# Night Photography

## From Snapshots to Great Shots

**Control light and shadow for creative effect!**

**Realize your vision with expert post-processing techniques**

**Gabriel Biderman**

**with Tim Cooper**

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**Tim Cooper** is a Washington, D.C., based photographer who specializes in night photography and nature images. His editorial and commercial work has appeared in *Travel & Leisure,* the *New York Times Magazine, Outdoor Photographer, Fly Rod & Reel,* and *DC Magazine.* Tim leads popular workshops and is an instructor at the Rocky Mountain School of Photography. See his work and read his blog at timcooperphotography.com.

# Dedication

To Nancy, my muse and love in the day and night.  —GB

# Acknowledgments

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# Contents

# Introduction

Good pictures should leave an impact on the viewer. Most of us capture our memories with a quick click, but with longer exposures comes a slower and more meditative approach. Night photography pushes the boundaries of time and how we seize it.

As a night photographer, time has always been an obsession of mine. I might not be the best at budgeting my time, but I sure know how to play with it!

I was wrapping up Chapter 5 of this book in Miami and was worried because I didn't have any lightning shots to reference. It was 2 a.m. and I was about to crawl into bed when all of a sudden a shock of white light lit up the room. I put my hat on (yes, it does come off), grabbed my bag of gear, and ventured outside. It wasn't raining yet, and I was only a few blocks from the beach. I could see the lightning in the distant storm clouds. I was surprised to find a crowd on the beach. Couples were huddled together, people were swimming, and there was the general revelry of witnessing nature's fireworks. Several people were snapping pictures, but I was the only one with a tripod. I quickly set up and started tracking those bright bolts. I got the shot you'll see later in this book about 30 minutes into the shoot, but I was so energized that I kept shooting and experimenting until 4 a.m.

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In this book, I hope to inspire you to move beyond the snapshot and take more control of the time right in front of you. I go over all the tools you will need, and I shine a light on techniques that will make you more proficient in the field and on the computer. The building blocks of creating an image with impact are discussed at length, as well as the scenarios you might find yourself in and how to best capture them once the sun goes down. The goal is to demystify the night and inspire you to creatively express time in a single image.

Good night photography shots have always been elusive yet rewarding. But digital technology allows us to review our work and learn from our mistakes instantaneously. Strange things happen when you play with time. This book is meant to be a resource for you as you capture and create. Dedicate yourself to shooting and putting yourself into as many night scenarios as you can. You will need to experiment to gain experience. Which reminds me: Try to photograph with friends and share your work. When you shoot with someone, it challenges you to up your game, you can bounce ideas off each other, and you can forge collaborations.

The book coverage doesn't end with collapsing the legs of your tripod. We'll also cover processing your night images in Lightroom and Photoshop to complete your photographic vision.

Finally, make sure to share your amazing results with other night owls at the book's Flickr group! Join the group at www.flickr.com/groups/night_fromsnapshotstogreatshots.

Carpe noctem!

ISO 800 • 10 sec. •
f/2.8 • 35mm lens

# 4

# The Night Light

## Capturing and Creating Light

Lights in the night guide us through the darkness. Its sources are as varied as its size and brightness—from golden streetlights and bright white stadium lights to the cool moonlight. Our eyes are capable of adjusting to the contrast and colors of the night, but cameras often struggle to balance the many degrees of brightness. Next time you are out, really look at the diversity of light sources. At night, you will see a much broader spectrum, encompassing a multitude of moods. Understanding how to incorporate a new light source will make you a better photographer. In this chapter, we explore color, light painting, and creative ways to play with light.

**Understated light painting pulls out what would have been a black mass and adds symbolism to the composition.**

**The warm orange stairway contrasts with the cool blue sky.**

The composition has
two distinct sides.

The breaks in the stars were
caused by a thick cloud passing
through the image during the
4-minute exposure.

Our eyes are drawn to vivid colors and bright light, but what we keep in the shadows
can be just as important as what we reveal. I was careful to light only the steps of the
ladder so your eyes are led up each rung, ending in the rich blue sky.

ISO 200 • 4 min. •
f/8 • 21mm lens

Structures can take on a whole new meaning in the night. We bridge the gap between space and time as reflections, movements, and colors transform what would have been, during daylight, a normal scene. I don't usually center the horizon line, but it works here because there is equal importance above and below.

The straight lines and curves keep your eyes moving around the image.
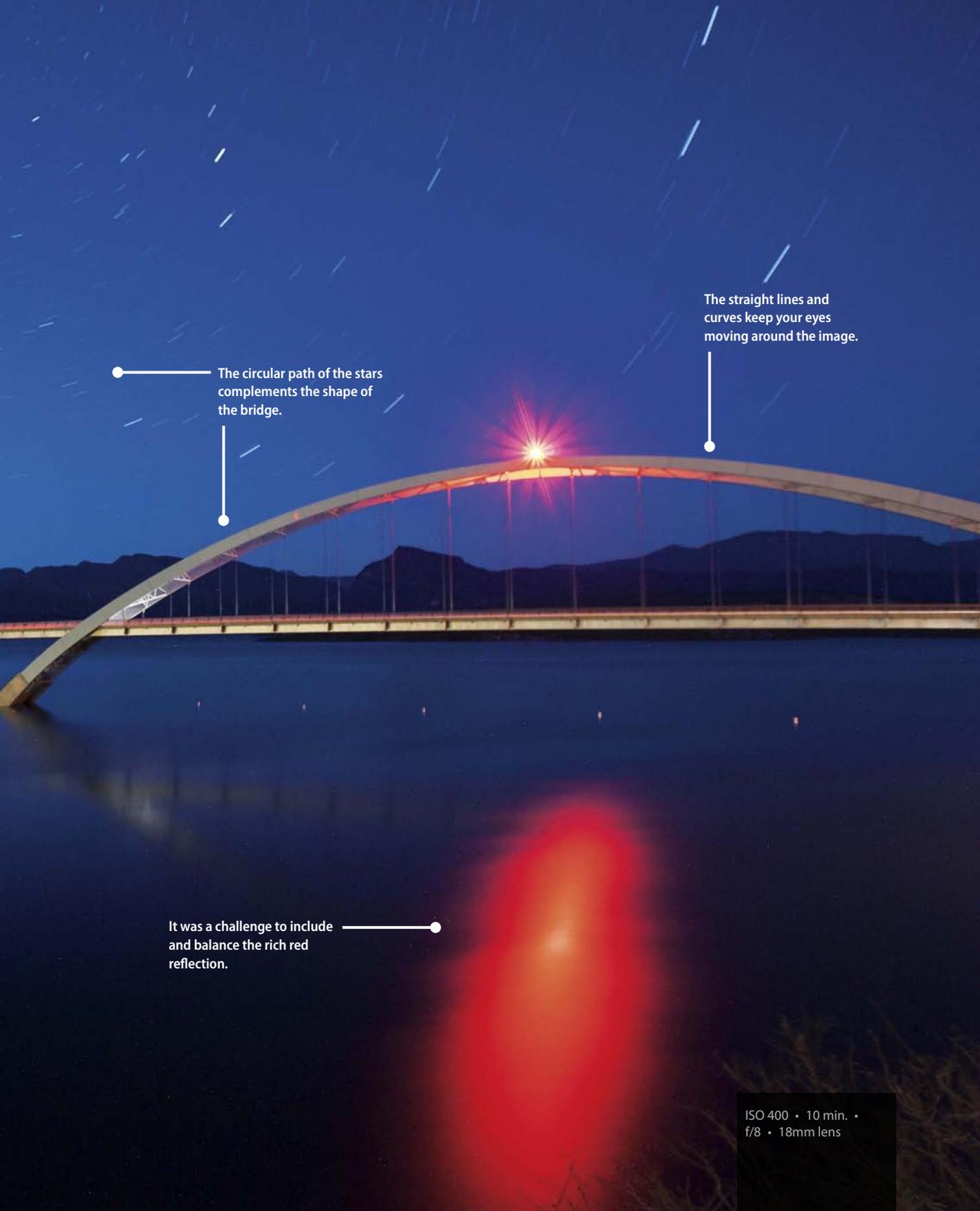
The circular path of the stars complements the shape of the bridge.

