Ten Photographic Techniques

(worth learning)   By Mike Whalen

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1 - TAKING SHARP PHOTOS

Sharpness is an essential element in making good photos. If your subject lacks sharpness it will be less effective than a sharper image. Strive to eliminate blurriness in your images to achieve a more professional look.

Fortunately, for static (non-moving) subjects, following a few simple rules will guarantee a sharp image every time.

This section presents tips for making sharp photos and shows some examples of static images taken on a tripod.

Using a tripod may not always be practical. However, you can still take sharp images without a tripod if your shutter speed is fast enough. Raising ISO will increase shutter speed and at the same time increase image noise. But noise can more easily be removed in post-processing than can removing blur. Always choose noise over blurriness since it is a better trade-off.

RULE 1: STABILIZE THE CAMERA

A.   Use a (High-Quality) Tripod (and turn-off Image Stabilization)

B.   Use a Shutter Release (or) 2-Second Timer

C.   Use Mirror Lock-Up for DSLR's (if available) to prevent mirror vibration.

D.   Hand-Held:

    a)   Turn-ON Image Stabilization (if available)

    b)   Increase your shutter speed to at lease 1/(focal length) seconds

    c)   Brace yourself or your camera

    d)   Take multiple pictures – pick the best one

    e)   If object is moving in one direction, pan with the subject

RULE 2: STEADY YOUR SUBJECT

A. Avoid photographing on windy days

B. For moving subjects - increase shutter speed

C. Consider using a flash (especially in dark places)

RULE 3: MAKE SURE SUBJECT IS 'IN-FOCUS' AND FALLS WITHIN Depth-Of-Field

A. Check autofocus point for correctness

B. Use "Live View" or "Focus-Peaking" to Manually Focus

C. Increase "Depth-Of-Field" if necessary

OTHER LENS CONSIDERATIONS

A. Lens quality matters – Buy high-quality glass.

B. Use Lens at Sharpest Aperture (about 1-2 stops above wide open)*

C. Consider lens Depth of Field (DOF) range.

 * Check SLRGear.com for reviews on many lenses

VARIABLES THAT AFFECT DOF*

All Affect DOF	Wide DOF	Narrow DOF
Distance to Subject (Focal distance)	Farther Away	Close In
Lens Focal Length	Short (14 – 24mm)	Long (100 – 300mm)
Aperture Size	Small (f/16, f22)	Large (f/2, f/4)
Sensor Size	Small (micro 4/3)	Large (full frame)

* (Search internet for Depth-Of-Field Calculator Apps and definition of "hyperfocal distance")

SHARPEN WITH POST-PROCESSING*

- Post-processing can be used to make "non-blurry" images sharper but do not expect a miracle in removing blurriness via post-processing. Images may also appear sharper when contrast and clarity are increased.

  - Lightroom

    - Sharpening slider

    - Clarity (increase)

    - Contrast (increase)

  - Photoshop

    - Un-sharp Mask

    - Smart Sharpening

  - NIK Collection

    - RAW Pre-sharpener, Output Sharpener

(* Use all P-P sharpening sparingly)

Manual Focus with
Live View x10 at f/8

You can get your sharpest
images by live-view & manual
focus if the image is static and
you have the time make
adjustments.

2 - ARTISTIC USE OF BLUR

Blur can be used to your advantage in creating more artistic photos or adding a 3D perspective. It is easy to create blur and there are many different sources. It can be as easy as defocusing your lens, narrowing your depth-of-field, lowering your shutter speed when photographing moving objects, intentionally moving your camera while the shutter is open, or using a special-effects lens (e.g., "Lensbaby") to name a few techniques.

These techniques do take some practice since you never know what kind of image you will produce. So keep trying until you get something interesting. One advantage of adding intentional blur is that you can produce unique photographs that are hard for someone else to duplicate exactly. One of my favorite examples of artistic motion blur is by Maricruz Fugon titled, "Young Dancer" . It won a 1st place NVPS End-Of-Year competition award in 2010-2011 unrestricted advanced color prints.

Also look for reflections from surfaces (water , windows, or curvy mirrors) or while looking thru textured glass. These can produce very interesting effects including a distortion of the original subject. See Amie Tannenbaum's website for excellent abstract examples looking thru various glass surfaces.

WHY CREATE BLUR?

A. Deemphasize a Distracting Background

B. Create "Perspective" or "Depth"

C. Imply Motion

D. Create Painterly Effects

E. Soften or Distort Images

F. Produce Unusual Effects

G. Create unique "One-Of-A-Kind" Images

SOME CAUSES OF BLUR IN PHOTOS

A. Camera Out of Focus

B. Narrow Depth of Field

C. Camera Motion

D. Subject Motion (with slow shutter speed)

E. Special "Effects"

    a)   Lensbaby

    b)   Shooting Through Textured Glass

    c)   Distortion caused by Reflections

Narrow Depth of Field with only the foreground in focus – produces depth (3D) perception in a 2D image.

(100mm macro lens at f/5.6)

Selective use of sharpness can draw the views eye toward your main subject.

Narrow Depth-of-Field

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The blurry background helps to direct your eye to the sharpest spot in the image. It's like saying "look here – this is what I want you to see".

