

Hands On— Photography

PART 3b



Article and Photos by Sue Sykes

LIGHTING

*What is true by lamplight is
not always true by sunlight.
~ Joseph Joubert*

Just as there are all kinds of cameras, there are varying methods of lighting our subjects. In our Spring 2010 issue, we discussed light direction. In this issue, let's talk about a few different types of lighting: daylight/sunlight, artificial lighting, and available or natural light.

Daylight/Sunlight

Sunlight consists of actual rays that light your subject. Daylight is available even in the absence of sunlight—overcast days that provide illumination without direct streams of sunlight. Both sunlight and daylight have plenty of positive attributes: they come in varying degrees of brightness, they are available at any outdoor shoot, and they're free! One of the main disadvantages of using daylight and sunlight for photos is that they are not constant: they change in colour and direction, depending on the time, weather, and location.

Strong, direct sunlight should be avoided for portraits whenever possible. It can cause harsh lines, unflattering shadows and unsightly squinting, as seen in Figure 1. If you must shoot in direct sunlight, try to position your subject with the sunlight behind them. (Remember that your camera will be fooled by the bright background and will underexpose your subject, so increase your f/stop by a few steps [i.e., from f/8 to f/4] to get the proper exposure for the face.)



Figure 1: Photo by Sue Sykes, taken with Nikon D70 with 70.0-200.0mm f/4.0-5.6 lens at f/4.8, 1/2000 sec., ISO 200, no flash.

Another option is to move your subject to a covered location, such as in the shade of a porch or a tree. In Figure 2, I positioned my daughter, Aili, on the top step of our covered porch for her first-day-of-school photo. You can see the wonderful catchlights of the sky reflected in her eyes. If the light is not quite bright enough to reach the subject, you can use a reflector to bounce light onto your subject and provide adequate lighting.

Overcast days often provide better photo opportunities than sunny ones. Many brides complain when the weather on their big day is not bright and sunny, however, overcast days provide wonderful, diffused lighting, with no shadows, which is the most flattering light and provides brilliant, saturated colours.

Artificial Light

The term, "artificial light", refers to

Let's Get Technical



Figure 2: Photo by Sue Sykes, taken with Nikon D70 with 50mm f/1.8 lens at f/2.2, 1/125 sec., ISO 200, no flash.

any light source that is not naturally occurring in your shooting environment. Artificial lighting can be provided through on-camera or external flash units, expensive studio lighting, or even makeshift, do-it-yourself lighting. The end result is the same: a light source that has been manually added to the scene.

When in Auto mode, your camera's built-in flashes are triggered automatically in low-light settings, providing you have not set the flash to OFF. For the most part, this ensures that your photograph is adequately exposed. However, on-camera flashes are prone to cause an unsightly red-eye effect, due to the proximity of the flash to the camera lens. There is a long explanation for this, rich in medical terms, but in layman's terms, this effect is caused by the bright light passing through the pupil, reflecting off the fundus at the back of the eyeball and then out again. The red colour is due to the blood located behind the retina. While it is more predominant in photos of blue-eyed persons, it can occur with all eye colours.

One way to avoid red-eye is to use an external flash with your camera. This is a unit that attaches via a "hot shoe," which is a metal contact point for flash synchronization usually located on the top of your camera. It ensures that your flash and camera work together to achieve proper exposure.

There are two ways to employ an external flash as your light source. Direct flash occurs when your unit flashes directly at your subject; that is, the light emits at a 90° angle from the front of your external flash. Many professional photographers use direct flash as fill-in for backlit subjects. However, direct flash has some unwelcomed effects: it can leave harsh shadows behind your subject or cause a glare on any reflective surface such as a mirror, window, high-gloss painted wall, or your subjects' eyeglasses. Depending on your proximity, it can also wash out colours and overexpose the foreground in your photos.



Figure 3: Photo by Sue Sykes, taken with Nikon D90 with 50mm f/1.8 lens at f/3.5, 1/60 sec., ISO 200, bounce flash fired.