It was a challenge to include and balance the rich red reflection.

ISO 400  ·  10 min.  ·
f/8  ·  18mm lens

## The Many Colors of the Night

Most of us describe the colors of the night as either warm or cool, but it is also important to understand that color evokes emotion. Blue can be calming as well as melancholy. Red may be bold, but is it with love and passion or with frustrated tension? Your interpretation of the light conveys your visual message. Take a look at your favorite photographs—is the color of the light helping evoke the emotions you feel?

### Color Primer

The boldest colors with the most impact are the primary colors: red, yellow, and blue. In **Figure 4.1** the red and yellow letters stand out strongly against the blue of the sky. Mixing two primary colors yields the secondary colors: Red plus yellow equals orange. Add red to blue and you get purple. Blending yellow and blue results in green. What's important to recognize is the relationship that colors have with each other. This can easily be viewed on the color wheel (**Figure 4.2**).

**Figure 4.1**
**The red and yellow letters make this a bold and graphic picture.**
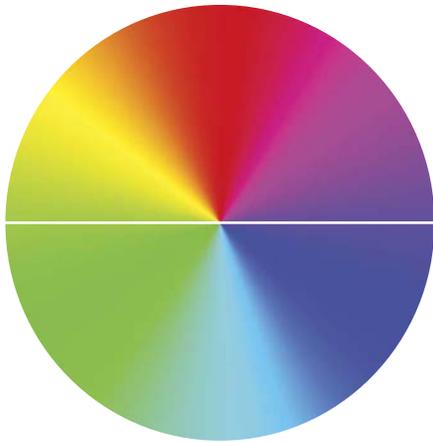
ISO 160 • 2 min. • f/5.6 • 80mm lens
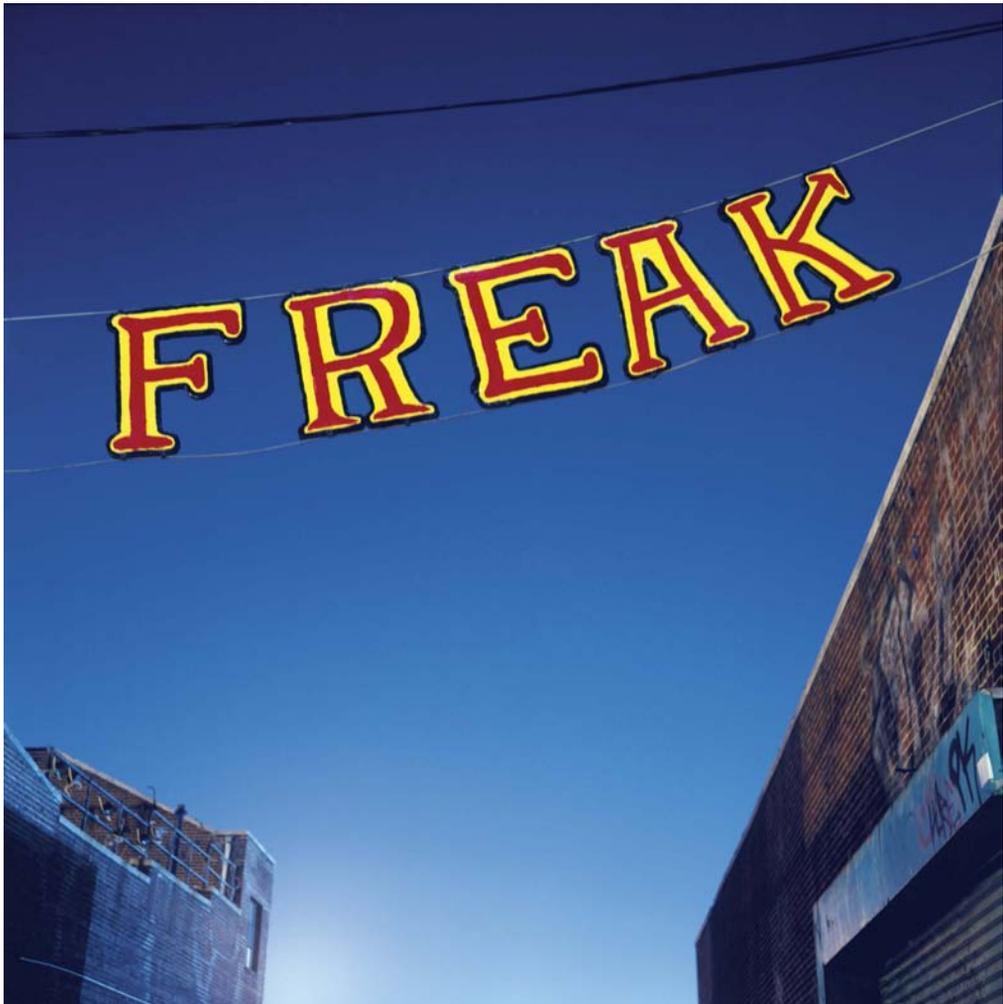
**Figure 4.2** Opposites attract—cool and warm colors live opposite each other on the color wheel. They complement each other when used together in an image.