Out-Of-Focus Lights from the National Harbor Christmas Tree
Note that the circle edges are still very sharp!
24-105 lens at 76mm, ISO=3200, f/4, 1/80sec
Manually defocused
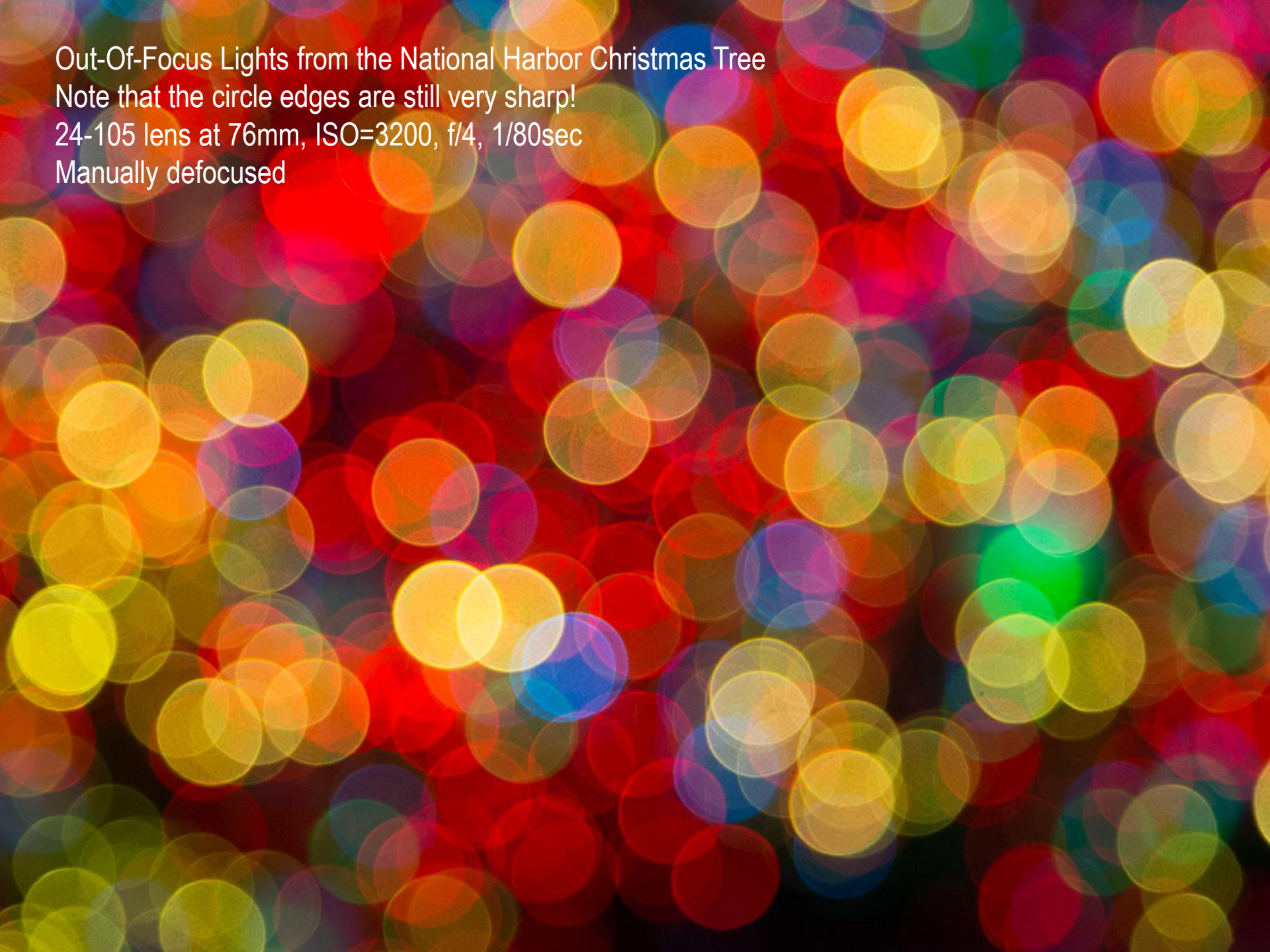
Colored Lights OOF + zoom the lens with open shutter
24-105 lens at 105mm, ISO=100, f/4, 1/5 sec
Manually defocus then adjust zoom ring after shutter release

Example of a "zooming" with a slow shutter.
The subject (boat) was initially "in-focus"
24-105 lens at 105mm, ISO=1600, f/18, 1/6 sec

Vertical Slur (aka "Swipe") -
moving camera vertically
while shutter is open.
1/15 sec

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Vertical slur of pier pilings.

