



# Close-Up

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**Extreme Shooting  
of a Makeover  
Photographing Childhood  
Shooting Star Trails  
Shoots Around Victoria  
Beginners' Corner  
Unsharp Mask: Just  
More Arithmetic  
.....and more**

**"Perfect Symmetry" by Steve Lustig. This Image is a finalist in  
Photo Life's 2013 Best of Photo Clubs Competition.**



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©Hannes Ludmer (South Africa) Curiosity and the cat

## Victoria Camera Club



*Close-Up* is the magazine of the Victoria Camera Club,  
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 Mailing address: 2642 Quadra Street, PO Box 46035, Victoria, BC, V8T 5G7.  
 Deadline for submissions for the December issue is November 5<sup>th</sup> 2013.  
 Editor, Richard James, e-mail to [newsletter@victoriacameraclub.org](mailto:newsletter@victoriacameraclub.org)  
 for submissions or to advertise in *Close-Up*.

Established in 1944, the Victoria Camera Club is a group of people who share the love of photography. We come together to appreciate each other's images, to learn, both from the feedback on our own images and from the images of others, and to exchange tips on how and where to take effective photographs. Our focus is on continuous learning. Our media include both film and digital and our expertise ranges from novice to master.

### Events

We hold a number of events including:

- Three meetings a month from September to April (excluding December)
- Field trips
- Workshops
- Special Interest Groups (SIGs)
- Competitions within the club and externally

Meetings begin at 7:30 PM at Norway House, 1110 Hillside Avenue, Victoria, BC.

### Membership

Annual fees include all workshops (except studio shoots and special events), meetings and all field trips unless travel/accommodation is involved. Annual fees are: Individual, \$85; Family, \$128; Student, \$43.

For current event information and locations please go to the website [victoriacameraclub.org](http://victoriacameraclub.org) where you can also read or download the colour version of *Close-Up*.

For additional information: please contact the appropriate Committee Chair:

*Membership:* [membership@victoriacameraclub.org](mailto:membership@victoriacameraclub.org)  
*Workshops:* [workshops@victoriacameraclub.org](mailto:workshops@victoriacameraclub.org)  
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*Website:* [webmaster@victoriacameraclub.org](mailto:webmaster@victoriacameraclub.org)  
*Close-Up:* [newsletter@victoriacameraclub.org](mailto:newsletter@victoriacameraclub.org)  
 or call Lois Burton, President at 250-652-6940.

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The Victoria Camera Club is a member club of the Community Arts Council of Greater Victoria (CACGV), Canadian Association for Photographic Arts (CAPA), and the Photographic Society of America (PSA).



## Calendar

Our workshop and field trip program is too extensive to list in *Close-Up*. Please go to the calendar page on the website ([www.victoriacameraclub.org](http://www.victoriacameraclub.org)) for the latest details of all our workshops, field trips and meetings.

### Thursday, Nov 7<sup>th</sup>; Competition Night

The October competition results will be presented. One of the judges will review selected images. November's submissions are due; for November the theme competition subject is "Humorous."

### Thursday, Nov 14<sup>th</sup>; Presentation Night

Our guest speaker is Mary Sanseverino who will be presenting a program "Woman in the Wild: A photographer's field season with the Mountain Legacy Project." ([mountainlegacy.ca](http://mountainlegacy.ca)) Please see the website calendar for full details.

### Thursday, Nov 21<sup>st</sup>; Members' Night

Presentation of members' images, field trip slide shows, prints or short technical topics.

### Featured Workshops

Photoshop - 5 sessions, Lightroom - 4 sessions.

### Featured Field Trips

Goldstream Provincial Park - the river and waterfalls, salmon, birds and more (see page 19).

Snow Geese and Shorebirds - one or more trips to Delta/Richmond to shoot some of our winter visitors.

### Meeting, field trip and workshop visitor policy:

Visitors are welcome to attend any three events in a two month period subject to the availability of space and a \$20 per session fee for workshops.

**Cover Image:** "Perfect Symmetry" by Steve Lustig. This image is a finalist in Photo Life's 2013 "Best of Photo Clubs" Competition. The image was taken in the late afternoon when hummingbirds often come for a feeding. The flower is hiding a feeding tube and it attracted two female Calliope hummingbirds. Steve used a Nikon D7000 with a 300 mm f4 lens, ISO 500 and f22 to ensure sharpness across both birds. There were three flashes used, turned down to 1/16 power, effectively shooting at 1/8000 of a second.

## President's Message

I am honoured as President this year to be working with exceptional individuals on the executive. Our executive structure gives us a strong foundation on which to build, and we are always looking for innovative and creative ideas that have a positive impact on our club.

We all understand the value in goal setting and achievement, whether it is in our personal lives, in business, or to excel as an athlete. I think it is equally important to set goals as a club so that we have an overall strategy to guide our activities. This gives us a focal point to work towards and a measure of how close we are to achieving it. I think we are already well on our way to meeting the goals and objectives for the coming year. I would like to share our priorities with you:

1. Ensure that members have fun with photography in a friendly environment and that we continue to meet the needs of our members
2. Maintain a healthy membership roster
3. Raise our profile and strengthen relationships with the community by collaborating and assisting organizations through photography
4. Ensure financial sustainability

Members are the lifeblood of our club because they provide a predictable income. We need to attract new members but our first priority is member retention and keeping current members active and involved.

We have developed a new member package and short online survey. We will continue the tradition of having greeters at every meeting, and we will work towards developing a mentoring program for new members. Finally we will ensure that all of our programs remain strong.

We are building community support to help establish our club as a valuable member of the community. We hope to achieve this by creating stronger liaisons with community organizations, scheduling of bi-annual print shows, community events such as the ALS fund-raiser and making presentations to groups such as Rotary Club, Seniors Groups, Scouts and others.

While our financial sustainability will be assured by maintaining a strong membership, we are also seeking alternative funding sources or revenue strategies.

The Executive is here to serve your needs as members. Please contact any one of us to share your ideas and any feedback you might have to improve our club.

Lois Burton, President

by Tom Gore

In her 1977 book *“On Photography”* the brilliant but often annoying American critic and philosopher Susan Sontag said that photography is “mainly a social rite, a defense against anxiety and a tool of power.” She made the claim long before the iPhone and the totally ubiquitous position photography has sunk to today, when, according to Facebook sources, “more than 250 billion photos have been uploaded to Facebook and more than 350 million photos are uploaded every day.”