Complementary colors lie opposite each other and bring out vibrancy and contrast when used together in an image. A common complementary combination at night is the blue of the sky and the yellow/orange ambient light from streetlights. In **Figure 4.3** the red/orange taillights provide a nice warm pop in an image whose main color is the cool blue of the sky.



**Figure 4.3**
The car taillight trail brings balance to this shot. The warm color complements the blue sky and brightens up the darker half of the image.

ISO 400 • 4 min. • f/5.6 • 21mm lens
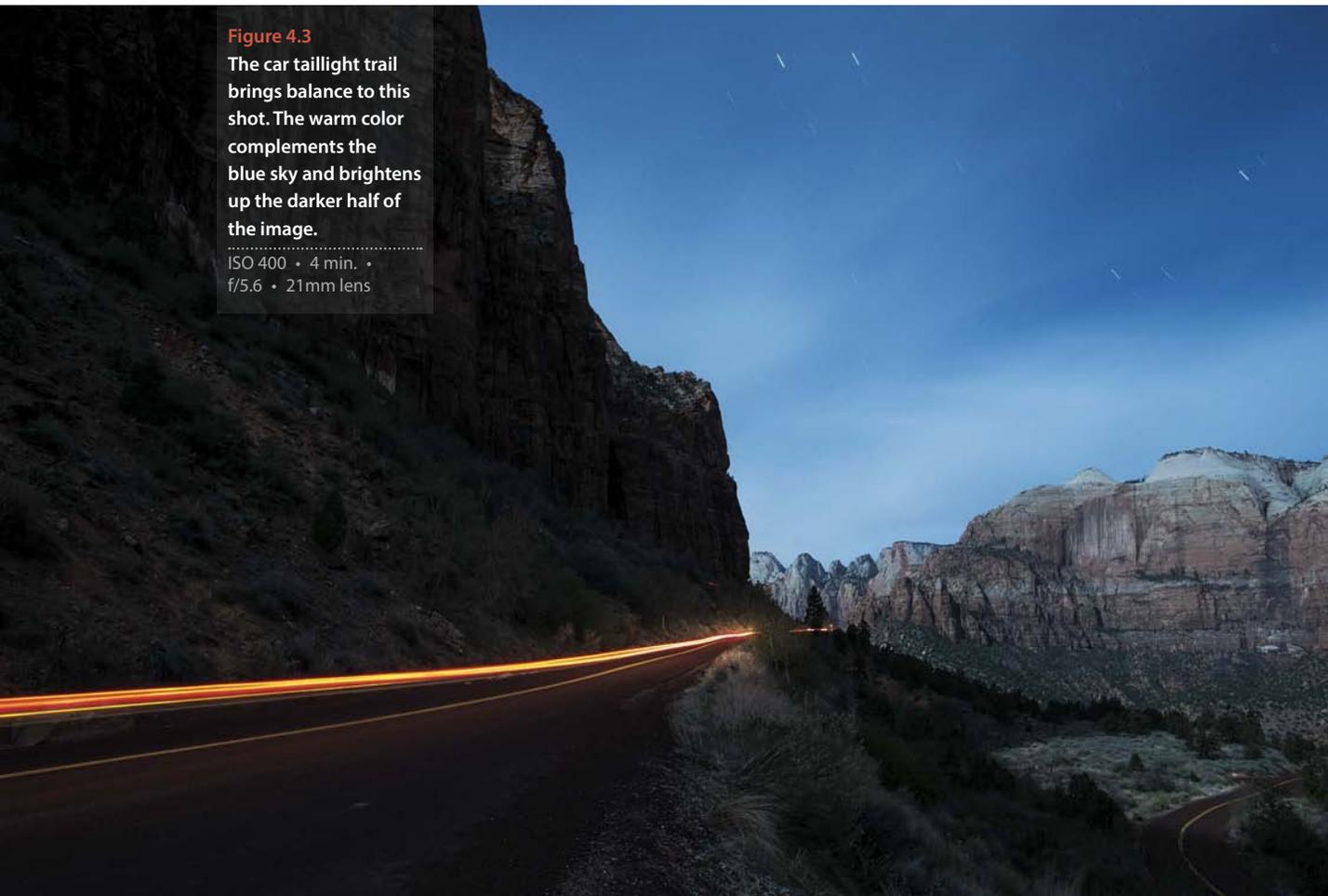
Analogous, or harmonious, colors are adjacent to each other on the color wheel and produce a softer, subtler look. They can appear monochromatic because their contrast and tonality don't vary that much. The main colors in **Figure 4.4** are orange, yellow, and green. They provide a smooth background for the black and white bike to hang from. The yellow adds the strongest contrast because it is the brightest. Our eyes are always drawn to the brightness and most colorful part of a picture.

**Figure 4.4**
**Using colors that are next to each other on the color wheel gives an image a soft, painterly feel with little contrast.**
ISO 3200 • 1/20 sec. • f/3.2 • 50mm lens

# Light Sources and Their Color Temperatures

All light has a color temperature (how warm or cool the light source appears). The standard unit of measurement for color temperature is Kelvin (K). The lower the Kelvin number, the warmer the color appears; the higher the number, the cooler it appears. **Figure 4.5** is a standard Kelvin chart that shows the colors as well as their common sources. Learn to recognize color temperatures so you can capture them accurately. We have all seen the wonderful warm light of candles on a cake, but have you captured it successfully or did the flash's white light blow it away?

We are actually approaching a new age in nighttime color: In the United States, the orange glow of sodium vapor streetlights is quickly disappearing as more and more cities replace them with eco-friendly LED lights, which are cooler and have less character. The common incandescent light bulbs that were in every household have been phased out in favor of CFLs (compact fluorescent lights). At least CFLs come in three flavors: soft white, bright white, and daylight. Have you ever shot an office building and noticed a green or magenta color cast coming out the windows? That is the light of low-cost fluorescent bulbs. In rare instances you might see the greenish blue light of the metal halide or mercury vapor in light sources in parks, streetlights, parking lots, and industrial sites. **Figure 4.6** shows a high-pressure sodium vapor light and a metal halide light on the same post.

**Figure 4.5** Light sources and their color temperatures.

| Type of Light Source | Kelvin Rating |
|---|---|
| Candlelight | 1500K |
| High Pressure Sodium Vapor | 2000K |
| Soft White CFL | 2500–3000K |
| Bright Whitel CFL | 3500–4100K |
| Moonlight | 4100K |
| LED Streetlights | 4000–5000K |
| Daylight at Noon/ Flash/Daylight Bulbs | 5500K |
| Fluorescent | 4000–6000K |
| Metal Halide | 5000K+ |
| Mercury Vapor | 6500K+ |
| Twlight | 9500K |



**Figure 4.6**
**The orange high-pressure sodium vapor light shines on the street, while the blue/green metal halide light is pointed in the opposite direction to illuminate the park.**
ISO 3200 • 1/4 sec. • f/8 • 35mm lens

## White Balance

How your camera reads color temperature depends on its white balance (WB) setting. This is one of the most important buttons on your camera. The default is Auto White Balance (AWB), which does an OK job during the day. However, a typical AWB range is 3000–7000K, and it is heavily influenced by the strongest light source. AWB struggles at night, especially when you have multiple light sources with varying temperatures.