Horizontal "slur" can produce a painterly effect
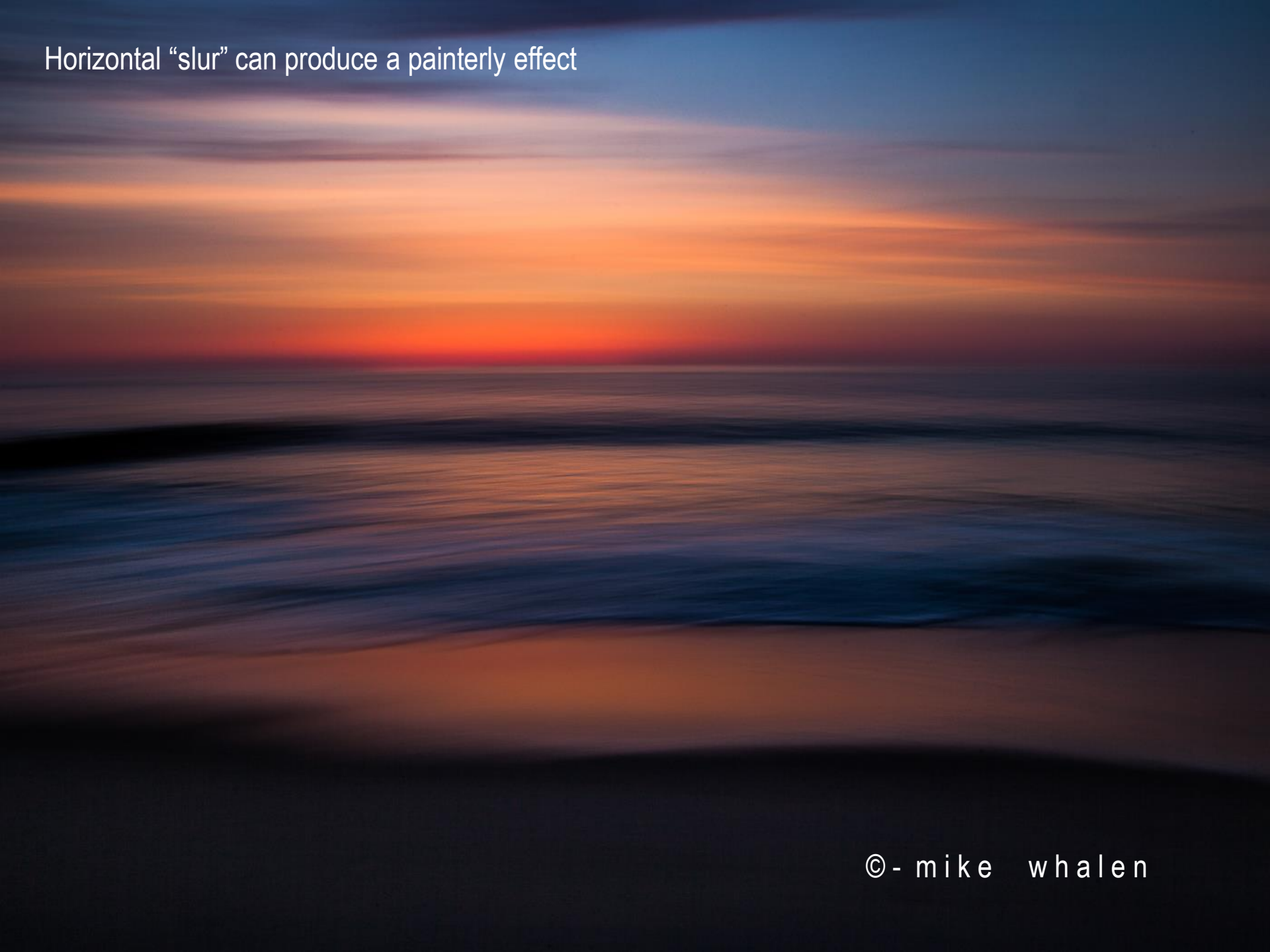
©- mike whalen

