

STRATEGIES FOR DIGITAL PHOTOGRAPHERS

LIGHTING TECHNIQUES

*for Photographing
Model Portfolios*



BILLY PEGRAM

Amherst Media®
PUBLISHER OF PHOTOGRAPHY BOOKS

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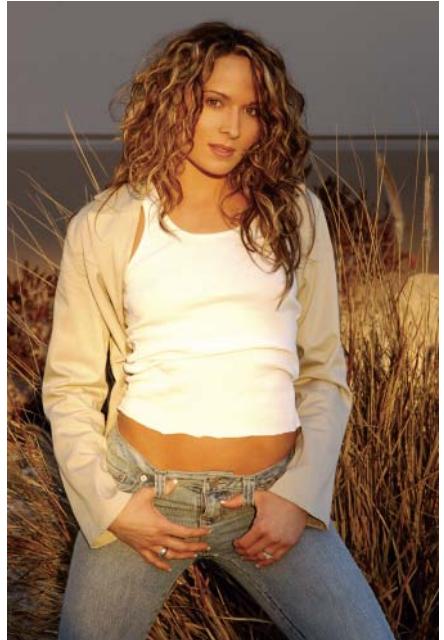
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Preface

by *Loa Andersen*

I first met Billy Pegram when he was shooting fashion in Seattle and I was the new agent on the block. We developed a synergistic relationship. He introduced me to clients; I had him shoot the models I represented. I have now known him for nearly three decades. During this time, we have learned from each other and become friends. I have admired his creativity, argued with him over what should be in a model's portfolio, laughed at his silly jokes, and been highly impressed with his professionalism. However, it has only been since becoming his typist/reader/spellchecker that I have begun to appreciate his vast knowledge of all the various aspects of photography. I now cringe when I hear someone speak of a shooter as "just a photographer."

There is so much more to photography than just picking up a camera and going at it. A good photographer must have in-depth knowledge of a multitude of disciplines. A photographer must be not only an artist, but also a mathematician, a chemist, and a physicist—and, of course, part psychologist just to deal with the personalities of the models, directors, clients, and support staff. It also helps to have a firm knowledge of business practices.

Billy Pegram is all of these things and more. His background is eclectic. He was an award-winning photographer in ninth grade, then headed to college on a full athletic scholarship and an appointment to Annapolis Naval Academy. He began college as a pre-med student, then joined the military when he lost his scholarship due to a broken leg. That led to a stint with NASA at the Navy Aerospace Medical Research Lab, where he not only set records for rides on the rocket sled (sixty-four rides and a maximum of 16.7Gs) but also ran the lab.

Later, as a civilian, he was offered jobs as a director of a research lab, a wilderness survival teacher, and a whitewater guide (among several other more mundane opportunities). He still considered becoming a doctor, specializing in medical research, and was offered a full scholarship to do so. However, he put all offers aside to become a photographer, because, as he says, "It was more challenging."

Billy Pegram is a born teacher, a perfectionist, an expert in his field, a great writer, and a creative genius. He is a friend and mentor to hundreds of hopeful models and aspiring photographers. He is also one who enjoys a good challenge. In short, he is the definitive photographer.

Introduction

When Amherst Media initially asked me to write an instructional book on photographic lighting, I had some reservations about the idea. After all, there are many fine books available on this subject. However, after reviewing many of these publications, I found that very few actually put lighting in practical, understandable terms. So I proposed creating a book that



I-1. When the model looks great and the image is engaging, no one will care exactly what kind of lighting equipment you used to create it.



I-2. To be a success in photography, you need to pick a field for which you have a passion—something that drives your creativity.

This will involve shooting images specifically for their portfolios, but also shooting images for clients . . .

would show not only the technical aspects of lighting, but also the thought process behind the creation of an image, emphasizing the details that need to be considered. For the purposes of this book, these discussions will be further directed toward photographing models. This will involve shooting images specifically for their portfolios, but also shooting images for clients (images that will also, in many cases, end up in the models' portfolios).

It's Not About Equipment

This book is not designed to entice you to run out and purchase the latest and greatest equipment. Rather, it is designed to teach you how to use what you have to create the image you have envisioned. That final image is what really matters. After all, if the model's pose and facial expressions are poor, no one will care what equipment was used. By the same token, if the image is well composed, the model has a pleasant facial expression, and is appropriate for the product, the client is not going to care if you used a white board, a commercial-grade reflector, or an adjoining wall as a reflector.

