The Secrets of Photography

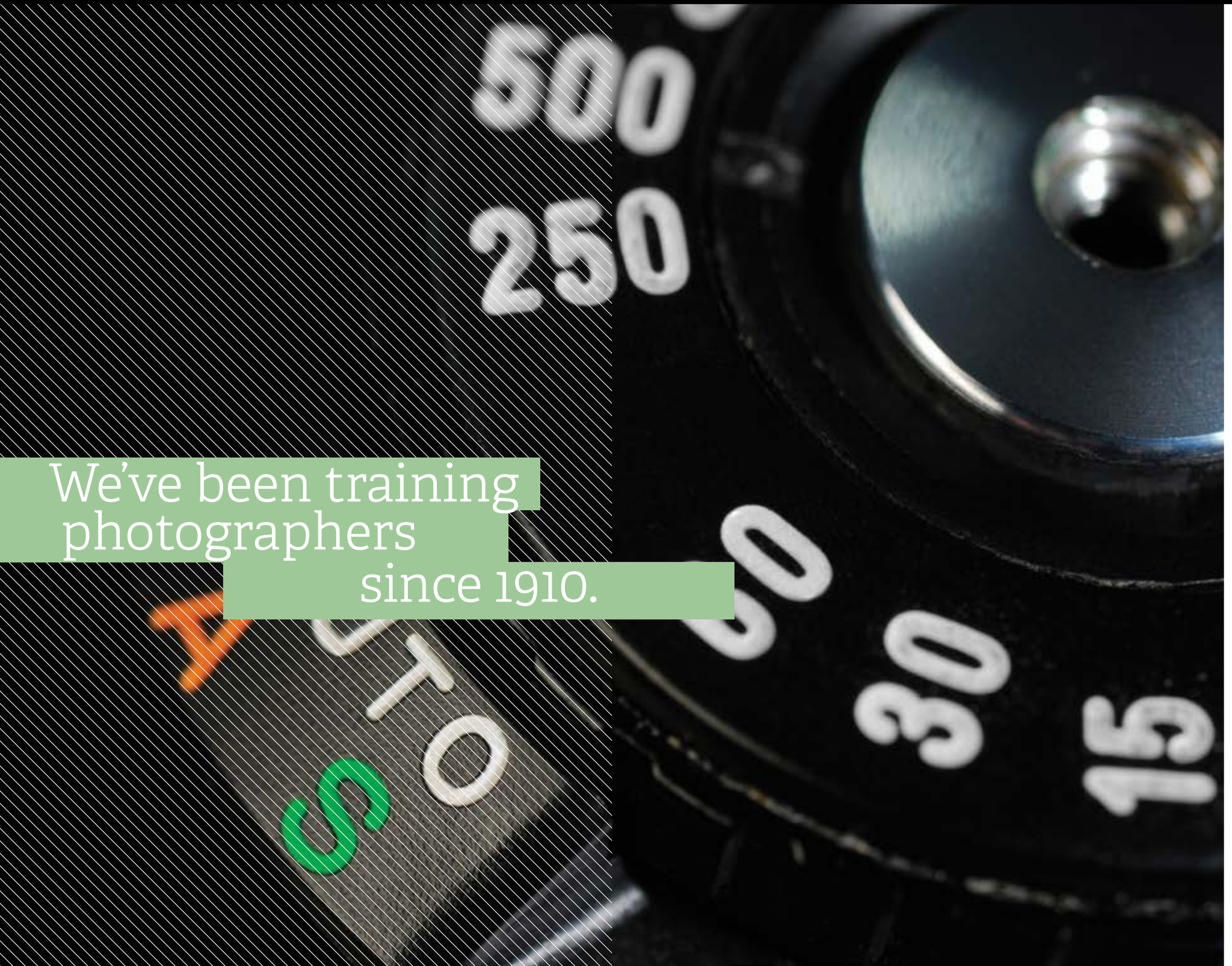
Seven Tips for Better Lighting

New York Institute of Photography

WELCOME

Welcome to your lesson from the New York Institute of Photography—we've been educating photographers since 1910.