Intentional camera motion during exposure causes a painterly effect
24mm, ISO=200, f/16, 1/6 sec
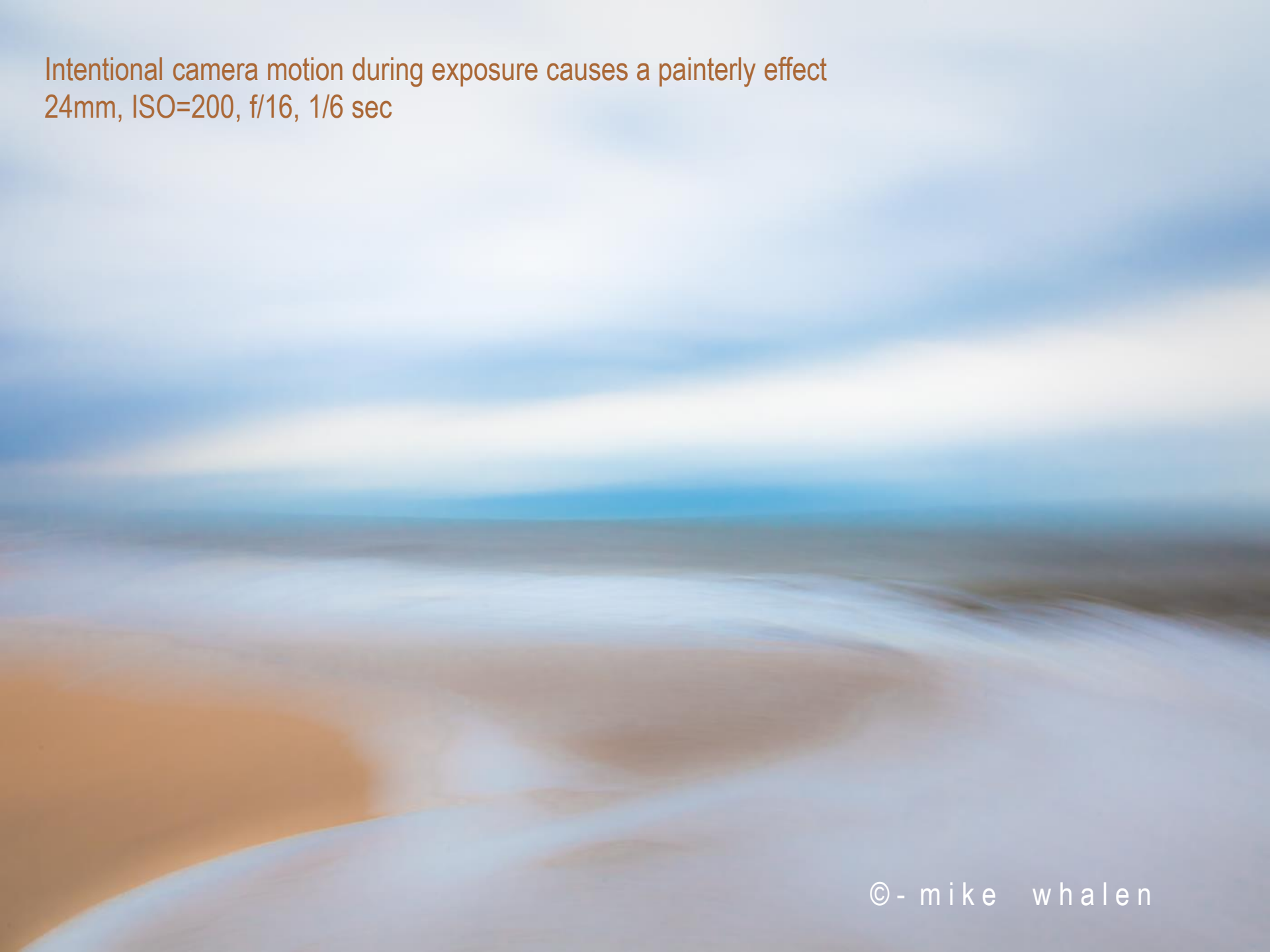
Subject Motion Blur   1/250 sec

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1/8 sec

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1/5 sec

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Lensbaby™– blurs edges while leaving center sharp

Lenbaby with
Plastic Lens

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Looking through
textured glass

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Distorted Reflections

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Inverted water reflection

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3 – MACRO + CLOSE-UP

Definitions:

- Macro: Image magnification is 1:1

- Close-Up: Loosely defined

Why shoot Macro:

- Explore a new and exciting miniature world of photography

How to do Macro Photography:

- Preferred: Dedicated Macro Lens (All major manufacturers offer these)

- Extension Tubes on a normal or telephoto lens

- Close-Up filters that screw onto the front of your lens (Tiffen, Canon)

- Some Zoom Telephoto lenses allow you to get up close to your subject (e.g., Tamron)