Sontag insisted that the “camera is sold as a predatory weapon” and that “to photograph people is to violate them.” She went on to argue that photography couldn’t really be an art form because photographs lack sufficient stylistic substance and variety to enable identification of the photographer, compared with the variety that lets us distinguish, for example, between a Rembrandt portrait and one by Francis Bacon. Her position seems strangely ironic, given that Sontag’s romantic and intellectual partner was Annie Leibovitz, one of America’s most famous photographers. And, her position seems quite inaccurate if you put a Julia Margaret Cameron next to a Richard Avedon portrait next to a Karsh.



In spite of Sontag’s warnings, in 1981 nine photographers were commissioned to shoot on the set of the movie, *“Annie”*, a film based on the play based on a comic strip and not in any way based on Annie Leibovitz. The resultant book, *“Annie on Camera”*, is a brilliant meditation on photographic style and the nine portfolios in the book show great diversity of both approach and technique. Garry Winogrand shot loose and fast in 35 mm black and white while Stephen Shore made precise and formal large format colour images. Eric Staller shot at night using multiple exposure and star filters while Joel Meyerowitz shot back stage, so to speak, on both 35 mm and large format.

I was reminded of *“Annie on Camera”* when I was asked to be one of a group of photographers and filmmakers who would document an eight day, \$500,000, extreme makeover of Victoria’s Mustard Seed Food Bank in May 2013. Out of our work came both a book and a TV documentary.

As I thought about how to shoot the project, I considered the celebrations of work by photographers such as Peter Henry Emerson and Eugene Atget, Frances Benjamin Johnston and Lewis Hine, and more recently by W. Eugene Smith and Sebastião Salgado. Each of these photographers imbued labour with both human dignity and moral value. They made pictures that told us about the nature of toil and the difficulty and sometimes danger of work, but the underlying message was always one of the meaningfulness and nobility of labour.

My much loved studio lighting and even flash on camera weren’t options since they could cause injuries to workers in the rather chaotic construction environment. So for tools I chose a Nikon D800e and a set of f2.8 Nikon zoom lenses: 14 mm to 24 mm, 24 mm to 70 mm and 70 mm to 200 mm. For tight and dark corners, I added a very old and manual 24 mm f2 lens. I shot at the lowest possible ISO, given rather difficult lighting, and that ranged anywhere from 100 to 1600. I often shot in Program mode but went to Aperture priority when I needed to coax more or less depth of field. Things I love about the Nikon D800e is that the 7360 by 4912 pixel images are big enough to allow significant cropping when necessary and, even at quite high ISO, it still produces clean, noise free images.



Tools chosen, the next thing was to analyze the structure of the project and get a sense of what would happen when and where throughout the site. Next I

tried to see what would make strong pictures and finally what would be needed to round out the telling of the whole story in pictures. I tried to impose my visual structure on relative chaos, and in twenty hours of shooting, I found many wonderful moments that showed trades people's patience, skill and dedication to the project. There were also moments of confrontation, challenge and laughter and tears.

Renovating the food bank was the main event, but late in the week a food drive was part of the project so that the renewed Mustard Seed Food Bank would be fully stocked. That part of the project was a fast-moving 200 mm street photography exercise that stretched from UVic to the HMC Dockyard.



The week ended with an emotional and delighted Mustard Seed staff returning to the fully renovated building for the first time. To watch our community come together and volunteer so much time and effort to help some of our most vulnerable neighbours was a humbling and very rewarding experience.

Each night I reviewed the day's shoot in Adobe Bridge and looked for what was still needed for the whole story. When I began final editing, I wanted the pictures to have a bit of a hyper look to them. Each image was opened in Adobe Camera Raw and rough cropped, colour balanced and exposure corrected before being opened in Photoshop CS5.

Early in my career I worked as an architectural photographer, and I've never lost my horror of converging verticals so each image was perspective corrected as necessary. Each was then burned and dodged as called for by the rather uneven lighting in the work-site and then its tonality and structure was bumped using Nik Color Efex 4. In order to crisp the

edges a tad a copy layer of each image was processed in Filter Forge 4 using an edge detection filter and then combined with the original at about 50% transparency with a soft light blend.

Our final work was reminiscent of "Annie on Camera", in the variety of approaches, tools and techniques used by the Mustard Seed photographers. Bob St. Cyr shot film in a 6 cm by 6 cm twin lens reflex. Leona Fowler engaged her subjects directly while Adriana Durian was a fast moving photojournalist and Véronique da Silva was a thoroughly impassioned photographer. And then there were times when we all put down our cameras in order to work on the project itself, to do stuff that just needed doing.

The unifying theme of comments by the photographers was how humbling it was to be part of this amazing community renewal project, how meaningful to share the laughter and tears and rewarding to have had this opportunity of giving back to our community. Several said photographing this project was a life changing experience.

While the Mustard Seed renovation was one project, brought together by one man, Paul Latour, there are many other opportunities for every photographer to use their skills, to make art and to document what is, to show what might be and to bring about change. This is the greatest thing a photographer can contribute. Sontag claimed that while " 'concerned' photography has done at least as much to deaden conscience as to arouse it" at the same time she admitted that "photographic knowledge of the world ... can goad conscience." We each have opportunities to use photography to celebrate, to goad while at the same time doing photography that aspire to artfulness. To do so is very satisfying and Sontag would be so pleased with us.





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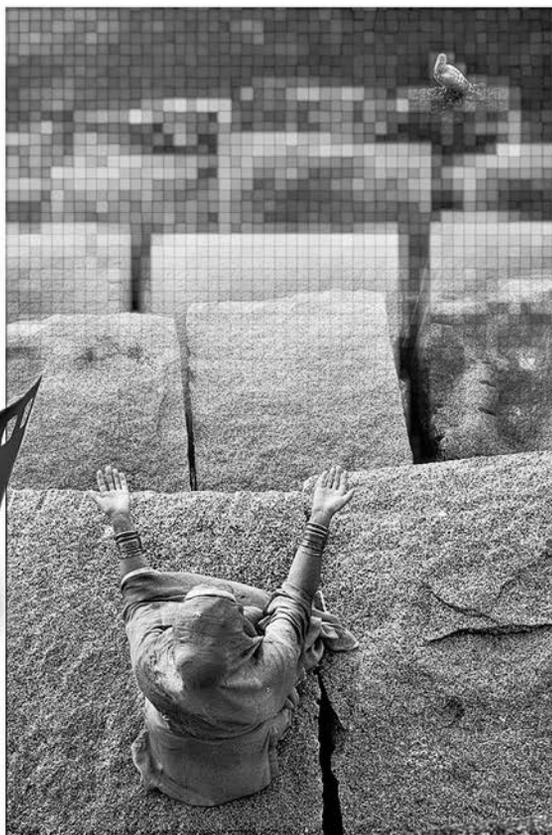
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Bridging Photo Technologies

by Anne Lei-Yeung So

Curiosity, joy, apprehension, movement, creativity, mischief, and clutter, are just a few of the aspects of childhood which provide wonderfully inviting moments to photograph. Capturing specific expressions and memories is invaluable. However, it is amazing when images can capture not just the child, but the essence of childhood as well.