Theory and Passion

This is also not a book on theory—in fact, I'm sure there are some theorists who will disagree with my suggestions. This book contains practical information that I have found beneficial over twenty-five years of experience working with models and clients. It is geared to help you, professional and hobbyist photographers alike, to create better, more pleasing images. When it comes down to it, clients don't really care about lighting ratios and technical babble. Their concerns are simply these: Does the lighting work for my product? Will the final image fulfill my needs?

Some photographers become so concerned with theory and technical knowledge that they lose their passion. Unless you are doing a line catalog, creating images designed to reflect only the physical appearance of a product,

I-3. Creating great images does not require owning the latest, greatest equipment. It means learning to use what you already own to produce the image you envisioned.





I-4 (facing page). As a model photographer, your job is to create images that will grab the viewer's attention and get them to hire the model.

there must be passion in an image for it to be considered a success. Passion is simply a necessary ingredient for a photographer. You must love what you do and you must do it not for the money or the travel, but for the work itself. If you don't have passion for the work, it will show in your photography. If you don't like women, that dislike will come across in your images of models. If you think fashion is stupid, boring, and phony, you would be better off getting into a different line of work. Photographers should not allow themselves to be trapped in a field that they consider mundane or boring. If you are not enjoying what you are doing, it becomes just another job rather than an exciting, creative career.

Photographing Models

When I started out in photography, I wanted to be a landscape photographer. However, with subjects that change very little from year to year and the need to build an extensive stock collection before you begin receiving compensation for your efforts, I soon decided to take my career in another direction.

I decided to start shooting fashion, model, and talent photography because there is a constant influx of new people and creative ideas in that field. Fashion and model photography allows you to work either with a client/model separately or with a group of other creative people, like makeup artists, designers, location specialists, and agents. Their goal is to create a powerful visual experience: the still image. In addition to providing ample avenues for creativity, you are paid at the time of delivery.

As a fashion photographer, you are a problem solver. Your job is to show the clothing or product in the most appealing way. You must create a mood to make the client's product sell to a potential buyer. When shooting for a model's portfolio, that same idea applies—but the model herself is the product. The same procedures and thought processes are used, but now they are focused on making the model appeal to the portfolio's viewers: the model's potential employers.

How do you show the model's best attributes? Creativity. As a model photographer, it's your job to design images that will stimulate the viewer of the portfolio to hire the model. To succeed, you need to possess the precise technical skills of the commercial photographer, the creative eye of an artist, and the sensitivity to the human condition of the fine-art portrait photographer.

The Rewards of Model Photography

Creativity. The rewards of model photography are immeasurable. It is a creative occupation where you are involved in every phase of the process—from the concept to the completion. Creativity is encouraged and rewarded, and you are also given the opportunity to work with other creative individuals.

As a fashion
photographer, you are
a problem solver.

Travel. Also, as a model and fashion photographer, you will be given the opportunity to travel and experience new environments—not as a tourist, but as an integral part of the region. The fashion photographer will get a unique impression of the location, because he will integrate the landscape and the “feel” of the area in his fashion work.

Financial. Financially, this field can be very rewarding, but it may take years to become known or to establish a distinctive style and a great reputation. Marketing your distinctive style and reputation will, however, create a demand for your work, reward you with financial success, and elevate your professional status.

Making a Positive Change. On a personal note, the aspect of this field that satisfies me the most is the ability to instill confidence in a new model. Many young models lack self-esteem. They are convinced that models who are published are perfect and lacking any personal flaws. The driving force for me to continue working with beginners is to see the expressions on their faces as they view their photographs and see that they look like the established models they see in print. The change in self-esteem and confidence that appears as a portfolio progresses, and the praise of the parents about the change in their daughter’s life, is, to me, an immeasurable reward. How do you put a value on a positive change in someone’s life?

The Challenges of Model Photography

Environmental Demands. Many people envision the life of a fashion photographer as one big round of parties in exotic locations, filled with beautiful models and fascinating celebrities. It is true that many locations are exotic, models generally are beautiful, and some celebrities actually are interesting. However, the reality is that a fashion photographer’s life is one of very hard work with extreme pressure to “be creative” while staying within budget.