(Using a tripod for macro work can be essential since the DOF is so narrow and subject's are very small)
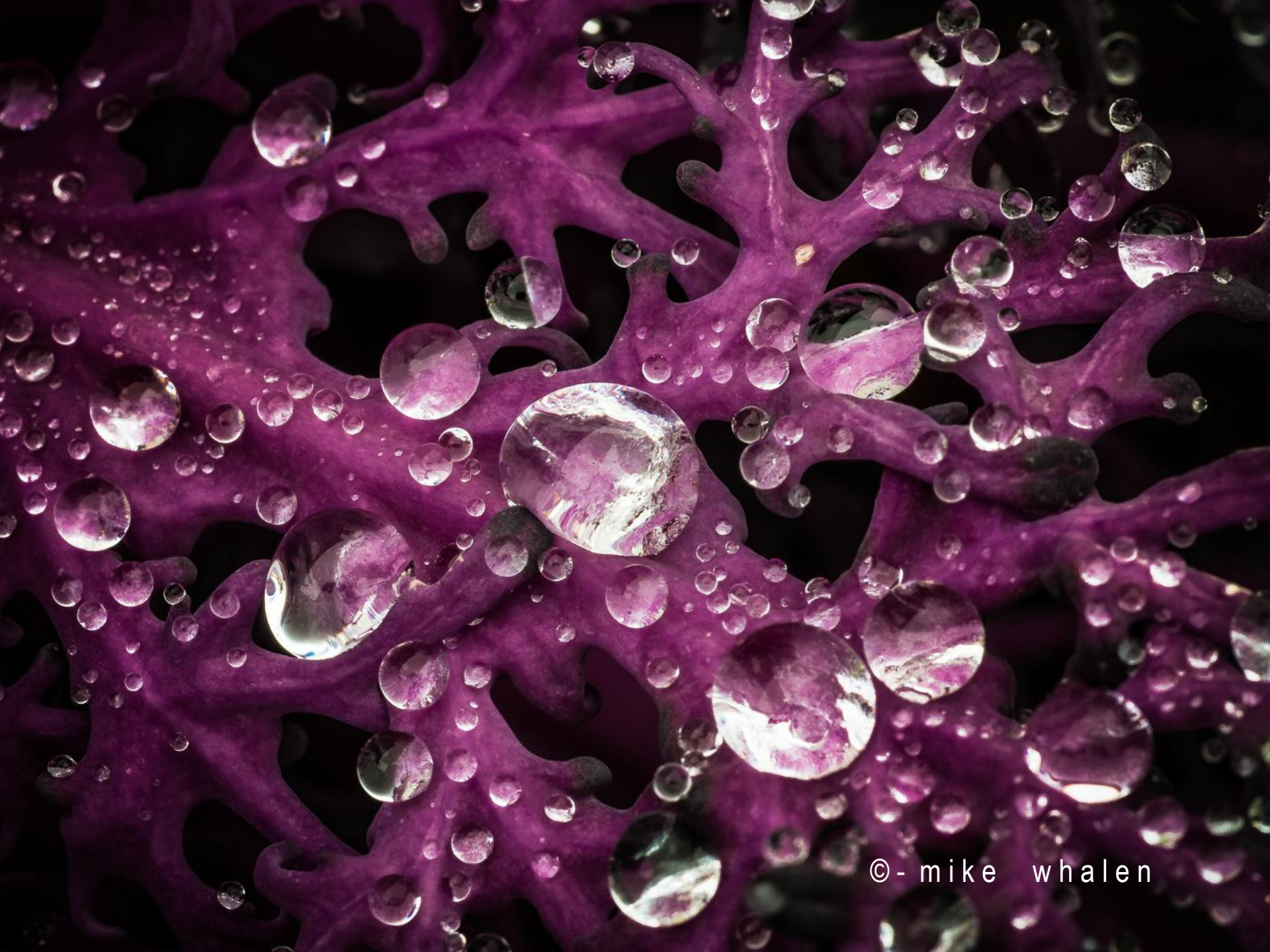
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A macro lens can also produce extremely sharp and detailed images.

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4 – COLOR:

AS A COMPOSITIONAL ELEMENT

Colorful subjects add instant appeal to images. Bright vibrant colors grab viewer's attention. Look for subjects that have either similar colors (e.g., green+ yellow+ blue) or complementary colors (e.g., blue+ orange).

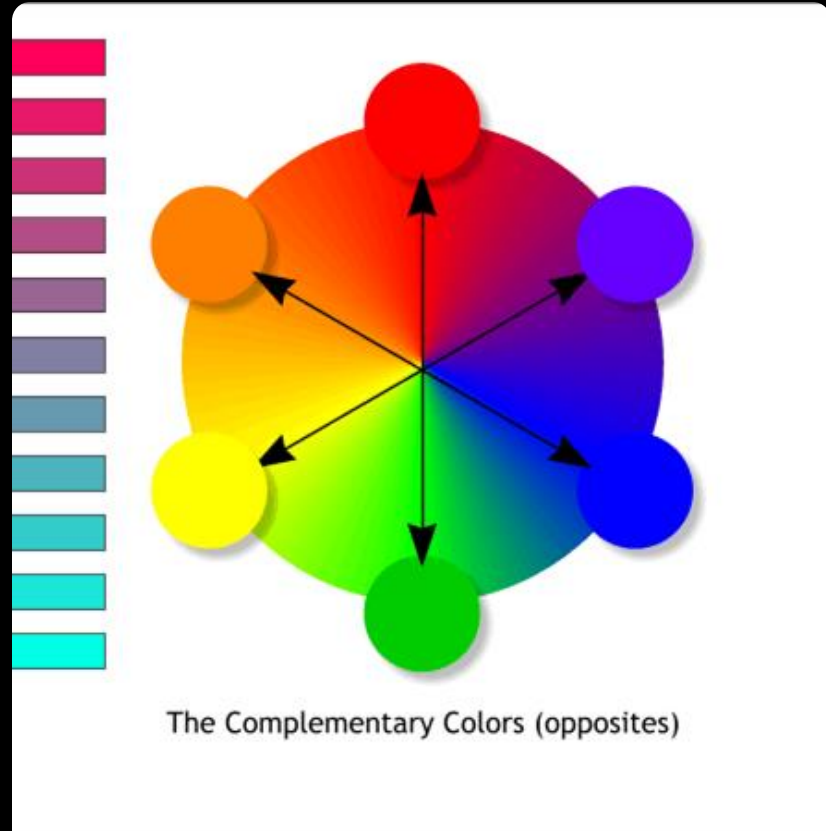Colorful Wall Mural found on the streets of Chicago

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Complementary Colors

Orange + Blue

Red + Green

Yellow + Purple

(Also look for similar colors)

The Complementary Colors (opposites)