To capture childhood, you can't worry about setting things up; children will set up the scene for you. You just have to be ready with your camera, any camera! To catch a fleeting moment or scene, the right camera is the one in your hand. Sometimes this might be your fanciest camera and lens while other times it may just mean using your camera phone.



Childhood is filled with wonder and activity and can provide endless photographic opportunities to capture a child's world.

Some things to try when photographing childhood are:

1. Children's expressions and activities can change quickly. So use the camera you have on hand and ready to go. This can be any camera including your camera phone.
2. Shoot using automatic settings. Stopping to set things up could mean missing a magical moment. Sometimes the image is more important than exact settings, but check exposure occasionally.
3. Get down to a child's perspective. What we see and what they see are not always the same.



4. Catch kids in the act! Look for mischief or mishap, since they are a big part of childhood.
5. Capture what a child wants you to see. Children often want to show you something so take the opportunity to photograph what they reveal. Sometimes, it may just be a dirty little hand!
6. Be ready to capture new experiences; for young children this can be often! Apprehension or curiosity offer a variety of facial expressions and body language. Keep a camera ready at all times.
7. Find opportunities to photograph children in their everyday lives. There are so many little things that occur daily at home, at play, and at school.
8. Try a bird's-eye view. Hold your camera above the scene and shoot the image looking down at a child's world.
9. Capture the dirty moments! A muddy scene or messy eating make for fun memories. Be prepared that sometimes dirty hands may reach out for your camera or lens!



- 10. Watch children play in nature and capture the wonderful worlds they create with just twigs, branches, and dirt. They often become so focused they won't even notice you and your camera.
- 11. Don't forget about their stuff! Childhood is sometimes full of clutter! Images that capture signs that a child has been there can be as alive as images of children themselves.
- 12. Photograph children at special events. Birthday parties, weddings, sporting events, festivals and fairs are some good places to photograph children.



- 13. Capture children interacting with adults and animals. Children sometimes act or respond differently when adults or animals are around!
- 14. Embrace the signs of motion in your images. Kids move quickly sometimes and capturing the movement can produce quite a special effect.



- 15. Provide children with cameras. Children have a different point of view and find many interesting and wonderful things to photograph. They also have different inhibitions than adults do and can capture fantastic images!

Go with your gut! Shoot first, edit later, don't wait for the "right shot." Look for moments of childhood that feel alive to you! Photograph your own children, grandchildren, students, or befriend those who have children and share your images!

Photographing childhood shouldn't replace children's portraits, school photos, and posed scenes as these will also be valued treasures for many years. Photographing every day scenes from childhood will keep many actions, emotions, and memories alive, providing both an artistic rendering of, as well as a visual journal of, their childhood.



## Painting with Light

by Doug Ambridge

Painting with light is fun! It is called this because that is what you are actually doing while taking the shot.

You need: a camera capable of long exposures (“Bulb” setting), a sturdy tripod, a light source (see below) but not a flash, and a dark location. Here is how it’s done:

**Frame Your Shot:** Set your camera to the highest ISO setting, then switch to Live View mode, and, with your camera on the tripod, use the image to compose your shot.

**Set Up the Camera:** Focus on the subject using manual focus. Use a relatively long exposure. Stop down the aperture to around f11 as a starting point. Set the ISO to 100 and set the shutter speed to “B” (bulb).

**Light Your Subject:** Open the shutter and use your light to “paint” the subject. You can use the light as a brush and “smear” the light, or you can use it as a pen and do precise work. Areas where you go slowly will be brighter than others; don’t linger too much on the same spot.

**Check the Result:** Inspect your image. If the subject is underexposed, you need to light the subject for a longer time or move the light closer.

There are many light painting tools; here is a short list:

**Flashlights:** A mini-Maglite is the perfect light. It is cheap, rugged, light, small and uses AA batteries.

**LED lights:** These are everywhere. LEDs can emit a variety of colours from infrared to ultraviolet to white light.

**Lighters and Candles:** These light sources will be very orange or red, ideal for longer exposures.

**Cell Phones:** Like computer screens most phones use a liquid crystal display which emits a bluish-white light.

**Sparklers:** These are bright. Have your subjects move them quickly and draw clear lines in the air.

**Laser Pointers:** Laser pointers will draw crisp, sharp lines on just about any surface.

For further information visit: [www.youtube.com/watch?v=4IS-DBZEXcA](http://www.youtube.com/watch?v=4IS-DBZEXcA), and [digital-photography-school.com/25-spectacular-light-painting-images](http://digital-photography-school.com/25-spectacular-light-painting-images).

## September 2013 Competition Judges

We would like to thank our three September competition Judges, Jean-François Cléroux, Rod Quin, and Chris Deakin, plus our Novice category judge, Pam Irvine.

**Jean-François Cléroux:** (Nature and Open) Jean-François Cléroux grew up in Vancouver. While in high school he worked for several local newspapers, the Province and Vancouver Sun, several magazines, the BC Lions and the Vancouver White Caps professional sports clubs.

He continued his work in the world of fashion. He retired from commercial photography after working for Minolta Canada at the 1986 World EXPO. He continued for three more years doing volunteer work with several wildlife organizations. He has spent the last five years working on artistic projects including, Muse as Art, Fine Lines, Reflections of a Woman, SeaScapes, and Coastal Spirits.

He is a CAPA Certified Judge, tutors photography and blogs at [www.EyesOnPhoto.com](http://www.EyesOnPhoto.com).

**Rod Quin:** (Creative and Theme) Born in Glasgow Scotland, Rod grew up on the West Coast and is a graduate of Emily Carr Institute. With a passion for the visual, sculpture and photography were his main focus. Life took Rod to the movie industry in Vancouver. Having been a set designer for many years, photography played a huge roll in his successful career.

Sculptural imaging with optical tiles is Rod’s latest pursuit. His “*Optical Tiles*” are now patented in China, Australia, Japan, and are patent pending in the US, the EU, and Canada. [rod@ombrae.com](mailto:rod@ombrae.com)

**Chris Deakin:** (Prints) Chris resides in Victoria and does lots of things as photographer, web designer, computer tech support person, an instructor and sales consultant. He is an Adobe Certified Expert for Fireworks, Flash, and Dreamweaver as well as an Adobe Certified Instructor. He is also an Apple Certified Pro with Aperture and in the near future Adobe Lightroom.