When accepting a client, the photographer shoulders enormous responsibility. There must be meticulous attention to detail, schedules must be maintained, and deadlines must be met. There are crews of assistants, makeup artists, hair stylists, photo stylists, and other personnel for whom the photographer is ultimately responsible. Shots must be perfect; images must suit the client’s needs.

Often, the photographer must produce excellent work under trying circumstances, working with ill-fitting garments, miscast models, and overzealous on-lookers or paparazzi. Sometimes, those exotic locales may work against the photographer, as well. Mosquitoes, sand-fleas, high winds, unexpected rain, and heavy cloud cover do not add up to a pleasant photo shoot—much less a glamorous adventure!

Technical Challenges. No matter how experienced you are as a photographer, there are always new techniques to learn—new equipment, new cap-

How do you put a value on a positive change in someone’s life?



I-5. Getting to work with models and help them advance their careers is one of the most rewarding aspects of the job.

ture methods, and new styles. Your repertoire of techniques must always be changing and suited to the current tastes of the market.

What to Emphasize. An additional challenge in working in fashion is that you need to be versed in all aspects of hair, makeup, and photo styling. Building a team of specialists is critical to attaining professional status as a shooter. This involves carefully evaluating the purpose of each session. Before I do a fashion shoot, I ask myself some questions: What are we trying to show? Is it a particular item of clothing? Something special about the clothing (*e.g.*, a zipper, material, or a design)? What is it that will prompt the viewer of the photos to want to purchase this product?

When you are shooting images for a model's portfolio, you should ask yourself the same questions. What are we trying to show? What will inspire the client to hire this model? Remember, the purpose of creating the model's portfolio is to show a wide range of looks and to feature her best attributes. The ultimate goal is for the potential employer to see something in her book that he can relate to and, based on that, to want to hire her.

Teamwork counts. After you decide what you need to emphasize in the photograph, your team (makeup artist, hairdresser, and photo stylist) will all need to work together to create the optimal image. Having specialists assist



you drastically reduces your workload and enhances the creative process. A good support team that works together frequently can even help an advanced amateur photographer begin to produce top-quality professional work.

Working with People. Fashion photography is not just about recording an image, it's about making a statement. When you are working with professional models, it is their responsibility to bring forth the desired feeling in the photograph. Professionals know how to pose their bodies to complement the important elements of the photograph, whether it's clothing, jewelry, or another product.

When working with beginners, however, it is absolutely necessary for the photographer to give the new model specific and concise direction. Be patient during the shoot, because new models will experience frustration in posing and communicating the feeling that is required. This makes providing positive statements and reinforcement a necessity.

The model must feel at ease to do her best work. Part of the photographer's job is creating a safe and comfortable environment and assisting beginners with understanding the shooting process.

I-6. For the model to do her best work, you need to create a safe, comfortable environment. The model needs to know what the objectives are and feel confident in your ability to achieve them.

Begin with Portraiture

In this business, it takes a long time to get established, so be prepared to go the distance if you want to achieve success. You will also need a great deal of

photographic knowledge to prepare yourself for all the demands of lighting, posing, etc. You'll need to become knowledgeable about makeup, hair, and clothing styles, plus you'll have to learn to work with and instruct people. All this knowledge needs to be gained before starting out as a fashion photographer. If you start shooting as a fashion photographer before you have gained the expertise needed, you can easily blow an assignment and establish a poor reputation.

My recommendation for getting started is that you begin as a portrait photographer, where you practice your skills in a controlled lighting environment and learn to develop a rapport with people. In fact, the images of many fine portrait photographers cross over into what is really more of a fashion or commercial style, because their clients want "designer portraits"—portraits that are creative and unique to the individual.

Using lighting, composition, and design, each photographer—whether portrait or fashion—will create their own style. The portrait specialist, however, can use the same style, or combination of styles, for many sessions—or even for years. This can be a great asset when you are getting started, since it allows you to become comfortable with the photography process and working with your subjects without the constant pressure to produce a totally unique image every time.

I-7. Models have different looks, styles, and personalities. Learning how to highlight what makes a model unique is an important skill.





Fashion photographers, on the other hand, must constantly change their style. Fashion specialists may have shooting tendencies (*e.g.*, use of grain, bright colors, tilting the camera off axis, etc.), but they must be able to adapt quickly to each client's needs or they will eliminate many potential accounts. This is what allows the fashion business to rapidly change and go in entirely different directions each season. The general public, the buyers of the products being sold, has a short attention span and is always looking for innovation in fashion. As a result of this fast pace, the fashion industry justly rewards those photographers whose creativity and ability to innovate can keep pace with the changes in this always-evolving field.

