure that your background covers all the area being photographed and that no shadows fall in a disturbing way. Experiment! It works!

The Photograph: Film and Exposure

So now, you are ready to take a picture! Any type of color film, negative or positive, can be used. We use 100 ISO daylight slide film to yield both good color saturation and fine grain. Daylight films may emphasize the warm reds and yellows. Artificial light films

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accent the cool blues and greens.

Many articles we have read recommend using an ultraviolet filter. Comments range from "stronger colors" to "almost garish" to "prefer without" to "see no difference". In our set-up and with our lights, we have found little or no difference, so we do not use one. You may want to experiment with your equipment.

As with any photograph, proper exposure is essential. This is a little tricky in "black light." A "gray card" may not be reliable in ultraviolet rays. We have found a neon version of the gray card which we call our "pink card." It is actually a neon pink 101/2x131/2 inch plastic needlepoint grid. We use this as we would a "gray card". Because it has tiny holes, it seems to integrate the brightness of the subject and the background for a general exposure. YOU may discover a better "pink card" to help you. If you have a light meter (in camera or other) that measures low light levels, you may use it as a starting point. A spot meter may be even better.

Most of OUR exposures using ISO 100 film have been between 4 and 16 seconds at f 16. Regardless of what method you use to determine your exposure, you will want to bracket over and under, until you feel confident with your methods. (It is much easier and less time consuming to bracket exposure than it is to set up a "still life" again after finding your exposure was wrong.)

You will find that opaque items generally require less exposure, while translucent subjects (bottles and glassware) may require more exposure. Of course, this somewhat depends on the background. This may help you decide to bracket in one direction more than the other. Careful record keeping of each shot will be invaluable in your future endeavors.

Many of your pictures will have a black background. If you are taking slides, they may be difficult for the processor to determine where they are to be cut. With this in mind, we suggest that you fill your first frame with a bright subject. This is no guarantee that that your frames will be cut o'r mounted correctly, but it will help. Inform your processor of the black backgrounds when you take them in to be done. If you are using a pre-paid mailer, put this information in big letters in the "Special Instruction" box on the envelope.

Creativity

The thing that will separate your pictures from others will be YOUR creativity. You can use the same techniques and tools that you use in any photography. Try creative filters, zooming, multiple exposure, etc. The long exposures needed allow you to move your background as well as your subject. Think "close-ups" as well as "abstracts".

Go Forth and Create! Good Luck! Have Fun!

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Equipment For Black Light

- PHOTOGRAPHIC
    - Camera
    - Tripod
    - Cable Release
    - Accessories necessary to "create"
    - Film
- NECESSARY
    - 1-2 Ultraviolet tubes, 18 inches, 15 watts, must be marked F15T8BLB
    - 1-2 Fluorescent fixtures, white, under-counter type, bare bulb
    - Neon poster board and paper Neon spray paints and/or liquid poster paints
    - Black fabric, such as velveteen
    - Lint remover
- USEFUL
    - Clamps
    - Tweezers
    - Scissors
    - Black gaffer tape
    - Scotch tape
    - Mounting putty
    - Flashlight (to set camera)
    - Lamp or room light (to check viewfinder)
    - Mirror
    - Light stands and boom
    - "Third Hand"
    - Rubbermaid turntable (for painting objects)
    - Backgrounds (painted etc.)
    - Neon translucent party cups

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    - Neon "pink card" (plastic needlepoint grid for exposure)
    - Black thread (for hanging items against black background)
- HELPFUL, BUT NOT ESSENTIAL
    - Background stand or easel
    - Black shirt (if standing in or near set-up)
    - Record keeping pages
    - White gloves (to handle glassware etc.)

Suggested Places to Purchase Items

- ULTRA VIOLET TUBES AND FIXTURES (must be marked FI5T8 BLB)
    - The Nature Store (in local malls). Ultra violet tubes in black fixtures approx. $25.00
    - Edmund Scientific, N971 101 E. Gloucester Pike, Barrington, NJ 08007-1380. Phone: 609-573-6250 Mon-Fri 8:00 to 8:00; Sat. 9:00 to 4:00 Tube & Fixture #A34,501, $32.95 plus shipping Tube only #A39,784, $14.95 plus shipping
    - Local Lighting, Electrical Supply, and Hardware Stores. (Check Yellow Pages)
    - Local Pet Stores (Check Yellow Pages) Spencer's Novelty Shops
- NEON POSTER BOARD, FOAMCORE PAPER, TEMPERA PAINTS, CHALKS, AND MOUNTING PUTTY
    - Arts and Crafts Stores (M J Design, Visual Systems, Pearl)
    - Also Giant Food, CVS, Stationary and School Supply Stores
- NEON SPRAY PAINTS (Preferably KRYLON)
    - Hardware and Arts and Crafts Stores (Cheaper at Home Depot and Lowe’s)
- BLACK FABRIC, Velveteen, Velvet, Cotton Felt, Background Material
    - Fabric Stores — Minnesota Fabrics, G. Street, etc. Also Theatrical Supply Stores
- THE THIRD HAND (or helping hand)

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    - Radio Shack (#64-20936)
- NEON "PINK CARD" (Plastic Needle Point Grid)
    - M J Design
- PHOTOGRAPHIC PROPS (Used as Subjects)
    - Garage sales, flea markets, friends and family.
- GLASSWARE, BASKETS, ARTIFICIAL FLOWERS, METAL CONTAINERS
    - M J Design
    - Pier One
    - Container Store
    - Dollar Store
    - Crate & Barrel
- SLINKY, JACKS, OTHER NEON TOYS
    - Toy Store
    - Dollar Stores
    - Party Stores
- FLUORESCENT FISHING LINE
    - Sports stores and sports departments in stores

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