Chris has a passion for photography. He got his first camera when he was 8, shooting with Pentax gear in black and white and colour. He teaches at the University of Victoria, Royal Roads and Camosun College. His photographic style includes nature, environmental portraits, still life, weddings and special events. Chris’s work has appeared in a variety of publications, web sites and speciality trade magazines. [www.deakin.ca](http://www.deakin.ca) and [www.mixedlight.com](http://www.mixedlight.com)



*Advanced Digital Nature - 1<sup>st</sup>*  
 “Hungry Little River Tern” by Suzanne Huot

Judge’s comments: A beautiful close look at nature at its best. This is a great (exceptional) catch of this little fellow and the maker should be very proud. The bird is very sharp and the exposure is right, bang on. These, along with wonderful lighting, nicely display great detail in the bird’s very fine downy-like feathers. The composition along with the great DOF and rock formation all work well together as do the colours.



*Advanced Nature Print - 1<sup>st</sup>*  
 “European Wall Lizard: Podarcis muralis”  
 by Richard James

Judge’s comments: A great image, wonderfully composed. Right place at the right time. Well done!



*Advanced Digital Open - 1<sup>st</sup>*  
 “Washing Dishes” by Brian Asmussen

Judge’s comments: Nicely done with these “Night Time Bandits.” This is a great well staged concept image that is well executed. The unnatural green lighting adds to this image adding a bit of mystery to it. The dogs have acted well and have played their roles perfectly. A perfectly quirky image, but at first I found the green wall very distracting. After only a short time I decided that it’s perfect as is. Sharp and nicely detailed.



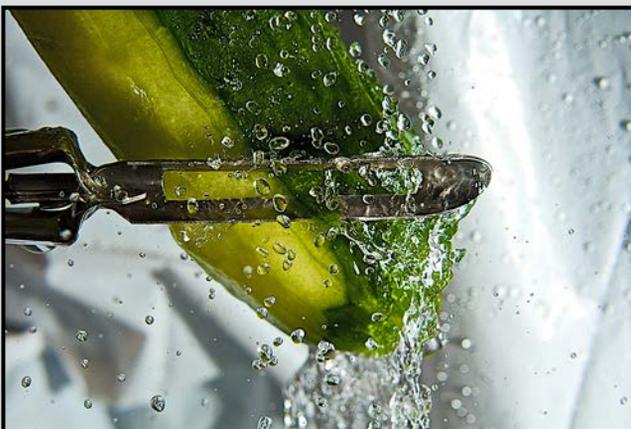
*Advanced Digital Creative - 2<sup>nd</sup>*  
 “Bridge to Dream” by Dan Takahashi

Judge’s comments: This is really something. A photographic painting to be sure, such attention to the elements, wonderful. I’m wondering how this was done, I really want to cross that bridge. (Ed. Oil Paint filter in Photoshop.)



*Intermediate Monochrome Print - 2<sup>nd</sup>*  
 "Haystack Rock" by Jonathan Adams

Judge's comments: Wonderful tonal values and composition combined with a slow shutter speed make for a wonderful image. Great work!



*Intermediate Digital Theme - 2<sup>nd</sup>*  
 "Prepping a Cuke" by John Ducker

Judge's comments: Wow, that energy in action! I can feel the forces of the different elements in the image captured in an event unfolding. Great technical skill is demonstrated here.



*Intermediate Nature Print - 2<sup>nd</sup>*  
 "Sandhill Crane" by Doug McLean

Judge's comments: Amazing detail and clarity! Hard to take your eyes off the image. A slight composition change to the placement of the eye would have enhanced this amazing image.



*Intermediate Digital Creative - 2<sup>nd</sup>*  
 "Dance Is Continual Motion" by Nicci Tyndall

Judge's comments: There is a wonderful feeling of grace communicated by the photographer. The full swing of the dancer is very musical. If I could I would take this image another step and introduce a bit of motion blur and soften the focus near the edges.



*Novice Digital Nature - 1<sup>st</sup>*  
*"Harbour Seal, Oak Bay Marina"*  
*by Richard Marshall*

Judge's comments: Enchanting portrait of a seal. Well composed and focused. Good exposure with soft catchlight in eye.



*Novice Digital Open - 1<sup>st</sup>*  
*"Piano Bench" by Judy Bandsmer*

Judge's comments: This striking image in black & white shows the photographer understands the impact of light in an image. It becomes an interesting abstract. Shallow depth of field works.



*Novice Digital Theme - HM*  
*"Single Drop" by Chelsea Smyth*

Judge's comments: A lovely drop full of detail pulls the viewer in to get a closer look. Good attempt at macro.



*Novice Open Print - 1<sup>st</sup>*  
*"Going For the Catch" by Del Lucas*

Judge's comments: Excellent photo of heron on the hunt. Well composed with beautiful exposure. Sharp focus captures every detail in the bird and reflections.



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## Shooting Snow

What colour is snow? You may think that this is a ridiculous question, but how many images of snow scenes have you seen with grey snow?

There are two primary issues; colour balance and exposure. If the scene is primarily open sunlit snow, then colour balance is generally not a problem. The problem arises when you have snow in shadow from a relatively clear sky. The shadow area is then lit by the blue “skylight” giving you blue snow! Because there are two light sources with different colours the only way to correct this is with a masked colour adjustment layer.

Now to deal with the bigger issue of exposure. Exposure meters in cameras are based on the well-established “principle” that an average scene reflects 18% of the light falling on it. This clearly falls off the rails when the image is predominantly snow.

There are at least three ways to approach this issue. Some recent cameras have well programmed auto-exposure that is capable of identifying highlights and shadows and making appropriate exposure calculations. You can then end up with a pretty good approximation to the right exposure. However, it may still need some adjustment.

The second way of doing it is to check the histogram and make sure that the right edge is very close to the right side of the LCD panel (note that in this exceptional case this applies to both RAW and JPEG images). Adjust if required by exposure compensation or changing your manual settings.

The third way is to use the spot metering function in your camera and meter the brightest part of the snow, then manually set the exposure to overexpose by about 1½ - 2 stops, and check the histogram.



## Cleaning Tripod Legs

Have you ever got sand or other material stuck in the tripod leg locks? If so, this is the way to clean them out.

If your tripod has screw locks, then you simply unscrew the clamp piece and gently pull the lower leg segment out. As it comes out you will probably see two pieces of plastic wrapping the lower leg itself with a gap between them. These pieces have a small boss on the inside which fits into a hole on the lower leg to realign them. Note that the gap is used to align the leg segment correctly when you replace it in the section above.