© - m i k e   w h a l e n
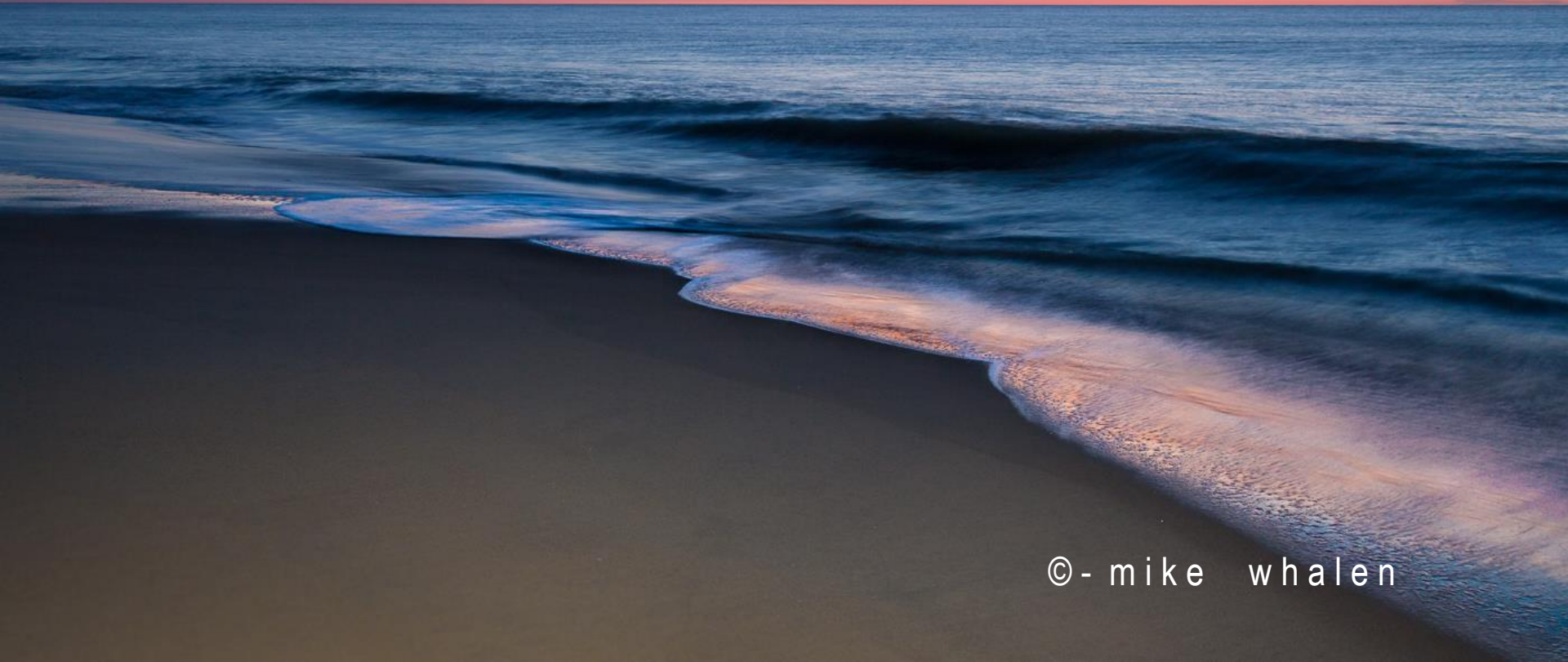
Adding "blue" to an image can be as simple as including some blue sky on a sunny day

Complementary colors (Blue and orange)

Blue + Orange

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Red + Green

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Red + Green

Colorful Image (Raw) – Starting point

Colorful Image - final image after removing distractions via post-processing

5 - NIGHT PHOTOGRAPHY
(Including Fireworks)

My definition: Photographing artificially lit buildings, structures or cityscapes during non-daylight hours. This includes the hour directly before sunrise and the hour after sunset when the sky can exhibit deep purple and blue colors. The combination of both artificial and "blue-hour" lights can be particularly dramatic.

The Washington DC area with the many beautiful buildings and monuments can produce lovely night photos.

The only real guideline here is to use a tripod since shutter speeds could be low without the help of sunlight for illumination. Clear nights are also necessary to get the steel-blue sky color during the blue-hour.

Fireworks: I would also classify fireworks photography in the same category. Fireworks can be challenging due to motion of the trails, uncertain location and the limited duration. I offer some tips for capturing perfect firework photographs.