One of the benefits of digital is that every camera has several source-specific white balances. Each setting applies varying degrees of the opposite color temperature, so any color cast is neutralized. The two most popular settings at night are the Tungsten, or Incandescent, setting and the K (for Kelvin) setting.

The symbol for the Tungsten or Incandescent setting (the name varies depending on the manufacturer) is a light bulb. This is a good setting to start with in most night scenarios. Streetlamps and moonlight tend to warm up the night, so by setting the WB to Tungsten, you can cool the image down and give it a nighttime feel.

The K setting lets you take even more control over the color and mood. You can dial in temperatures from 2500–10000K to suit your needs. This setting is very important when there is a mix of several different colors in the image. The combination of metal halide and high-pressure sodium vapor in **Figure 4.7** made it difficult to choose the correct WB setting. I turned on Live View in my camera and toggled through the WB settings before settling on one that best represented the image. If you are new to WB or the light is tricky, this is an excellent technique to employ. Turn the temperature up or down to see which one looks best to you.

The WB setting influences the overall mood of the image. You want to incorporate, not neutralize, the colors of the night. Sometimes they just need a little adjustment to tone them up or down. If you shoot raw, you'll have more leeway to adjust your WB in post, but I like to get as close to the color I'm trying to achieve in the field. I can "read" the scene better, and it influences the other adjustments I make.

# Light Painting

Light painting is one of the most expressive and creative ways to capture the night. When you paint with light, you add a new source of brightness to the picture. You can use it to simply open up uninteresting shadows, or you can add splashes of color to change how the viewer sees the image. Given the long exposures of night photography, you can paint or draw almost anything in your imagination. The instant feedback of digital, combined with the availability of so many light sources, makes this a very exciting time to experiment with painting with light.

### Controlling Brightness

- **Ambient light.** Longer (slower) shutter speeds increase the brightness of ambient light; shorter (faster) shutter speeds decrease its brightness.

- **Added light.** Larger apertures (smaller numbers) increase the brightness of added light; smaller apertures (bigger numbers) decrease its brightness.

## Light Painting from Start to Finish

Light painting is all about balancing the ambient light with the light that you're painting. Think of it as combining two different layers in the picture. One layer is the ambient, or base, layer; the other layer is the light you add to the darker areas of the image.

The first step is to assess the situation. Before I even set up my composition, I walk around the scene to see how the light and shadows are falling. Then I go back to the camera and figure out my composition and base exposure with several test shots. When you're light painting, it's a good idea to underexpose your base exposure by a half or full stop, especially when the sky is the main source of ambient light. This gives the image a nocturnal feel and enhances the contrast of the light painting. **Figure 4.8** is a high-ISO test shot. The brightest ambient light is the sky, and the foreground is dark and prime for painting. I liked the direction of the light falling on the statue and wanted to highlight it.

Now that you've established a base exposure, you need to figure out how much light painting to add. You can control the brightness of the ambient light by increasing or decreasing your shutter speed. The brightness of light painting is controlled in the camera by the aperture. ISO affects both ambient and additional light the same way; it cannot change the ratio between them. So although a high-ISO test shot is great for figuring out composition and ambient exposure, it does not help you gauge how much light painting to add. If you raise your ISO for a test shot, you will need to lower it accordingly before assessing the light painting. Otherwise, your light painting will be overexposed (**Figure 4.9**). The better light painting test shot is shown in **Figure 4.10**. Remember that this is the second layer; I'm not including the ambient light in my light painting test shots. This cuts down the time needed to take three or four test shots to figure out the power, distance, and angle of the light that I want to add.



**Figure 4.8** This high-ISO test shot helped me read the ambient light in the scene and assess where light painting would be needed.

ISO 6400 • 6 sec. • f/4 • 50mm lens



**Figure 4.9** Because I didn't change my exposure from the high-ISO test shot, the light painting just adds more light onto the scene and overexposes the statue.

ISO 6400 • 6 sec. • f/4 • 50mm lens
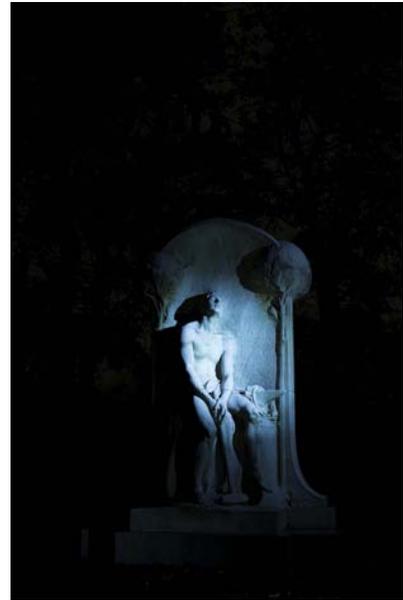


**Figure 4.10** I like the placement of the light in this test shot, but it's a little bright, so I dialed the flash down half a stop.

ISO 200 • 3 sec. • f/4 • 50mm lens

The tight beam of light in Figure 4.11 was from a snooted flash raised high on a painter's pole. It took me a couple of tries to get the power and placement of the flash right; you can see one of my first attempts in **Figure 4.11**.

Now it's time to add the ambient light and the light painting together in a single exposure. **Figure 4.12** shows the 2-minute base exposure with the pop of the flash that lit the statue. I used a 40-lumen flashlight low to the ground to subtly open up the grass, which took some practice. Do three or four takes of your final shot—there will be subtle variations each time you paint.

**Figure 4.11** You'll need to practice to get the time, angle, and distance correct.

ISO 200 • 9 sec. • f/4 • 50mm lens



**Figure 4.12**
I cooled down the color temperature of the flash in post to give this photo a moonlight feel.

ISO 200 • 2 min. • f/4 • 50mm lens

## Flash vs. Flashlight

The two most common sources of light to paint with are the flash and the flashlight. Always have at least one of each in your bag. Flashes add a big burst of light that can illuminate a dark room or freeze action. They can also be measured with a meter, which makes it easy to figure out the proper amount of power to set. You will be operating the flash in manual mode, so be familiar with how to set all of your flash's settings, from full power all the way down to the lowest. The cool thing about flashes is that there are lots of modifiers that sculpt the light and make it bigger (softer) or smaller (harsher). I often put a colorful gel on my flash to add a complementary or contrasting color to the scene (**Figure 4.13**). But the darker the gel, the less light comes through it—you'll need to either increase the power of the flash or do multiple pops. Some gels have markings that show how many stops of light you are losing so you can compensate properly.