Just pull the lower segment right out, remove the clamp piece, wipe off any grit and other dirt on both the inside of the clamp piece and the leg itself with a cloth and make sure everything is dry. Simply replace the clamp piece on the lower leg section and the plastic pieces, align it correctly in the leg and insert the lower section. Then all you need to do is screw the clamp tight. (Based on Gitzo carbon fibre Series 5 tripods, others should be similar. Check your manufacturer’s website for a components sketch.)

For lever type clamps the procedure is very similar, however you will need a screwdriver, Allen key or small wrench to loosen the bolt that holds the clamp in place on the upper leg section.

Again, you simply slide the lower section out, catch the two plastic pieces, remove the clamp and wipe everything clean. Reassembly is the same as for the screw type locks. (Based on Manfrotto carbon fibre clamp style tripods, others should be similar. Check your manufacturer’s website for a components sketch.)

If you are using aluminium or other metal leg tripods the procedure should be similar although some models may use an O-ring instead of the plastic inserts.

If you’ve been on the beach, you have probably also got salt water on the lower leg sections. The solution here is simple; a hose or, slightly more messy, the kitchen sink. If you’ve been shooting dragonflies then it’s probably organic mud that gets washed off.

If you’re working in very dusty locations, it is probably a good idea to keep as many moving parts of your tripod head covered as possible. A grocery store plastic vegetable bag works well for this. I’ve used my tripods in some pretty dusty locations with no problem.

by Jonathan Adams

With the development and improvement of digital cameras over the last decade, astrophotography and night photography have undergone a corresponding revolution. Modern digital SLR cameras are particularly suited to this type of photography, especially if modified with specialty sensor filters.



For the average SLR user, shooting star trails can be a very rewarding introduction to night photography as it requires only a minimum of equipment. Besides a digital camera and a sturdy tripod, an intervalometer and image stacking software are required. And of course, a dark and clear sky, preferably as far away as possible from the light pollution of the city (this image was taken at Crater Lake NP, Oregon).

An intervalometer is essentially a camera release which can be programmed to automatically take a series of exposures of a given length. The brand name versions are quite expensive (~\$200) but third-party versions can be had for as little as \$25. You may have to look under the term “timer remote control” from a company such as [Linkdelight.com](http://Linkdelight.com). Another option is the Magic Lantern firmware download, which changes the camera’s operating system and includes a built-in intervalometer.

First, a quick astronomy primer. As the earth rotates, the night sky appears to rotate about the poles. For us in the northern hemisphere, when facing north the stars appear to rotate counterclockwise around a point very close to Polaris, the “pole star.” This star forms the end of the handle of the “little dipper” constellation. All the stars rotate one complete circle in 24 hours, with the apparent distance of travel longer the further away from the poles a star is. If star movement is not desired, using the “rule of 500” can be useful; the longest exposure (in seconds) that will not show star movement is 500 divided by the focal length of the lens,

i.e. for a 50 mm lens, any exposure longer than 10 seconds will show star trailing. The other factor is the phase of the moon; if it is present in the sky, the light from the moon will eventually cause the background sky behind the stars to “wash out” and not appear black anymore. The larger the disk of the moon and the longer the exposure, the more of a problem this will be. Software such as “The Photographer’s Ephemeris” is very useful for determining the phases of the moon, directions and times of moon and sun rise/set, and the times of various twilights. The end of astronomical twilight is the start of a truly dark night sky.

One option to capture a star trail would be to take a single, very long exposure. While this is possible, and was the preferred option with film cameras, with modern digital cameras this frequently results in very noisy, washed-out images. A better technique is to take a series of shorter exposures and combine, or “stack” them with software to give bright star trails with a pleasingly black sky. More on this later.

A quick discussion of camera settings is in order. When stacking a large number of exposures, variations in the camera will cause the stars to change appearance from shot to shot. It is important to turn off any long-exposure noise reduction, to prevent gaps in the trail. If the camera is set to Auto-WB white balance, the colour of the stars may vary. Using a daylight white balance setting is a good starting place. (Moonlight is reflected sunlight, and the stars are just distant suns. So this white balance setting is appropriate.) Auto-focus and image stabilization should be turned off. Most intervalometers require the camera to be in “bulb” mode to give the device complete control of the shutter. The other variable, which can cause a flicker in the exposure brightness, is the aperture. Modern digital SLR cameras close and open the aperture mechanically with each exposure, and the exact amount can vary a bit between shots. Shooting with the aperture wide open will prevent this, as well as allowing more light in with each shot. From the camera’s perspective the stars are infinitely far away, and depth of field is really not an issue. (A quick check with my depth of field calculator shows that even with a 50 mm lens at f1.8, the hyperfocal distance is 47 m; at this focus setting, everything from 23 m to infinity will be in focus.)

Finding focus in the dark can be a challenge. There are three options that I know of. The easiest is to focus the camera and lens combination during the day, and make a small mark on the lens for use

later. Another is to place a flashlight at the hyperfocal distance from the camera and focus on it, or focus on the moon if it is present. The third option is to use the liveview feature on modern digital cameras, preferably at full magnification; find a star in the viewfinder and adjust the focus until the star appears as small as possible. (Note: some lenses focus beyond infinity to accommodate auto-focusing.)

Once the camera settings are set and the scene composed, take a series of exposures of varying lengths to find the appropriate shutter speed. Even properly exposed, the histogram will only show a small peak quite far to the left; zoom in with the LCD screen to ensure that the stars are visible. Longer exposures will show more stars, as the fainter stars are captured by the sensor. Too few stars will only show a few trails, while too many will give a very busy final image. For the image in this article, I shot 225 exposures of 20 seconds each, at f2.8 with a 14 mm lens, at ISO 400.

After finding the correct exposure, take two or three “dark frames” with the lens cap in place. These will serve to mark the start of the trail sequence, as well as help with noise reduction later. Then remove the lens cap, start the intervalometer, and enjoy the night sky while the camera does its work. Be aware that cold drains batteries, so start fully charged. A spare carried in a warm pocket is never a bad idea. The other issue is dew, which can form on the cold glass of the lens. Placing a chemical hand warmer on the lens barrel, secured with a rubber band, will keep the lens clear.

Once you have your trail exposures, take a couple of extra dark frames. For this shot I also wanted a nice foreground, so I turned the long-exposure noise reduction back on and took an additional longer exposure of four minutes to give a foreground image. The moon was at last quarter phase.



The star trail images can be processed in Photoshop. Each successive exposure should be imported as a separate layer, blend mode set to “lighten,” then the image flattened and the process repeated for each shot.