As you become comfortable with the process of creating portraits, it is important that you begin to challenge yourself to design and execute self-projects that will teach you additional lighting techniques and fashion styles.

Develop your own style slowly, and don't accept clients or jobs you are not totally comfortable handling. As you progress, you can develop a team of hairdressers, makeup artists, and clothing stylists to give you the best possible chance of creating great images.

As far as the business aspects go, it's a full-time job to maintain the books and deal with the paying of bills and banking, so I turn that aspect over to someone I can trust. This frees me up to do what I do best: shoot.

I-8. As you become more confident, challenge yourself to produce more creative images with a fashion edge.

1. Basic Principles

Previsualization

Over the years, I have heard many people refer to the photographer's or artist's "eye." This refers to an individual's ability to previsualize a photograph or a piece of art before starting the production process. Previsualization is necessary anytime you work with models. After all, a model is not an inanimate object that can sit there all day. Her job is to communicate feelings and add emotion to the photograph. By planning out your lighting (and posing) ideas before the shoot starts, you'll be best equipped to capitalize on the model's abilities.

Emulate the Success of Others. A great source of inspiration is the work of other photographers you admire. Make a resource collection of these samples to help hone your own likes and dislikes. You don't need to copy every detail of another photographer's images to make your photographs successful, just emulate the elements that mesh with your personal vision.

Use Your Imagination. When creating an image, especially when trying to emulate another photographer's work, be sure to look for ways to integrate your personal feelings—your likes and dislikes, loves and passions. Imagination is the most powerful tool a photographer can possess. Technical proficiency can be learned through education, experimentation, and practice, but imagination comes from within. Studying the work of current and past artists and photographers will assist in your imaginative process and help you to establish your own unique style.

When photographing people, the photographer must exert more energy than the model to bring life into the photograph. Ask yourself a few questions before shooting:

- What are we trying to show/sell?
- How should the lighting relate to the background, the pose, the clothing, or the product?
- What lighting is appropriate for the clothing, product, or the desired feeling of the photograph?

When creating an image, look for ways to integrate your personal feelings.





1-1 and 1-2. When you see an image or a style that appeals to you, look for ways to incorporate it in your images. For example, these photographs have an “old Hollywood” glamour look that is very popular.

Communicate Your Concept. After settling on an idea or concept, you must communicate it to the model before you start working. This will establish your credibility with those on the set and allow the whole team to work in a unified direction. Keep in mind that being in front of the camera can make people nervous, so being clear with your instructions and making the session professional can increase your chances of success by putting the model at ease.

One way to communicate your intent is to show sketches or sample photographs of the style, the poses, and the overall feel of the photograph you want to create. Another trick is to have someone stand in as the subject and allow the model to look through the camera so she can see what you are seeing and understand your objectives. Finally, you may even try having the model pose without the camera in place—that sometimes helps to relieve anxiety about the shoot.

Objectives

The two main principles governing the creation of a photograph are these: creating flow and directing the eye. Gaining an understanding of these principles is paramount.

Creating Flow. “Flow” is the term I use to describe how the viewer’s eye is directed or drawn through the photograph. In the Western world, our eyes are trained to look at the printed page from left to right. Even a child who cannot yet read will follow the words in this direction using their finger. As adults, when we need to quickly scan a page, we automatically glance from the left to the right. The same basic principle applies when looking at a photograph. The eye will “enter” from the lower left corner. Then, it will search for the brightest thing in the photograph. The arrangement of lines, shapes, col-

1-3 (facing page). Models need to know what you’re thinking. Communicating your image concept clearly is critical to success.



1-4. Notice how the light and shade on the model’s body create sweeping lines that draw your eye up to her face.



ors, and tones in the frame will direct this search—and the photographer must use these elements to control the flow, directing the eye to the intended subject of the image (the product, the garment, the model's face, etc.). For an image to succeed, elements that block the flow of the eye to the desired area must be eliminated.

Two of the most important tools for achieving this goal are the positioning of the model's body and the light upon it. For example, the viewer's eye may follow the edge-lit line of a leg up through the body to the face. Alternately, the body might be posed and lit so that the viewer's eye is drawn up the model's arm to her diamond bracelet. Similarly, the whole image might be designed to draw your eye to the cut of the gown the model is wearing.