We have trained more
successful photographers
than any other school
in the world.



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Our Mission

For over 100 years, NYIP has been providing high-quality training in the art, technique, and business of photography. We offer a unique combination of online education and personal coaching. Our online, accredited certificate programs allow you to engage in course work at your own pace. Affordable tuition with flexible, interest-free payment plans and a no-risk refund policy make NYIP the best value in photographic education.

We have trained more successful photographers than any other school in the world. Through NYIP's combination of mentorship, course work, and assignments, you'll develop the skills you need to take your photography to the next level—and beyond. Our comprehensive courses contain hundreds of hours of training covering every facet of photography—from aperture to histograms and lighting to portfolio editing.

Our Students

There's NYIP graduate Matthew Lewis Jr., a Pulitzer Prize winning photographer who spent twenty-five years at the *Washington Post*. Lewis personifies the storytelling tradition in great news photography. His famous images include Jacqueline Kennedy at President Kennedy's funeral, scenes at the March on Washington in 1963, and policemen beating marchers during the Poor People's Campaign in 1968.

Paul Gilmore, who studied with NYIP, was the first photographer to shoot moon rocks, while Richard Weede shot several of the most famous photographs of Elvis Presley. Jim Edds is a successful storm chaser and photographer who shoots extreme weather events for TV and magazines. Each studied the same material, but found their own stories to tell through unique images. Other notable NYIP graduates include the profound documentarian W. Eugene Smith and famed celebrity photographer Douglas Kirkland.

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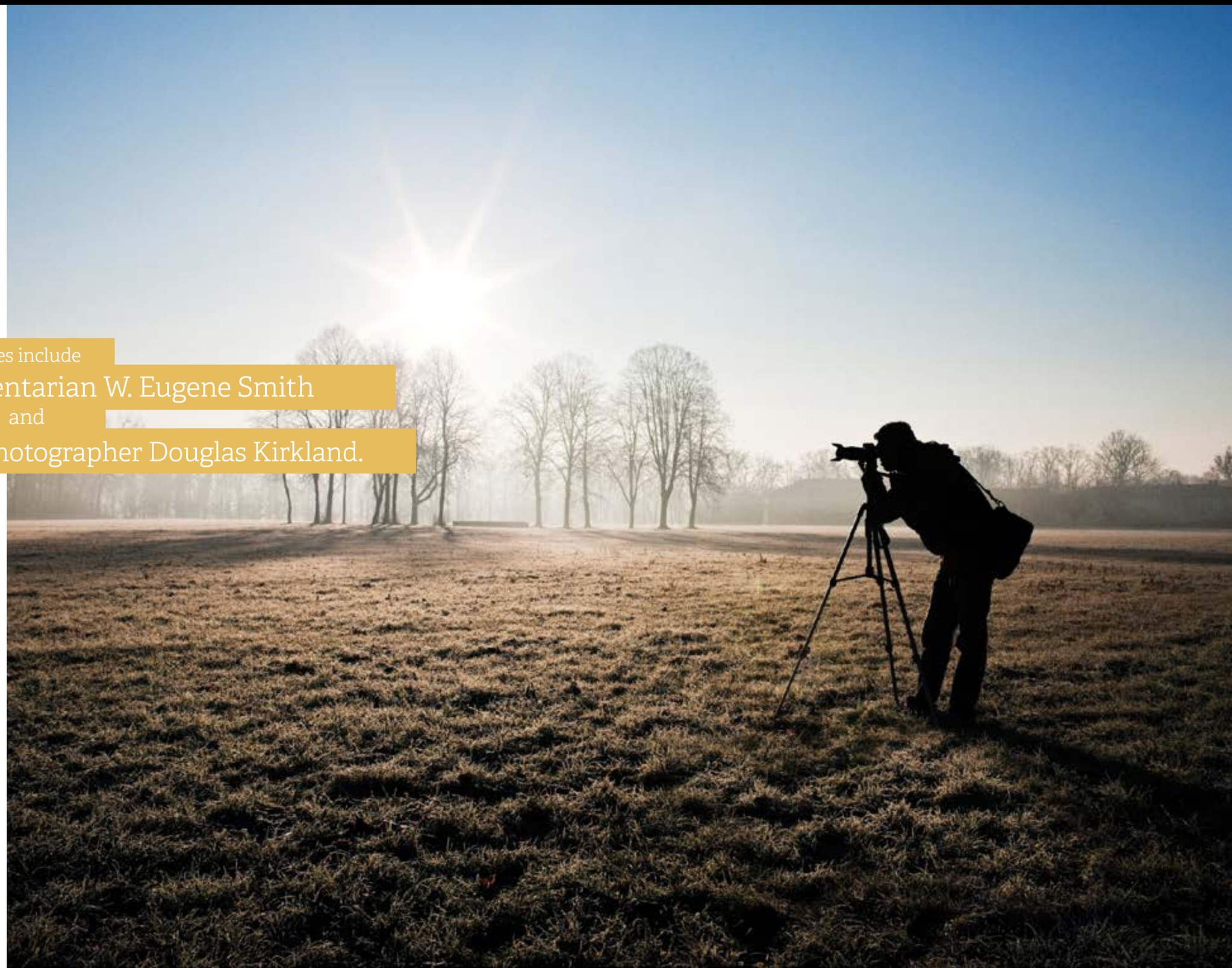