This is quite time and labour intensive, and there are programs available that automate this task. Registax is a free program (isn't that nice!) and Starstax, the one I use, is free-ware. The full version can be downloaded free, and if you enjoy it a donation to the developer is suggested.

These programs will stack the exposure frames, “subtract” the dark frames to reduce the sensor noise, and spit out the finished star trail image. The programs are very simple to use with clear and short user manuals. Starstax only accepts tif or jpg input images, so I used the software which came with my camera (Digital Photo Pro for Canon cameras) to batch convert my RAW files to tif format.

The processing can take quite a bit of time as the program imports and blends each successive exposure. So go make a cup of coffee, or browse the internet for all that camera gear you are drooling over.

For the image here, I then took my finished star trail image (left), imported my foreground image (above) as a separate layer and blended them using a layer mask in Photoshop. The final image is on page 16.

Some useful links:

Starstax is available at: [www.markus-enzweiler.de/software/software.html](http://www.markus-enzweiler.de/software/software.html)

Registax is available at: [www.astronomie.be/registax](http://www.astronomie.be/registax)

*The Backyard Astronomy Guide*, by Terence Dickinson and Alan Dyer, has a chapter devoted to DSLR astrophotography.

## Dreamscape

by Lois Burton

One of the challenges in creating composites is finding images that work well together. I normally start with a background layer and work up from there.

For this image, I chose a seascape at Tofino for my background. It was taken on a dull, grey day and was quite monochromatic. I thought that a black and white composite would be a good approach.



I added a lens flare to the background image using the render filter in Photoshop. There still wasn't a lot of interest in the sky, so I added three additional layers. On the first layer I painted in a row of trees on the left at the horizon line using tree brushes that I had downloaded. This layer was duplicated, flipped horizontally and the colour inverted resulting in a row of white trees on the right horizon line. I then painted in some clouds on the next layer to create some interest in the sky.

Above this, I placed an image from a model shoot. First, I created a layer mask to isolate the model from the background. Then, I scaled and positioned her so that she took up a lot of the scene. The background layer was duplicated again and placed above the model using a soft light blending mode. This allowed the seascape to show through the model.

I painted in some smoke on the left side of the model, with opacity of 19%, and added the image of the model seated. Again she was isolated from the background using a layer mask. Another layer of smoke was added above the model to cover some of her skirt at an opacity of 24% allowing the skirt to still be visible. Finally, the composite was converted to black and white using a black and white adjustment layer.

## I Can Make It

by Lloyd Houghton

The image was taken in JPEG format with a borrowed Nikon D40X. Camera settings were ISO 100, f22,  $\frac{1}{4}$  second. The lens was a Nikkor 18-200 mm, with the shot been taken at a focal length of 112 mm, a 35 mm equivalent of 170 mm.

I was in Auckland, New Zealand, in the middle of the day, walking along the North Wharf promenade of the newly developed Wynyard Quarter, when I noticed the light reflecting off the water onto the side of a dark red coloured coastal freighter moored to the old wharf.

While thinking about my response to this, a gull swooped into view. With no time to think, two shots caught the bird in the frame before disappearing out of range, the first shot being best.

The camera was panned generally in the direction of the gull's flight. As the shot was at least one stop underexposed, it didn't look very good when viewed on the back of the camera and thus didn't get immediate attention after being downloaded.

Closer examination showed there was more to the shot than met the eye, and that the contrast I noticed at the time of capture could be recreated. The image was cropped to approximately 60% of the original height, by taking even amounts off the top and bottom.

Curve adjustments were applied to increase the overall contrast of the image and then to selectively increase the contrast of the bright light spot and of the gull against the side of the boat. Finally, moderate vignetting was applied to the whole image.



## Tuesday Shoots

by Alan Heartfield

Theme: Peace, 12 November. Since most of the members of the Tuesday group remember well the Summer of Love, this should be an easy theme. Find subjects that produce a peaceful image or that illustrate the ever-elusive process for peace. This can be interpreted as peace on the street, peace in the city, peace in the country, peace in the world, or Peace in the Valley.



Theme: Conflict, 26 November. Now that the Tuesday group has created the definitive portfolio on peace, it is obviously necessary to cover the antithesis: conflict. I hope that this is a more difficult theme to capture than the previous one. Unless we re-schedule the shoot for Saturday night outside the Strath, it may be necessary to shoot conflicting colours, conflicting traffic signs or head down to the Legislature. There should be some conflict down there. Don't forget to take balanced shots unless you want to create more conflict.



## Weekend Shoots

by Dave McLean

Goldstream Provincial Park: While Goldstream is a great place to visit at any time of year, October and November are particularly good months to visit. The rains in October and November bring out more colour in the leaves, and increased flow in the river and falls bring the seasonal creeks and waterfall back to life. You will be welcomed by the scent of the forest, the cedar and fir, as well as the smell of decomposing salmon. Photo opportunities abound, with possibilities including: the four waterfalls, the river itself, the wildlife, and the flora.

The park has four waterfalls; a seasonal fall on the east side of the river (south of the bridge), Goldstream Falls (in the campground), plus Niagara Falls and Hidden Springs Falls, both of which are accessed from the southbound lane of the highway. Whether you want to capture a very fast exposure, to view water droplets, or a long exposure to smooth out the flow of the falls and river, you might use a tripod and a polarizer to cut down on glare as well as increase the exposure time of the shot by about two stops.

When photographing the river and seasonal creeks you may wish to get really low. The river and creeks have wonderful bends and turns that allow you to frame your picture in a multitude of ways. Again, consider using a polarizer.

There is a lot of wildlife within the park. Birds, being the most common, will generally provide you with opportunities for Bald Eagles, Heron, Raven, Stellar Jay, American Dipper, Gold-crowned Kinglets and Varied Thrush. You may even get lucky enough to spot a mink, or river otter. For most of the wildlife, you will want a long lens, and perhaps your flash, as the forest canopy filters out a lot of light and it is often very uneven.

Goldstream has a great variety of plant life and, in the fall, the added bonus of mushrooms. Thick moss is everywhere, and old man's beard and other lichens on the trees, and fungi along the various trails, give you an opportunity to use your macro lens. For fungi, you will want to get really low. Consider packing knee pads and a piece of polythene to kneel or lie on. You need a tripod that can get low to the ground. Consider also using your flash and reflectors, so that you can control the light, particularly if you want to show details of the underside of the mushroom.

Watch the club calendar for other November field trips.

## Reflections

by Nancy MacNab

When you review your photographs, you can usually see a certain common theme that runs amongst them, a ribbon of an idea that threads itself through each one and unifies them into a series on a particular topic or area of interest. Upon reflection, what do you like to photograph? Some common subjects for photography include landscapes, animals, travel, people, and architecture.