A helpful way to practice achieving the right flow is to look at some photos or magazine ads and diagram the flow of your eye to the subject of the photo (or to the logo in an ad shot). It may help to turn the image upside down. This makes it less recognizable; instead of a body, the subject is rendered more as a series of shapes and colors. Observing these simple shapes can help you to visualize the flow more easily. Analyze the flow of the photograph upside down, then turn it right side up and see if it still has the same flow. If you're looking at an image on your computer screen, you can also try reversing it from left to right and observing how this impacts the flow. This is frequently done in editorial and advertising images to better direct the viewers' eyes through the image.

Stopping the Gaze. Stopping the viewer's gaze is the objective of creating flow. Where should the eye stop? It might be the client's logo, the detail on a garment, or the eyes of the model—it all depends on the intent of the image. If you look at an image and find that your eye is blocked (*i.e.*, it stops before it gets to the intended subject) or is directed to an unintended area, there's a problem with the flow; your gaze is not directed to the proper place in the frame. After you have trained your eye to see the flow of a photograph (and stop it in just the right spot), you will be able to previsualize the needed composition, then design the lighting setup and pose to meet your creative objectives.

Your Visual Toolbox

To control the flow and emphasize the intended subject, the photographer must understand the basic tools used to manipulate the path of the viewer's gaze. Some basic elements are: lines, curves, composition and cropping, perspective, and tone/color. Of these elements, lighting has an obvious effect on tone and color, but can also be used to create or accentuate lines and curves. Let's quickly review all of these important qualities.

Straight Lines. Straight lines give the photo a structured appearance, which is most often used when a strong, commanding aura is needed. Among

Previsualize the
needed composition,
then design the
lighting and pose to
meet your objectives.



1-5. Long, straight highlights run the entire length of the model's body in this image. These lines give the photograph a look of strength that is well suited to an athletic shot like this.

straight lines, diagonal lines are more dynamic than vertical or horizontal ones. Vertical and horizontal lines, however, can be good for grounding an image, providing contrast to curves, or lending a sense of solidity.

Curves. Curves tend to be more elegant and stylish than straight lines. They also create a considerably softer look.

Composition and Cropping. Composition is the term used to describe the placement of the subject in the frame and the overall visual interplay of all the elements within the frame. In particular, planning your subject placement can be critical to developing a lighting strategy—especially when working outdoors or on location. In these situations, subject lighting, background selection/control, and composition must all be delicately balanced to produce the desired image.

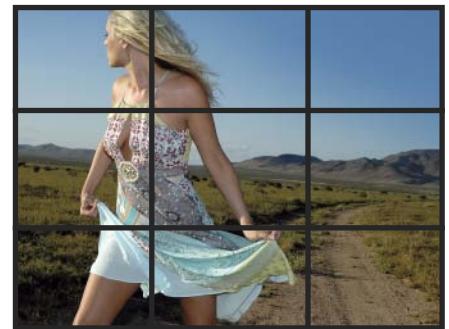
There are many theories about how to compose the most powerful image, but one guideline that will serve you particularly well in model photography is the Rule of Thirds. According to this rule, the frame is divided up into thirds (imagine a tic-tac-toe grid superimposed over the frame). These lines indicate good places for a subject within that frame. The intersections are considered particularly ideal positions for a subject. In most portraits and beauty images, this means that the subject's face (in a full-length shot) or eyes (in a headshot) will be placed somewhere along the top one-third line. In

other images, the product or logo may be placed along one of these lines to emphasize it.

A particularly practical aspect of applying the Rule of Thirds is that it tends to leave you with an open area that is suitable for placing ad copy. The model's body can also be posed to lead the eye directly to this text. (*Note:* When shooting for a commercial client, the art director will normally give you a sketch or a layout for the ad. I suggest you shoot this exact layout, then respectfully make any suggestions you might have for small variations to create in some additional photos. It may seem like overkill, but the client will understand how hard you will work to get the right shot.)

Perspective. Perspective is another tool that can be used to direct the eye. For example, you can use a long lens (200mm or more) to help you separate the subject from the background by reducing the depth of field. For com-

1-6. The subject of this image is the dress. Notice how the light skims across it to reveal the texture and how the model's movement shows the cut and flow of the garment. Additionally, notice how this image works with the Rule of Thirds. If we wanted to concentrate on the model, rather than the dress, her face would probably have been placed at the upper left intersection. Instead, her face is turned away from the camera and the dress's unique neckline is situated at this intersection, drawing your eye to it.