**Figure 4.13**
**It took four pops of the red-gelled flash at full power to light up this beehive rock.**
ISO 800 • 15 min. • f/5.6 • 18mm lens

Flashlights are a night photographer's paintbrush. You can gently finesse the light from a flashlight. And because you have to keep the flashlight moving (so you don't get a hot spot in your image), it creates a softer and more diffused light than a flash. A flashlight is perfect for opening up the shadow area in an image (**Figure 4.14**). Keep your lighting as even as possible. It's hard to repeat the same strokes, so sometimes it's better to back up and get a bigger spread of light rather than constantly stroke the flashlight back and forth. Keep track of the amount of time you are painting or the number of passes you make with the flashlight. There is a learning curve to using a flashlight, but once you get it, you'll find it an indispensable tool.
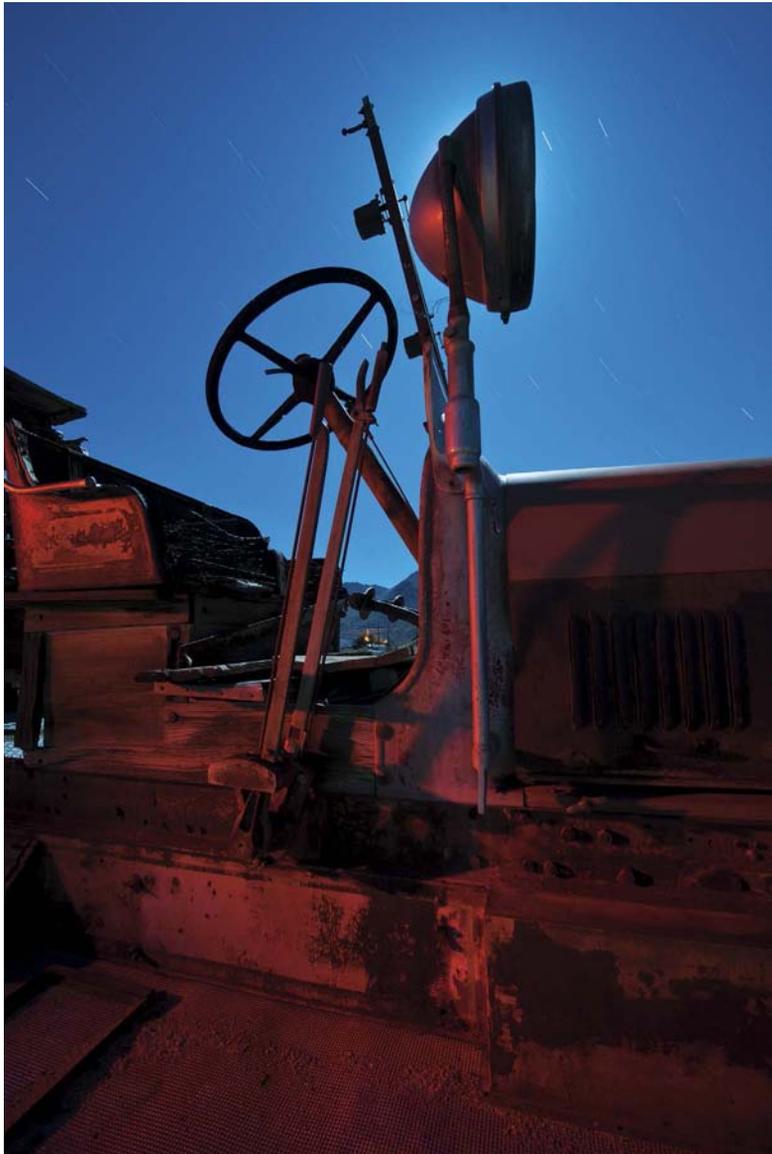


**Figure 4.14**
**This firetruck was completely in shadow. I moved so that the headlamp blocked the moon, and then I used a low-power red flashlight at a 90-degree angle to paint the light.**

ISO 320 • 7 min. • f/8 • 14mm lens

A flash's color temperature is 5500K; a flashlight's color temperature varies depending on what type it is (incandescent, LED, xenon, and so on). I prefer warmer flashlights, which add contrast to the cooler night light I like to work under. I always carry several CTO (color temperature orange) filters, which help convert cooler light sources (like a flash) to a warmer light. CTO gels come in a variety of "cuts," or densities: full CTO converts 5500K to 2900K; 3/4 CTO converts 5500K to 3200K; 1/2 CTO converts 5500K to 3800K; 1/4 CTO converts 5500K to 4500K; 1/8 CTO converts 5500K to 4900K.

You can purchase a sheet of these inexpensive gels and use them over flashlights or flashes. They are also available in convenient kits. To figure out what gel to use with a scene, take a test shot to gauge your ambient light and see what in-camera WB setting looks best. Since I typically shoot between 3800K and 2900K, depending on the light source, I always bring three CTO gels: 1/2 cut, 3/4 cut, and full cut.

**Figure 4.15** is a shot that I worked on with a student, Albert Bronson, during a workshop that Tim Cooper and I teach. It definitely needed two people to assess and paint the scene. First we worked our composition so that the dark bus was in front of the lighter rock. We knew we wanted to light up the interior of the bus, so we chose a blue light that would contrast with the yellow exterior. I used a blue-gelled flash—three pops at full power—and was careful not to create any hotspots on the reflective interior. Albert used a high-power incandescent flashlight at a 90-degree angle from the left side, out of frame. He also came in at a 45-degree angle to paint some light on the black tires. It took us several attempts before we were happy with the result, and the cool and warm colors really complement each other in this scene.

**Figure 4.15**
I often use a combination of flash and flashlight to light a night scene. Using gels will help you play warmer and cooler colors off each other.
ISO 400 • 2 min. • f/8 • 21mm lens

## The Power of Light

There are two important factors to consider when figuring out how much light to add to a scene: the power of the light source and the reflectivity of the subject matter.

Every light source can be rated for power. Flashlights are rated in lumens; flashes can be set from full power to 1/128 power. The intensity of a light can be controlled in several ways: dialing the power of the unit up or down, adjusting your aperture, or moving the light source closer to or farther from the subject. We all understand that the closer the light source, the brighter it will be, but there can be a significant decrease in brightness by moving it just a few steps farther away.