While these can all be beautiful subjects on their own, you can double their beauty by shooting near water, glass, mirrors, or something reflective. Reflections can also produce wonderfully abstract images when the reflecting surface is not perfectly smooth. Photographing a person or object in front of a mirror allows the viewer to see both the front and back at the same time. Reflections can be found even in spots that are perhaps not obvious, such as polished cars, windows, and shiny objects. They can add their own challenge as you have to keep an eye on just what is included: you, your tripod, or that dirty dump truck behind you, for example. Sometimes this will be what you want, but at other times including yourself or the leg of the tripod in the reflection can be a distraction.

As with all photography, lighting, composition and exposure are the key to making a great image. The quantity of light can be greatly increased by a reflective surface, and, of course, you need to watch out for "hot spots," where a light source can be reflected as a brilliant white spot or area. Such hot spots can also appear on subjects that you don't necessarily think of as being reflective, such as leaves or plastic objects.

One thing that is commonly used to control such reflected light is a circular polariser. Frequently used by nature photographers when shooting water or foliage, the polariser can help you to see to the bottom of the lake, or to show that the leaves really are green, not white.

While the usual suggestions for composition will work just as well with reflections ("rule" of thirds, use of leading lines, etc.), this can be a good time to break them, too. But, perfect reflection may be a good time to split the frame in half, as long as both the subject and the reflection are equally interesting and deserving of equal space in the frame. At other times, photographing just the reflection, with none of the actual subject in the frame, can make for a more intriguing image.

Exposure, as always, depends on what result you want. If the subject is formed of mid-tones and is fairly evenly lit, then shooting on meter will usually work. The challenge arises when you want to emphasize a part that is distinctly lighter or darker than the rest of the subject. Then you will need to adjust your exposure to under or over-expose as compared to the exposure the camera's meter is suggesting. (Hint: use the in-camera histogram.)

Reflective surfaces can be useful for lighting an image even when they are not included in the resulting composition. A piece of white or gold paper, a crumpled and flattened piece of tinfoil, a white wall or sheet can all be used to "bounce" or focus light on a particular part of the subject. It can also be used to direct light away from an area if you want to deemphasize that spot.

Autumn leaves reflected in a lake or stream is a classic photograph at this time of year. Or how about gathering some household objects and several mirrors to get multiple reflections? And can you light a bottle so that the photo shows its shape without any hot spots? Another challenge can be to light a photograph using only reflectors, no flashes or other artificial light sources.

Next month we'll look at how to control reflections and using reflective surfaces. In the meantime, autumn leaves reflected in a lake or stream is a classic photograph at this time of year. So, what are you waiting for?



by John Coenraads

Unsharp mask refers to a sharpening technique originating in the darkroom. By combining the original image with a so-called unsharp mask, the original image is sharpened. Figure 1 shows how the unsharp mask is created and applied. In a) we see the intensity profile of the original image. It shows some blurring in the transition from dark to light. From this, a negative image with even more blur is created which, when added to the original image, yields a pattern that is uniform in density except where the edge transition occurs. This is the unsharp mask. When this is combined with the original image, as shown in b), it yields a sharpened version of the original image. Note the characteristic trough and peak. It is this technique which Photoshop simulates digitally through its Unsharp Mask filter.

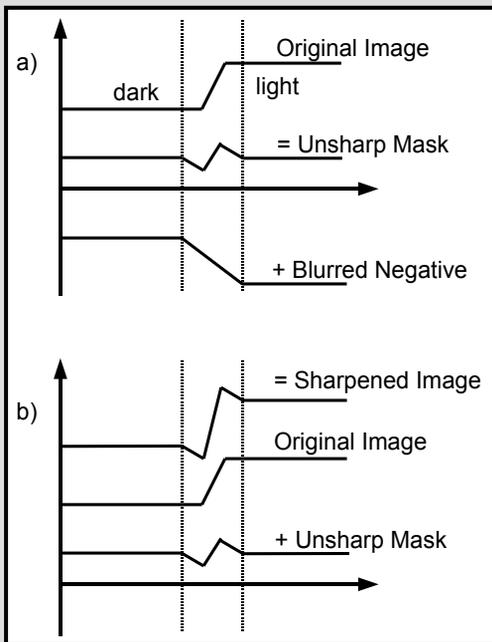


Figure 1: An unsharp mask, derived from the original image, is used to sharpen that image.

**Filters Using Convolution**

In last month's Close-Up (Sharpening: It's Just Arithmetic) we explored how an image may be sharpened using a computation with the somewhat forbidding name: convolution. We limited ourselves to an image in one dimension (a row of pixels) and saw that the basic calculations involve only simple arithmetic. When we applied the convolution matrix  $[-1,3,-1]$  to the original image, we obtained the result shown in Figure 2a) which shows the characteristic trough and peak of sharpening.

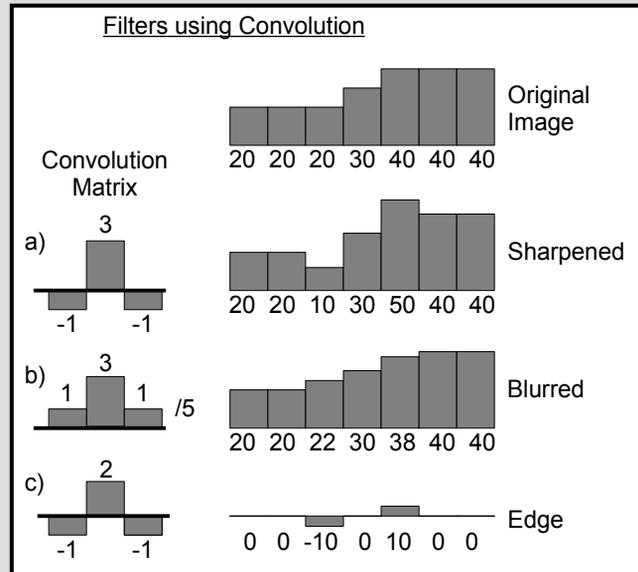


Figure 2: Sharpening, blurring and edge finding using convolution.

Did you try out the convolution matrices  $[1,3,1]$  and  $[-1,2,-1]$  as suggested?

Figure 2 b) shows the result for  $[1,3,1]$ . Differing only in the sign of the outer two integers, it almost makes sense that whereas  $[-1,3,-1]$  sharpens,  $[1,3,1]$  does just the opposite by blurring the edge even more. There is one wrinkle: since the sum of the numbers in the blurring matrix add up to five and not one, as it did for the sharpening matrix, we need to divide the final result by five to keep things properly scaled.