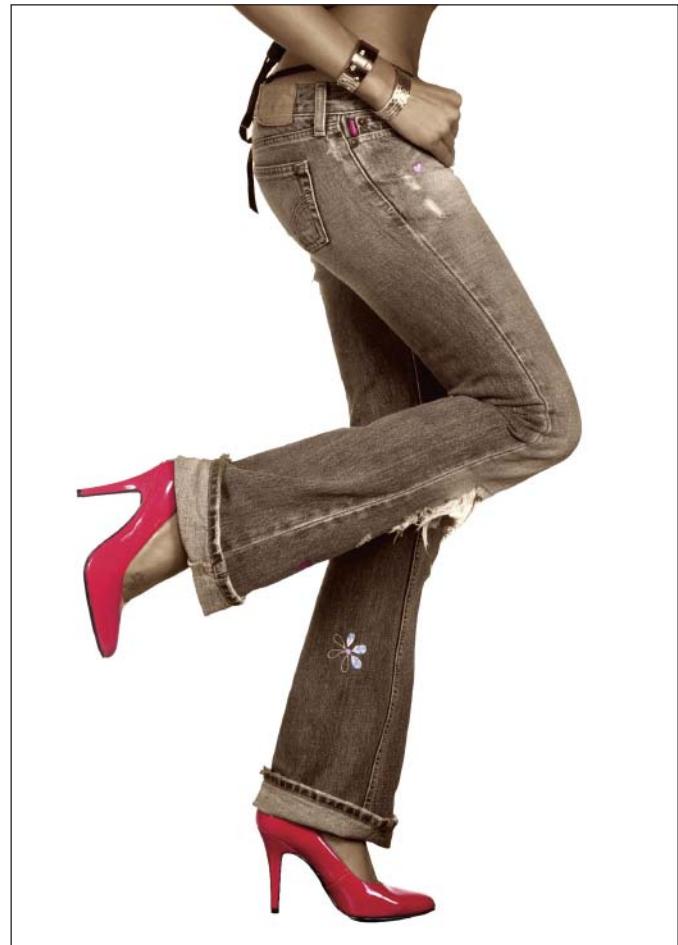


1-7. Here, the areas of highlight—the model's feet and buttocks—are what draw your eye in a frame that is otherwise quite dark.

mercial and fashion work, I find that a wide-angle lens (28mm or less) can combine with a dramatic pose and lighting to create impressive images.

Tone and Color. Earlier, I mentioned that the eye enters a photograph at the lower left corner, then looks for the nearest bright area. This is because contrast draws our eye, and a bright area is usually an area of high contrast. The exception to this would be in a high-key image, where the dark areas of the shot are what provide contrast with the otherwise light tones throughout the frame. Another element that draws our eye is color. Highly saturated, intense colors will draw the viewer's eye more than pastel or subdued ones. Similarly, warm colors (like red and yellow) attract more attention than cool colors (like blue and green).

In terms of lighting, think about what this means. If you have a subject in a black dress against a black background, the areas that attract the eye will be



the ones you allow light to fall on. It's up to you to determine what areas those should be. Conversely, if you have a subject in a white dress against a white background, the areas that attract the eye will be the ones you prevent light from hitting. There are lighting decisions you can make in terms of color composition, too—like adding a warm gel to your main light, a colored gel on the background, or maybe choosing a gold reflector instead of a silver one. Even changing the white-balance setting on your camera can change how the camera “sees” the scene and how its composition is interpreted by viewers. (More on this in chapter 2.)

Use a Tripod

As a final note, I suggest that you make it a practice to use a tripod. A tripod does more than simply hold the camera steady. It allows you to set the horizon line level and to avoid having to reset it each time you shoot. It also lets you evaluate the composition more carefully as you are setting up the shot. This leaves you free to really focus on the model's expression when shooting—a critical element in creating top-quality images.

Additionally, using a tripod eliminates some of the fatigue that can be caused by having to hold the camera all day—especially since many of the

1-8 (left). The model stands out from the dark blue background because she is lighter and warmer in tone and color.

1-9 (right). The model's shape, in dark jeans, is sharply defined against the white background.