Now let's look at the reflectivity of the subject. Is it light or dark? Is it textured or glossy? Lighter colors reflect light better than darker colors. Metallic and glossy surfaces can be highly reflective and create specular highlights. The more light reflects off the subject, the less light you will need to paint.

**Figure 4.16** is my light painting collaboration with Troy Paiva. The truck was white, highly reflective, and in the shadow of the moon. There was a lot to light, so we divided the duties. I handled the candy striping of the truck, and Troy worked on pulling out detail in the tires and shadows. I had to stand about 30 feet away in order to make the beam of light the correct size to fill in the lines of the truck. Because the subject was so reflective and my flash was 80 lumens, one pass of light was sufficient. The trick I learned here was to turn my flashlight on out-of-frame and point it to the sky; turning it on where it should be on the truck created a hot spot of light. It was easy to match up the beam of light above the truck and then with one quick motion fill in the reds and then the greens. Meanwhile, Troy worked the lower, darker foreground, which was a black hole of shadow. He made several passes with his flashlight low to the ground. He was careful not to fully open up the shadow, and the low angle created the perfect amount of contrast and texture. He then spent the rest of the time opening up the tires (black tires are notorious for absorbing lots of light). It took a few test shots to figure out all the painting details. Troy is a master light painter—check out his work for inspiration!



**Figure 4.16** This scene had a variety of surfaces to deal with and required many angles and distances to get the most from our flashlights.

ISO 200 • 2 min. • f/8 • 22mm lens

## Direction and Bounce

Want to add dimension to your subject? Then don't light it while you are standing next to the camera— that's where the flattest and least interesting light comes from. The perfect way to see this is to shine a flashlight directly at a white wall (**Figure 4.17**). Now hold the flashlight parallel against the wall and shine the light (**Figure 4.18**). Look at all the detail and texture that you can pull out of a boring white wall.

**Figure 4.17 (left)**
Frontal lighting from beside the camera does not show the subject's depth or texture.

**Figure 4.18 (right)**
Side lighting can pull texture out of places you wouldn't expect.
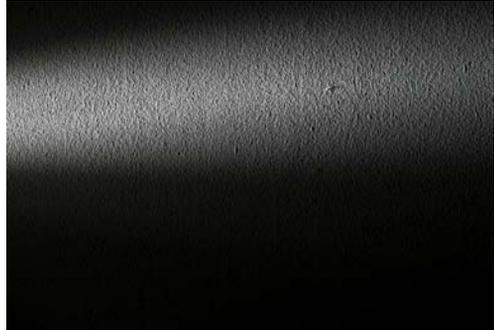


If your subject is textured, light it from the side to call attention to it (**Figure 4.19**). Painting with light is not about obliterating the shadows and revealing all the information—it's about creating interesting light that accentuates the subject matter.

**Figure 4.19**
If the subject has an interesting texture, emphasize it by lighting it from the side.
ISO 200 · 40 sec. · f/11 · 18mm lens

A light source doesn't have to be direct. You can bounce or diffuse it to create a soft light that still shows texture. This is an excellent technique to use when you don't want to create more contrast in a scene. The light will be a soft, subtle light that, if done correctly, will look like there was no light painting added. I lit the Texaco sign in **Figure 4.20** with a quick hit of my 40-lumen flashlight. The sign was highly reflective (metal and white), which made it difficult to evenly light it with direct light, no matter what angle I used. So I pulled out my trusty 8x10 white card. I pointed the flashlight toward the white card and directed the diffused light toward the sign **(Figure 4.21)**. Diffused light requires more time to paint than direct light. The timing depends on distance and reflectivity, but for this sign I bounced the light for more than half the exposure; for the direct shot in Figure 4.20, it was just a flick of the switch.



**Figure 4.20 (left)**
**I like the vibrancy of the sign's colors, but its reflective surface made it tricky to light evenly with direct light.**
ISO 400 • 2 min. • f/4 • 35mm lens

**Figure 4.21 (right)**
**With bounced light, it doesn't even look like there was any painting added. Note the illumination where the light bulb is, as well as the texture of the rusty bullet holes.**
ISO 400 • 2 min. • f/4 • 35mm lens

If you forget your white card, you can bounce light off the ground. This works best when the subject is close to the ground. (A white card is better when the subject is farther away.) **Figure 4.22** is a high-ISO test shot from Zion National Park. I was drawn to how the moon's side-lighting revealed the crags and crevices of the mountain. I added even more texture by including the foreground shrubbery, which had been hidden in the shadows (**Figure 4.23**). For two minutes, I pointed an 80-lumen flashlight toward the ground about 5 feet from where the shrubs enter the frame. At that distance, an evenly diffused light reflected off the plants.

**Figure 4.22 (left)**
The test shot for the ambient exposure confirmed the large shadow area, which I would need to either crop or subtly light.

ISO 6400 • 15 sec. • f/5.6 • 21mm lens

**Figure 4.23 (right)**
The reflected light of a flashlight adds the perfect amount of luminosity to the foreground, leading the eye up to the mountain.