Chicago skyline

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Southern Manhattan skyline

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NYC - Times Square
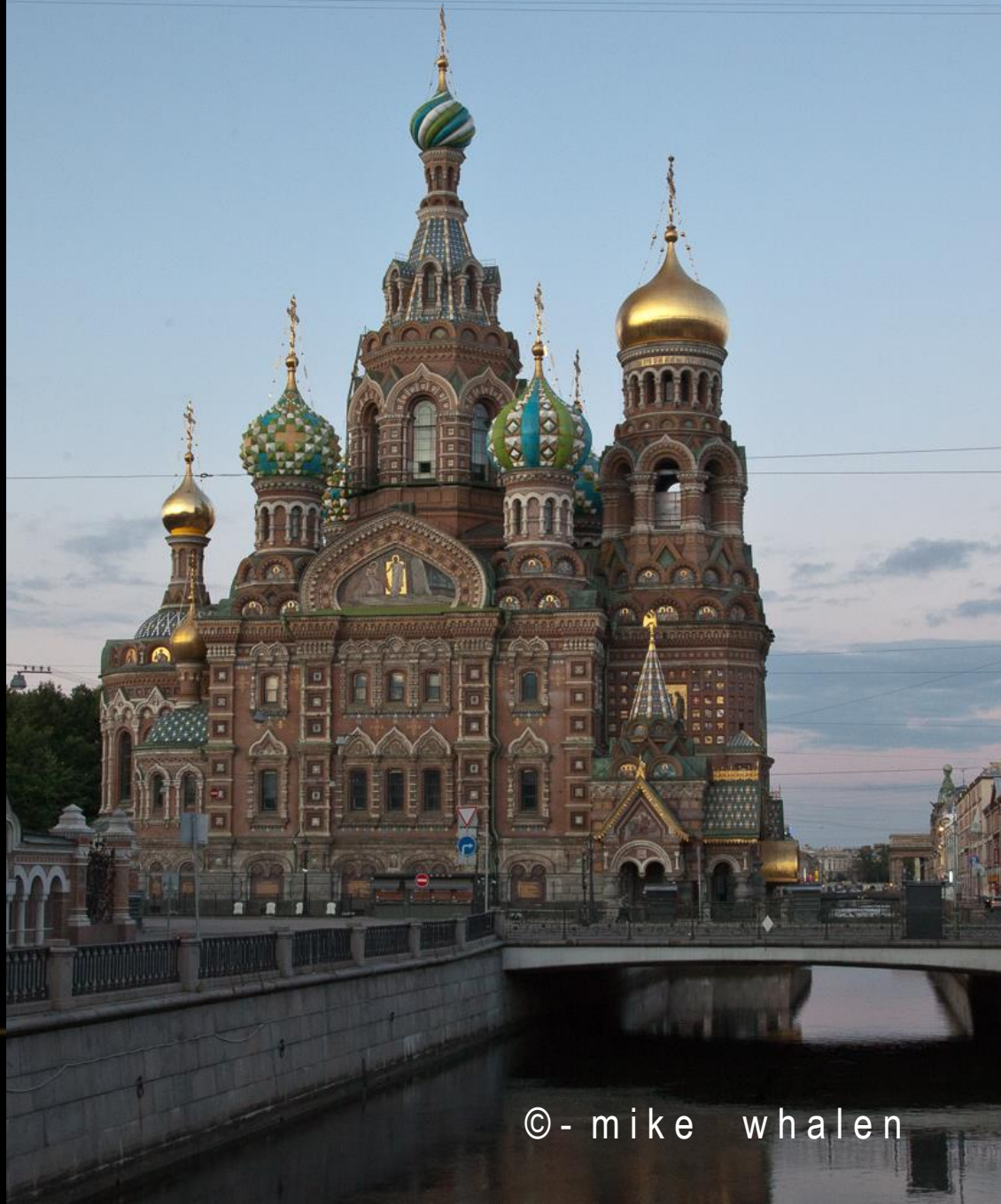
©- mike whalen

Too much daylight; artificial lights were turned off

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Same scene, only one hour earlier, next day

Setup For Capturing Fireworks

- Use Tripod + Shutter Release
- Auto-focus on a distant object (do once), then turn off autofocus
- Set mode to "BULB"
- Zoom out to Include a larger area
- Hold shutter open during burst till tails fall off and no longer visible.

In – Camera Settings*

Autofocus:	Off
Mode:	Bulb
Aperture:	f/11
ISO:	200

* Adjust ISO and Aperture as needed for brightness

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6 - WEATHER

Weather conditions like fog, rain, snow and ice can produce an interesting and different look to photographs. Use these to your advantage.

Extreme conditions can produce extraordinary photos.

The combination of cool air and warm water can
produce a beautiful misty fog on an autumn day
(Burke Lake)

Frost produces an interesting outline on this small tree

Consider making black & white images from snowy winter scenes

Night photography after a snow storm
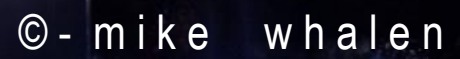
Morning dew in Autumn

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7 - POST-PROCESSING
(BEFORE & AFTER)

Post processing of digital images opens up a vast new world of possibilities to photographers. The options that I use most regularly are:

- Combining multiple images into a single image
- Overlaying textures
- Correcting lens flaws such as distortion and chromatic aberrations
- Removing unwanted objects such as wires, garbage or anything distracting
- Burning edge distractions
- Selective blurring and sharpening
- Filter or distort the image to create more artistic images

In the following images, Lightroom and Photoshop have been used to create new and unusual images.