We don't expect you to invest thousands of dollars in studio lighting equipment. However, there's a lot you can do with your existing equipment, particularly as you increase your understanding of how lighting affects photographs. In fact, with your new insights into lighting, you're well ahead of the many photographers who only use the automatic flash on their cameras.

Here are NYIP's Seven Tips for Better Lighting, most of which are inexpensive and easy to perform.

- **Control Your Camera's Built-in Flash**
- **Consider a More Powerful Flash Unit**
- **Learn to Use a Reflector**
- **Pick a Scene and a Subject to Photograph in Different Lighting Situations**
- **Try Painting with Light**
- **Use Window Light for Portraits**
- **Shoot in Twilight for Night Photos**

Tip One:

Control Your Camera's Built-in Flash

It's time to take control of your camera's flash! As wonderful as modern camera technology is, your camera is programmed to make certain assumptions.

Here are three basic assumptions that are programmed into your camera.

1. If the exposure sensors determine that there's low illumination in a scene, the flash will fire. Your camera has been programmed with the assumption that light from your camera's flash will improve your subject.

2. If the exposure sensors determine that the scene has bright illumination, the flash won't fire. Camera programming assumes that the flash isn't necessary.

3. In low light, the flash will fire regardless of the distance from the camera to the subject. After all, it's dark out there.

These assumptions make sense, and the programmers that design camera systems have made them work very effectively. The problem is that there are many common photographic situations when you want just the opposite results. Let's look at some specific examples.

Low Light

There are times when you want to take a photograph in low illumination without the flash because of the nature of your subject matter.

- When the subject includes candles on a birthday cake, as in an example we showed you earlier, or perhaps the lights twinkling on a holiday tree, the result of turning off your flash is a photo that will be taken with a slower shutter speed and no flash.

- With the flash off, you have to make sure to hold the camera steady to keep your subject sharp. You'll probably get the best results if you use a tripod.

- If tungsten light bulbs or candles provide the illumination in the scene, the color of the image will probably be a warm orange/red tone.

Why go to the effort of using a tripod and getting warm colors? Because those characteristics may be more in keeping with the subject you're photographing and the way you want the image to look. Remember that the direct, hard light that comes from the camera's flash gives a cold, clinical look to the subject. That may be fine in certain circumstances, but not in others. *You* should make the choice, not your camera.

© Chuck DeLaney

Bright Light

When you're working in bright sunlight, the camera's flash won't fire. That saves power for your batteries, but what if it takes away from your picture? That's not what you want. What if your subject is a person and the sun is overhead in the sky? If your subject is wearing a hat, you're likely to discover that your subject's entire face is in dark shadow. Even without a hat, it's common to see heavy shadows under the chin and perhaps even obscuring your subject's eyes. The solution is to fill in those pesky shadows using a technique called *fill flash*.