ISO 400 • 4 min. • f/5.6 • 21mm lens
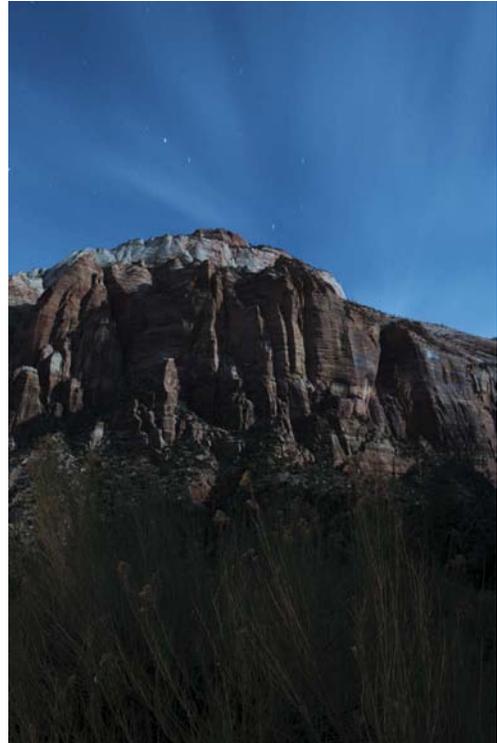


Do you really need to hold the light in your hand and shine it from just off-camera? What if you were to put it in your scene? In **Figure 4.24**, I placed a low-power red flashlight in a defunct furnace; the interior was dark but not very reflective, so I could leave the 10-lumen flashlight on for the entire exposure. The dramatic light effect in **Figure 4.25** was a collaboration with Matt Hill. I placed a large sparkler behind the statue to create a beautiful golden light that separated it from the wall. Matt used a flashlight from the left side to create a nice accent, and then swept the light across the foreground to make sure that the shadows weren't too dark. Look for unusual places to put your light. If you have flashes that can be triggered remotely, think about where you could place them to create cool lighting effects.
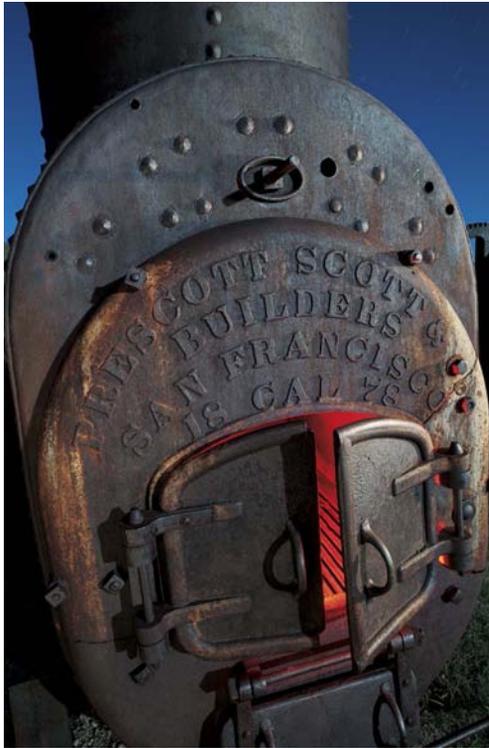
## Don't Over-paint

Light painting can be a lot of fun, and in the beginning you'll probably want to paint everything in sight! And you probably should, because by making mistakes you'll learn what works and what doesn't. But not every shadow needs to be revealed. I love the strong lines cutting across the lower part of the frame in **Figure 4.26**. The moon was lighting one side of the structure with a direct and flat light. I went to the "dark side" and composed my shot so that I could highlight the ripples of the corrugated metal. I liked the dramatic shadow on the bottom of the structure but wondered if it was too heavy for the scene. So I took another picture, this time painting underneath (**Figure 4.27**). It revealed the framework underneath, which isn't as interesting and competes with the other lines in the image. Experiment by taking multiple shots of your light painting. That way, you can figure out which one best represents the scene.

**Figure 4.26 (left)**
Not every shadow needs to be revealed. This one emphasizes the structure cutting across the frame and gives it more weight and presence.
ISO 400 · 4 min. · f/5.6 · 21mm lens

**Figure 4.27 (right)**
This version opens up the shadow underneath, but it just creates competing highlights and lines that I find distracting.
ISO 400 · 4 min. · f/5.6 · 21mm lens

When you bring a new source of light into an image, you are putting your stamp on it, no matter how subtle or sophisticated it might be. I've given you guidelines, but there is no exact science to most of it. Experience is the key. The more you repeat the techniques, and the more environments you put yourself in, the more comfortable you will become. My best photographic work came when I was just starting to explore a new style or when I became so comfortable with it that I could easily apply my vision to it.

## Writing with Light

To write with light, you deliberately place a point light source in the frame and "draw" with it. The image is no longer about what the light is reflecting, but about the light source itself. You can write with flashlights, glowsticks, sparklers, or anything else that emits light. Incredible art and "light graffiti" can be created with this simple concept.

## Basics

Once you trip an exposure, any direct light source that is seen by the camera—such as someone walking into your shot with a flashlight, phone, or headlamp—will leave a light streak in the photo. In **Figure 4.28**, an 8-minute exposure, I walked into the frame and bounced a red-gelled flash six times while a friend (visible in the center of the frame) spun some fireworks. You don't see me because I was constantly moving and my body blocked the direct light of the flash from the camera. If you look carefully, you'll see one red pop of my flash in the lower-right side. I was so obsessed with making sure the rocks were lit that I forgot where the camera was in relation to the flash.



**Figure 4.28** **This was an early exploration of light painting, and I was more concerned with lighting all the rocks. I popped the flash from almost every angle, creating a very flat light.**

ISO 400 • 8 min. • f/7.1 • 24mm lens

Phones and tablets are fun light writing tools, and you always have them on you. In **Figure 4.29**, I walked into the frame with the screen of my phone pointing toward the camera. I shut it off about 15 feet into the picture to create the single blue bolt of light leading you up the path. This also allowed me to walk back to the camera without painting any more light onto the image.

Sparklers are another playful light source to write with. Unlike a phone, which can leave a very clean streak of light, the sparkler burns a jagged light. With any light writing, you need to be careful not to write over previously lit areas; otherwise, you risk the possibility of those areas being overexposed. In **Figure 4.30**, three brave night photographers each held a sparkler at a different level and walked around the mausoleum to create a very dramatic effect.

**Figure 4.31** is a wonderful example of combining light writing and a portrait. I took some students from NYC SALT (a photography program for inner-city teens) on a night walk along the Highline. I found a darker area on the pathway and placed the kids in the shot. Andrew drew the stick figures, and then I popped a flash to freeze the students in the shot. Then they got out of the picture—except for Ashley, who wrote *Highline* across the top of the frame. I fired the flash one more time as she finished spelling it out, creating a multiple exposure of her. Donis, all the way on the right, appears ghostly because the brighter background continued to add light where he was sitting and burnt through his portrait.

**Figure 4.29 (left)**
The light writing took 10 seconds, and then I waited 8 minutes for the ambient light to reveal the rest of the picture.

ISO 200 • 8 min. • f/5.6 • 28mm lens

**Figure 4.30 (right)**
The sparklers give this shot a frenetic vibrancy—you can feel the other-worldly energy.

ISO 200 • 6 min. • f/9 • 21mm lens



**Figure 4.31**
Ashley did a great job of spelling back-ward. She also had to turn the flashlight off and then back on each time she com-pleted a movement so that the light wouldn't continue to trail in the shot.

ISO 200 • 6 min. • f/9 • 21mm lens

# The Night Portrait

It can be a struggle to take a simple night portrait that shows off not only the subject but also the surroundings. When you take a picture of a friend in front of the many city lights, why does the background come out pitch black? In this section, I introduce you to the wonders of slow sync, as well as some creative effects with and without flash.

## Slow Sync in Low Light

This is an easy technique, and conquering slow sync will improve your low-light snapshots immeasurably. We've all experienced the limitations of flash at night. In night portraits, often the subject is illuminated but the background is black (**Figure 4.32**). The quick fix is to use a longer shutter speed by switching your flash to slow sync or your camera to Night Portrait mode. This adds more ambient light by keeping the shutter open longer as the flash fires (**Figure 4.33**). Shutter speed controls the amount of ambient light that comes into the picture. No matter how much flash you pop, you can't light up the sky.