PRIMARY SOFTWARE USED
(For post-processing)

1) Lightroom (manages ALL my photos)

    1) Develop Module (all sliders)

    2) Favorites - Adjustment Brush, Lens Correction, Clarity, Sharpen

2) Photoshop (CS6)

    1) Removal Tools - Spot Healing Brush, Clone Stamp, Content Aware

    2) Layers – Blending Modes, Layer Masks

    3) Filters (Oil Paint, Surface Blur)

3) NIK Collection

    1) HDR Efex Pro

    2) Analog Efex Pro

    3) Silver Efex Pro

4) Photomatix (HDR)

Photoshop – Texture Overlay

Combine two images in
Photoshop, then convert to B&W

Change background and apply art filter

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12-10

Apply background texture, crop, apply warmth and adjust tone

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Apply art filter, crop, rotate and adjust
tonal quality

Combine church entrance onto a tree photo

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8 - AGING OF PHOTOS VIA POST-PROCESSING

Photos can be made to look older (aging) by post-processing techniques. Here are a few things to trying this.

1) Always start with old subjects – Antiques, old buildings, deteriorated objects, etc.

2) Use multiple layers in Photoshop where you overlay texture layers on top of your subject – textures such as scratched surfaces, peeling paint, crumpled paper are good examples and work well. Try de-saturating textures before applying.

3) Try NIK Analog Efex Pro – Good program for adding the look from "vintage" cameras.
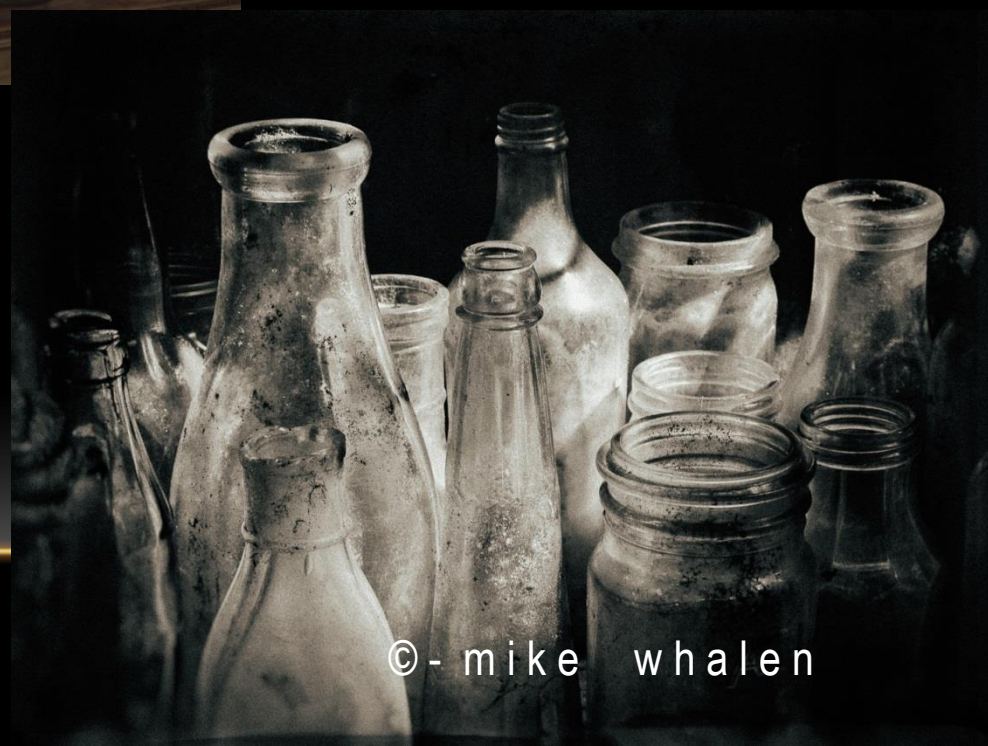
Crop + texture overlay

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Warm temperature + NIK Analog Efex Pro

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Convert to B&W +
Add texture via Photoshop

Brighten + warm +
Add texture via Photoshop

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9 – HDR (HIGH DYNAMIC RANGE)

Special post-processing software known as high-dynamic-range or HDR can produce extreme, artistic or gritty effects from photographs. Some people love this effect while others really hate it. In either case, the results can be dramatic.

HDR was originally developed to display or print images whose actual scene may have exceeded the range of the camera or medium, yielding blown highlights or completely black shadows. By capturing the same scene at different exposures and combining them in post-processing can solve this problem and is know as HDR processing.

There are well over 20 different HDR software programs. I have tried:

NIK HDR Pro, Photomatix, Photoshop HDR

I prefer using the first two programs.

Example of HDR-processed images are shown

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10(a) - TIMING

Sometimes capturing a precise moment in time involves more luck than skill, but both are needed to capture rare events. The most important thing is to try an anticipate what is going to happen (like in a sporting event), and also having your camera near and ready to make the capture.

Here are a few examples of rare captures.

1/400 sec

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1/500 sec

©- mike   whalen

1/320 sec

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1/400 sec

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3.2 sec

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10 (b) - PEOPLE, STREET PHOTOGRAPHY

Very simply, people (the right people) add life to photographs. I look for people with character, people with expression or emotion, doing their special thing, or just being themselves.

Timing is also important in capturing people. You almost need to be invisible. People may object to having their picture taken or may pose for you to take their portrait (which is undesirable in street photography). Be as discreet as possible, and if you are discovered always ask if it is ok to take a photograph. Always be respectful of people's wishes.

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THE END