The use of fill flash in this image captures more detail in the man's face.

Once again, the choice whether or not to use flash should be your decision, not the camera's.

Scenic Photos in Low Light

When tourists visiting New York City take pictures from the top of the Empire State Building in the evening, the visitors point their cameras toward the dramatic skyline scenes that are visible in all directions. And their flashes fire, doing nothing to illuminate the subject in front of the camera, unless there are some insects flying in the region. The solution to each of the situations we've described is to take control of your camera.

Today's automatic cameras—both digital and film models—usually offer five basic camera flash settings. Get to know and use them!

Automatic. Flash will fire when the exposure sensor and camera programming tell it to.

Automatic with Red Eye. Flash will fire when the exposure sensor tells it to, and the flash will employ some type of pre-lighting that is designed to reduce the likelihood of red eye.

If you pay no attention to your flash, your camera will automatically select one of these two settings, usually Automatic with Red Eye Reduction. We suggest that you avoid using these settings. Instead, choose from the following flash options, depending on how you want to portray your subject.

Flash Must Fire. This is the setting you can use to make sure your flash fires to fill in shadowed areas on sunny days. When you select this setting, the flash will fire every time you press the shutter.

Flash Disabled. This setting is the one to use when you want to record your subject using the available light in a low-light setting. Remember that if you're taking pictures in low light, you may need to steady your camera on a tripod.

Slow Shutter with Flash. This is the least understood flash setting. The flash will fire (often with red eye reduction) but the shutter will stay open for a longer interval than necessary. This allows you to capture the subject that is illuminated by the flash, and also allows more time for other lighting in the scene to record itself on film. This setting is intended principally for pictures of people in front of brightly lit cityscapes. The flash provides light to illuminate the people—let's say tourists in Times Square or in front of a gaudy Las Vegas casino—and the additional interval that the shutter stays open allows time for the lights in the background to be recorded by the chip or the film.

Setting Your Camera's Flash

Consult your camera's instruction book to find out exactly how to switch between these five settings.

- Automatic
- Automatic with Red Eye
- Flash Must Fire
- Flash Disabled
- Slow Shutter with Flash

The location of the lighting controls varies considerably between cameras. However, if your camera is an automatic model with a built-in flash, you'll find these five different settings somewhere in your camera's controls.

Tip Two:

Consider a More Powerful Flash Unit

Depending on the make and model of your camera, you may be able to attach an additional flash unit. Most SLR and DSLR cameras feature a hot shoe, which is an attachment that holds a flash unit and provides an electrical contact from the camera body that can fire the flash.

A separate flash unit offers several advantages for the photographer.

- First and foremost, this type of flash is more powerful than your camera's built-in flash. That means you can put more light on the subject and illuminate subjects at a greater distance.

- A separate flash unit will run on its own power supply—most often a set of 4 AA batteries. These batteries are relatively inexpensive, and you can buy rechargeable ones if you like. In contrast, your built-in camera flash draws its power from the batteries that drive your camera, some of which can be very expensive. Thus, the more you use your built-in flash, the more often you have to replace or recharge your camera's batteries.

© Clay Blackmore

Using a Flash Unit

This photo was made in the late morning and the rising autumn sun provides nice illumination of the trees in the background. The subjects are in shade and without the use of flash we wouldn't see them clearly. In this picture the photographer has balanced the flash with the background so that we see both clearly. If the photographer made the flash brighter and used a smaller aperture, the background would become darker.

Most additional flash units allow you to tip and tilt the flash to get different lighting effects.

Most additional flash units allow you to tip and tilt the flash to get different lighting effects. You can point the flash straight up so that it bounces off the ceiling, or you can tilt the flash to an upward angle so that it lights your subject with less directionality.

Flash units for cameras that can accommodate them range in price from about $100 to $400. The most expensive models are the so-called "dedicated" flashes that are carefully programmed to work with a given type of camera. Information is passed between the flash unit and the camera to provide precise automatic exposure and also to provide a host of different exposure ranges and special effects.