Figure 2 c) shows the rather interesting result for  $[-1,2,-1]$ . Since the numbers in this matrix add up to zero, it again almost makes sense that the basic image has disappeared. Like the smile on the Cheshire Cat, all that remains are the edges of the dark to light transition. And, if it seems to you that this would form the basis of an embossing filter, you would be right. Furthermore, if you spot that this is beginning to look a lot like an unsharp mask, you would also be right.

As a programmer in a previous life, I find it rather stunning that so many of Photoshop's filters use the same rather trivial convolution algorithm. Simply by plugging in different values for the convolution matrix, a host of different effects can be achieved.

**Unsharp Mask**

Figure 3 illustrates the steps involved in the digital implementation of unsharp mask. We start with the

original image and add the negative of (i.e., subtract) the blurred image found by convolution (Figure 2 b). The result is the unsharp mask: equivalent to finding the edges (Figure 2 c). We scale this by a factor of 5 and add the result to the original image. The final result is identical to the sharpening obtained by convolution!

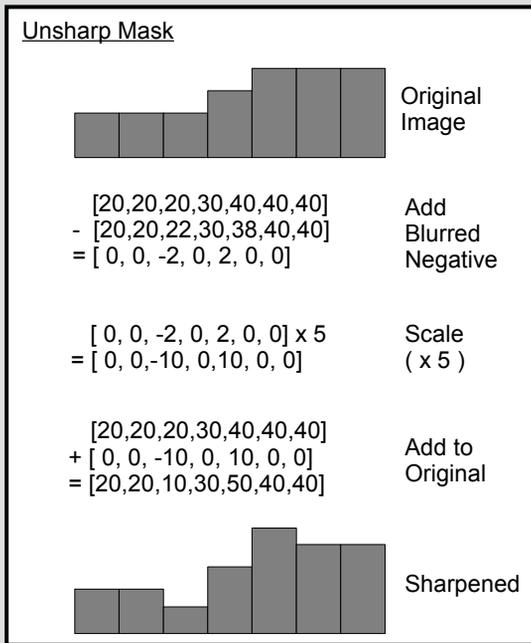


Figure 3: The steps involved in Unsharp Mask

So why bother with Unsharp Mask? The answer lies in the provision of a new parameter called Threshold.

**Amount: 1 - 500%**

This determines the scale factor used when scaling the unsharp mask. In our example we used a scale factor of 5, i.e., 500%. It therefore determines how much sharpening is added. Values between 70% and 90% usually work well in Photoshop.

**Radius: 0.1 - 64 px**

This controls the amount of defocussing (Gaussian blur) used to create the unsharp mask. As such it affects how far away the algorithm “looks” for an edge and the number of pixels surrounding the edge pixels affected by sharpening. Values between 1 and 2 are recommended.

**Threshold: 0 - 255 levels**

This parameter is the *raison d’être* for Unsharp Mask and is not available in Sharpening by convolution. Once the unsharp mask is calculated, this parameter lets you set those values, whose magnitudes are smaller than the threshold value, to zero. And since some of these smaller

values are likely the result of noise in low contrast areas, which we therefore do not wish to sharpen, Threshold is a very desirable control. Figure 4 illustrates how this works. Threshold should routinely be set to a value of at least 4 and could go as high as 16. Examine areas of lower contrast for the presence of artifacts of the sharpening process to make this judgement.

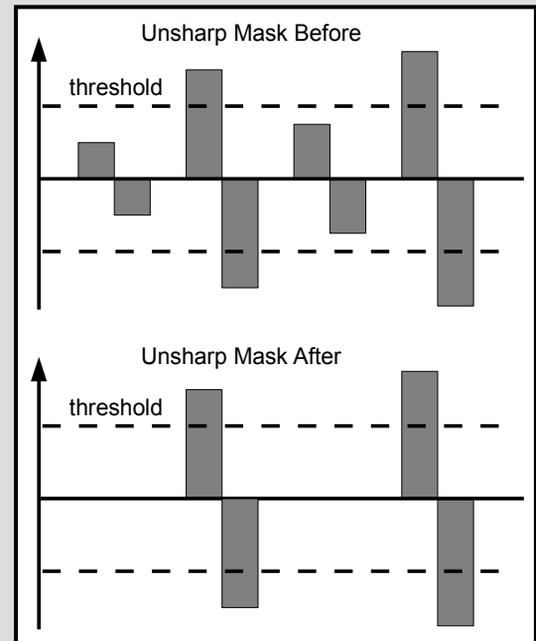


Figure 4: Threshold sets values within a specified range to zero.

Finally, for the mathematically inclined, adding the edge matrix [-1,2,-1] to the identity matrix [0,1,0] gives [-1,3,-1], the sharpening matrix, demonstrating that Sharpening by convolution is equivalent to Unsharp Mask with a Threshold of zero. Neat!

Sharpening is a two edged sword. Although it may give the illusion that the image is sharper, sharpening is ultimately a destructive process. Examine some edges at 400% after sharpening, and you will see that the excrescence appearing at the edges in no way recovers detail lost due to an image being blurry or out of focus.

It is essential to save a processed image as a “*master image*” before applying sharpening. Then, depending on the final media output (web, projected/LCD screen, inkjet, offset printing, etc.) and the image content (fine, medium or coarse detail, etc.), the image size and degree of sharpening can be adjusted as needed. Books can, and have, been written about sharpening, and it is best to seek and heed expert advice. Ref: “*Real World Image Sharpening*” by Bruce Fraser and Jeff Schewe.



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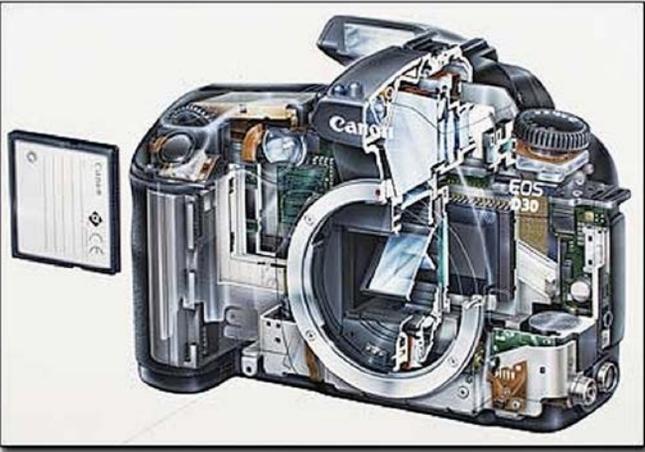
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