Using your flash indirectly can eliminate these effects, while still adding illumination to your subject. One method of indirect flash is to bounce your flash off a light coloured ceiling or wall. This will provide even lighting, eliminating harsh shadows and providing a soft warm light, as seen in Figure 3.

If you took a Grade 11 physics class, you may remember that light striking a flat surface is called the incident ray. When it bounces off, it is referred to as the reflected ray.

As we can see from Figure 4, a line perpendicular to the reflecting surface, such as a ceiling, is called a normal.

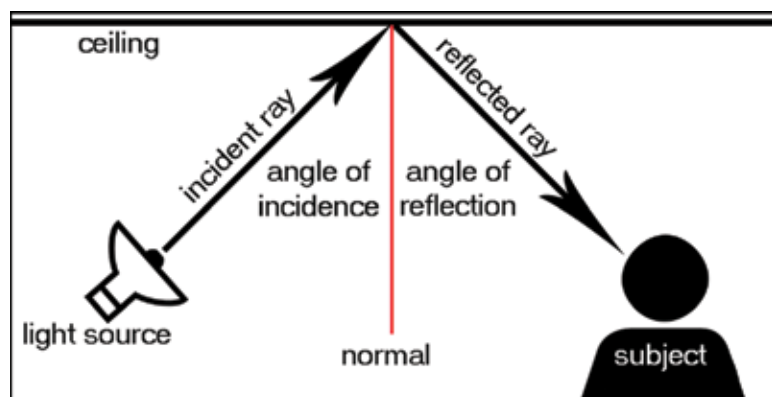


Figure 4: The angle of incidence equals the angle of reflection.

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Figure 5: Photo by Sue Sykes, taken with Nikon D70 with 50mm f/1.8 lens at f/1.8, 1/200 sec., ISO 200, no flash.

Thus, the angle of incidence is equal to the angle of reflection, so this determines where your light will bounce. As a general rule of thumb, aim your flash at a point that is midway between your flash unit and your subject. If you are within 2 to 4 feet of your subject, your camera flash should be pointing almost directly upward to avoid the light bouncing to a spot behind the subject. Also remember that bouncing your light doubles the distance that the light has to travel, so you will have to adjust your camera settings accordingly.

Another method of using indirect flash is to attach a diffuser to your unit. A diffuser softens the impact of a powerful external flash unit and minimizes shadows. There are many different commercial brands available, such as Lumiquest, Sto-fen, and Gary Fong, or you can search online for do-it-yourself versions.

Studio lighting is another form of artificial light. Costs for a studio set-up vary greatly, due to the numerous factors to consider: floor vs. ceiling set-up, hot lights vs. strobes, snoots vs. barn doors... You get the picture – no pun intended! As with the diffusers, there are several do-it-yourself solutions to be found on the Internet that, while they may not look as professional, can give you satisfactory results and save you thousands of dollars at the same time.

Natural or Available Light

While there are many photographers who will swear by their studio set-up or camera flash units, there are just as many, if not more, photographers who prefer to use natural or available light for their photography. Not only is it less expensive than buying a studio rig, but it also produces near true-to-life colour and excellent detail. As well, it allows more creativity in your photography.

Available light refers to all types of lighting that occurs naturally in a scene, with the exception of direct sunlight. This could include anything from sunlight through a window—as in Figure 5—to car headlights. Be creative! Becoming accustomed to using natural light will open up more opportunities to capture moments where a flash may not be appropriate, such as a wedding ceremony.

Because using existing light sometimes results in low-light situations, your best bet for capturing a properly exposed photo is to use a fast lens, such as an f/1.4 or f/1.8. If you have a lens that is slower than f/2.8, be prepared to adjust your ISO and aperture settings to allow for more light in your photo. You may need to use a tripod if your shutter speed is slow, to avoid camera shake. Because photography is dependent on light, the source of light is an important consideration in the process of capturing dramatic and striking photographs. In this age of digital photography, it has become less expensive to practice our lighting techniques, so get out and start snapping!

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