Tip Three:

Learn to Use a Reflector

When you're working with any type of light, whether natural or artificial, you can use a reflector to lighten the shadow areas in a scene and give added illumination to your subject. There are all types of reflectors available for your use. The most inexpensive ones are simply white poster boards that you can buy at the local stationery store. There are also many different kinds of reflectors available for various photographic purposes.

This is one time when it makes sense to start with the least expensive alternative. You can either purchase a piece of poster board or take a piece of cardboard and cover it with aluminum foil.

Assuming that you're using a camera with automatic exposure, chances are you won't need to compensate for the added light splashed back onto the scene from the reflector.

Reflector Surfaces

Professional reflectors have white surfaces, or silver and gold metallic ones. The metallic surfaces reflect more light and often give a crisper, more dimensional appearance to the subject. A gold reflector actually provides a warm tone to the reflected light.

When you're working with any type of light, whether natural or artificial, you can use a reflector to lighten the shadow areas in a scene and give added illumination to your subject.

A gold reflector adds a warm tone to the reflected light. Actually, light will take on the color of whatever surface it is bouncing off of—be it a reflector, wall, or another element in the photo. Sometimes this can provide an interesting artistic result, but it can also cause headaches as you try to remove a stray, unwanted color cast. So be aware of how light is being affected by objects in and around your image.

© Jacob Boller, NYIP Staff Member

Reflectors in Action

Here are three pictures of the same subject taken with the flash head at three different positions.

Picture 1 was taken with the flash head pointed directly at the subject. The lighting is harsh. You can see that the flash casts heavy shadows on the wall, and puts bright highlights on the subject's face.

Picture 2 was taken with the flash bounced off the white ceiling in the room. While this provides a softer light, you can see that the subject's eyes, cheeks, and neck are in shadow.

Picture 3 was taken with the flash head at a 45-degree angle and a small white reflector card. This creates the best balance of soft lighting without excessive shadows. In many situations, this is the best flash position to use with portrait subjects.

Many professionals make extensive use of reflectors. To use one, the photographer usually needs an assistant to manipulate the reflector until the desired illumination is achieved and then hold the reflector in place while the picture is being taken. In some studio situations, the reflector can be put into position and then clamped with a light stand. On location, an assistant (also known as a "Voice Activated Light Stand") is usually asked to hold the reflector in place.

You can use a reflector outdoors and indoors, and with any type of lighting. As you start to experiment with reflectors, you'll see how much they can add to all kinds of photographs.

When using a reflector, you'll often hold it quite close to the model. Make sure that you don't get the reflector into the photograph!

Picture 1

Picture 2

Picture 3

Tip Four:

Pick a Scene and a Subject to Photograph in Different Lighting Situations

The variety and subtlety of the way that light plays across a scene is something that most people don't appreciate. The light varies with the time of day, the time of year, and the climate.

To understand how different lighting conditions affect a subject, we suggest you tackle the following experiment.

Pick a scene that's near to where you live or work that you can photograph on a regular basis. You can either carry your camera with you, or keep it handy in your home or workplace so you're ready to photograph the same scene, from the same location, in different types of light. See how many different versions of the scene you can create just by observing the way the light is striking the scene. Determine a subject that is part of the scene so you can focus on that subject in all your photographs.

- Shoot the same scene at different times of day with different lighting conditions (sunny, cloudy, morning, noon, evening, and so on).

- Next, using artificial light, shoot the same scene and the subject you're focusing on with your light source positioned at different angles and distances to see how light falls on the subject.

Tip Five:

Try Painting with Light

What if you could completely control light, so that it only appeared where you wanted it to be? Think of the way that you could control what would be seen in your photograph.

To a limited extent, you can do this. The technique is called "painting with light," or simply "light painting," and it's highly experimental. There are expensive professional tools you could purchase for this purpose, but you can have a lot of fun simply by using a flashlight. The only other requirement is a dark room so that you can make a time exposure. How to make your camera give you either an unlimited exposure or a very long one—perhaps 30 seconds—will depend on the type of camera you're using.