**Figure 4.32**  In Auto mode, the flash fires and the shutter speed remains a safe 1/60 of a second to prevent camera shake. But this quick shutter speed kills the ambient light, and the built-in flash on a point-and-shoot camera has only enough power to go 10–15 feet.

ISO 200 • 1/30 sec. • f/2.8 • 28mm lens



**Figure 4.33**  A slower shutter speed lets in more ambient light and reveals the skyline.

ISO 200 • 4 sec. • f/2.8 • 28mm lens

Understanding this concept will improve your flash photography in low-light environments like restaurants and clubs, where you want to light the subject but not lose the feel of the surroundings. Keep an eye on your shutter speed—you don't want it to be below 1 second unless you are on a tripod and your subject is still. From 1/2 to 1/15 of a second will usually work (**Figure 4.34**). Be aware that any direct light sources will permanently burn into the picture, but you can work that to your advantage—a cool trick is to spin or move the camera during a slow sync exposure. In **Figure 4.35**, I asked the subject to remain still. The flash fired, and I had half a second to spin the camera around, which created a rainbow effect on the lights.



**Figure 4.34**
**The subject was moving slowly enough for the flash to freeze her in a sea of movement and color.**
ISO 200 • 1/8 sec. • f/2.8 • 24mm lens
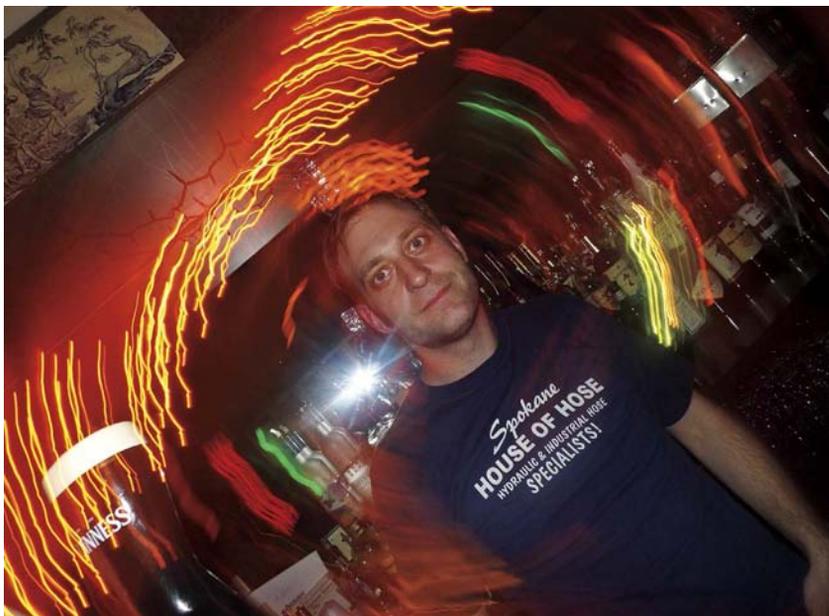


**Figure 4.35**
**By spinning the camera during the exposure I was able to make the lights trail around the subject.**
ISO 200 • 1/2 sec. • f/3.2 • 24mm lens

## The Ghost

My early explorations in long exposures proved that objects or people could "disappear" in an image, depending on how long they remained in the frame. This led me to think about how I could control it. Ghost photography has been popular since the beginning of the art form. So how do you do it? The easiest way is to think about mass and time. If something is in the frame for only half the exposure, then only half of it will show up. **Figure 4.36** was an early test of this theory. I sat as still as I could for half of the 6-minute exposure. This shot works because I had two factors going my way. First, my clothing was darker than the white background of the steps. Dark subjects stand out better against light backgrounds, and vice versa. Second, my camera was about 20 feet from the steps, and I shot with a wide lens, so I'm small in the picture. If this had been a tighter shot, my slight movements would have been magnified.

**Figure 4.36**
**One reason this ghost shot works is that I'm wearing clothes that contrast with the background.**
ISO 200 • 6 min. • f/8 • 28mm lens

It can be hard for a subject to hold still for longer than a second. An easier way to create ghosts is to incorporate flash. Flashes work better than flashlights because they fire a lot of light for a fraction of a second, freezing the action. You can often light a person with a single pop of a flash, whereas it would take several strokes of a flashlight—running the risk of capturing any slight movement the person makes. **Figure 4.37** is a perfect example of using a flash to create several ghosts. I lit the subject three times with a Vivitar 285 flash at full power. Her head is the only thing that appears because it is more reflective than the black coat that's covering her body. Black absorbs light, so I would have needed to fire the flash two or three more times to make her body stand out against the darker background. But triggering a flash multiple times with the subject staying in the same spot has its own problems: If the subject moves even slightly between flashes, the light will create a blurry overlap.



**Figure 4.37**
**I lit the closest figure from a 45-degree angle just off-camera. Then I moved behind the wall to the right. You can barely see the third ghost because the distance of the flash from the subject doubled, lessening the power of the light.**

ISO 100 • 4 min. • f/8 • 80mm lens

What if you want your image to be a true night portrait rather than a moody ghost image? Fire the flash once, and have the subject hold their position as you finish the exposure. This builds density in a softer way than illuminating them again with a flash. You may have to reduce the ambient light by using shorter shutter speeds. If your model is in front of a bright light source, like a streetlight, it will burn through your portrait, so be careful where you place them.

For **Figure 4.38**, I fired a flash at one-quarter power each time the subject struck a pose. I tried to keep the flash the same distance from her so the power of the light wouldn't change. The flash was in a grid to keep it a tight beam and limit the light falling on the foreground. The flash was fired from above, so it reflected more off the top half of her body than the bottom.

# Chapter 4 Assignments

### Paint with light

Add light painting to your night photography repertoire. Experiment with a variety of subjects. Try angles that accentuate texture, and try placing the light source inside the frame. Experiment with different colors and color temperatures. But remember to paint in the shadow areas, not in the highlights.

### Write with light

Bring your light source into the frame and point it back at the camera. Draw simple shapes and designs. Familiarize yourself with writing words backward, and use different light sources to create patterns. Spin the light around to create a ball of light. When you get comfortable, challenge yourself to make it about more than just the drawing. Try to make the light writing and the environment complement each other.

### Create a night portrait

Hone your slow sync capabilities, and be the hit of the next party with shots that show just the right amount of flash and movement. Tell people to hold still after the flash fires, or play with time and have them be ghosts in the shot. Mix in as much ambient light as possible, but be aware of it burning into your portrait.

*Share your results with the book's Flickr group!*
*Join the group here: www.flickr.com/groups/night_fromsnapshotstogreatshots*

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