Refer to your camera's instruction book to see what possibilities for a long shutter speed are available to you.

© *Jamel Toppin*

Tip Six:

Use Window Light for Portraits

Painters have used window light for centuries. It is important to understand that by window light we mean the soft light that comes through a window, not sunlight pouring into a room.

In the northern hemisphere, artists' studios often feature large windows facing north, since the sun will shine directly into the studio from windows in the east, south, and west walls depending on the time of day.

The use of a reflector in combination with window light will greatly assist in softening shadows. The light from a window diminishes rapidly, which means that you have to watch out for hot spots and make sure that your exposure records the detail in the areas of your subject that are highlighted by the location of the window.

This charming picture of a young girl was made with a traditional film SLR and ISO 400 negative film. A reflector was used, but you can see how radically the light drops off. Look at the illumination of the chair in the background. When using window light, the background must be surveyed to see what will be prominent in the scene. Here, either the model should be repositioned, or else the tree and chair in the background should be rearranged.

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Tip Seven:

Shoot in Twilight for Night Photos

We know that shadows in photographs appear darker than the same shadows appear to our eyes when we view a scene before taking a picture. We've discussed how to lighten shadows on people's faces, for example, by using fill flash.

When you want to make a picture of a nighttime scene, whether it's a cityscape ablaze with bright lights or a landscape scene, bear in mind that a photograph taken in twilight will appear to the viewer to be the equivalent of a nighttime scene, while still providing detail in the sky rather than a black void.

As with all suggestions—or so-called rules—there are times when you want to take a different tack. Sometimes a stark black sky is the best dramatic choice. The photograph of the San Diego LDS Temple in La Jolla, California was made using black-and-white film and the stark black sky creates a very dramatic frame for this building's light color.

© David Schmiedeberg, NYIP Student

Lighting Equipment Pays for Itself

At the beginning of this Lesson on lighting, we promised that we wouldn't push expensive lighting equipment on you—and we won't.

Most professionals will tell you that an initial investment in lighting equipment will pay for itself far more quickly than the purchase of a new lens, a second camera body, or other types of photographic equipment.

However, professionals equipping a studio with enough lights to conduct a fashion shoot or make commercial photos of large items like automobiles can easily spend tens of thousands of dollars.

There probably is no reason for you to spend this amount of money, but if you invest somewhere between $250 to $1,000, you can purchase enough equipment to make a big difference in the kind of images you can produce. And you can do this over time. There's no hurry!

Being able to get your flash off the camera allows you to play with the direction of artificial light in your photographs. If you purchase a strobe head or two, light stands to hold them, a reflector, and perhaps some seamless background paper, you'll find that you can produce all kinds of photographs that people will gladly pay for.

Most professionals will tell you that an initial investment in lighting equipment will pay for itself far more quickly than the purchase of a new lens, a second camera body, or other types of photographic equipment.

However, the most important investment you can make with regard to lighting in your photographs is to invest your own time—a very important and limited commodity. You don't need to spend a penny. Simply take the time to observe the way light plays in different scenes and affects the world that we photograph.

Look Ahead

Before we leave this introductory lesson, there's one more point we want to cover. That's the future, and the speed with which it's coming at us, and the dazzling innovations we're seeing on a regular basis.

New products and applications for digital photography have popped up all over the place. What new consumer innovation will be announced next month? Next year? What digital photography gear will be old hat a decade from now? We can't tell you what new innovations will surface at the next Consumer Electronics Show, but we guarantee that there will be all kinds of inventive gadgets, new markets for photography, and digital imaging possibilities beyond our ability to envision at this time.

When things are changing this fast, it's an exciting time to be a photographer. While we can't predict the future, we can make you two promises. Whether in print or on the Web, good content is still king, and good pictures are always going the be at the heart of our craft. Photography technique is as important now as it was at the dawn of photography.

Here's a second promise. The power of photography will continue to grow! Please visit us at nyip.edu and request a copy of our course offerings today.

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