Do it in a way that
illustrates that you
have total control of
the photograph.

longer lenses are quite heavy. You won't be at your most creative if you're tired and fighting sore muscles. I think using a tripod or monopod also adds to the "professional" appearance of the photographer, and this can help inspire confidence and trust in your models and clients—which is bound to make your job easier.

When shooting below $1/250$ second, using a tripod is critical to ensure sharp images. If you haven't been using a tripod, adding one to your tool kit will drastically improve your photographs for this reason alone. (Note: Of course, blur is not always a negative effect. It can enhance motion, create a feeling of being a candid photo, and create an overall emotional image. The secret is to do it in a way that illustrates that you have total control of the photograph and that the blur has been created intentionally to add visual impact. It should never be mistaken for a technical error. There is something to be said for the statement, "Shoot like you know what you're doing!"

1-10. Notice how the lighting creates contrast on the model's head and shoulders, drawing your eye to those areas. Because there is much less contrast in the lower half of the frame, it has less visual emphasis.



2. The Physics of Light

Light is the essence of all photography. Indeed, the very word “photography” is derived from the ancient Greek words for “writing with light.” From the searing power of midday sun in Las Vegas, to the soft glow of a single candle, to the spectrum invisible to the human eye, it is light’s many moods that we attempt to capture in our images. Therefore, an understanding of light, what it is and how it behaves (as well as how to use it to your ad-



It is light's many moods that we attempt to capture in our images.

2-1. Understanding light will allow you to create photographs that rise above the norm.



2-2. Light is the essence of photography, creating the many moods we capture in our images.

vantage) is necessary. The photographer must learn to control, manipulate, and exploit light to provide mood and interest.

Understanding the lighting will enable you to create photographs that rise above the norm. Think of moments when the effects of light in nature may have inspired you—sun breaking through early morning fog, water droplets glistening on a leaf, shadows stretching down a sidewalk. Use these memories to create images that will stir the viewer’s emotions. This is what makes an exceptional photograph.

What Light Is

Light is a form of electromagnetic energy that travels in waves, like the ripples on the surface a pond after someone has thrown a stone in it. Unlike water waves, light waves don’t require a medium through which to travel. In fact, light travels best in a vacuum; air actually slows it down. Like all forms of electromagnetic energy, one way to measure light is in wavelengths, the distance between two corresponding points on successive waves. The wavelengths of visible light range from 400 to 700 nanometers, but the visible spectrum is only a small part of the complete electromagnetic spectrum, which includes radio, infrared, ultraviolet, X-rays, and gamma rays—waves that are all differentiated by their unique wavelengths.

As a visual artist and photographer, light is the primary resource of your craft. Therefore, photographers tend to speak of light in more emotional terms such as hard or soft, warm or cool, romantic or harsh. To understand things like color temperature, color-balancing filters, and white balance, however, it's useful to be familiar with the physics of light. This is because light is what produces color. In fact, when we talk about color, we are actually referring to wavelengths of light that produce a particular color. For example, when we talk about something being "blue" we are really saying that the light it reflects to our eyes is of a wavelength that elicits the sensation of blue.

How Light Behaves

Four different things can happen to light waves when they strike a surface: they can be reflected (or scattered), absorbed, refracted, or transmitted—and more than one of these can happen simultaneously. Understanding how this works, and how to predict it, is key to photographic lighting.

Reflection. When light hits a flat, reflective surface (like a mirror), the reflected waves will always come off the flat surface at the equal and opposite angle at which the incoming wave of light struck the surface. Knowing this can help you eliminate or create reflections that are visible from the camera.

Scattering is basically reflection off a rough surface. Because the surface is uneven, light waves that strike it are reflected at many different angles. When you use a white board (a matte white reflector) this is what happens—it scatters the light and makes it more diffuse (softer).

Translucent surfaces, like the nylon used in photographic umbrellas and softboxes, transmit some of the light and scatter some of it. Because some of the light waves are scattered they strike the subject at many different angles, which is what makes the light softer and more diffused than without a softbox or umbrella (more on light modifiers in chapter 5).

Refraction. When light waves move from air to glass (which is more dense), the light slows down. If it strikes the glass at an angle, it will also change direction. This is known as refraction. Knowing how glass elements will bend light allows optical engineers to design camera lenses. Refraction is also used in spotlights and spots with Fresnel lenses, which focus the light into an intense beam.

Absorption. When light isn't reflected or transmitted, it's absorbed. This is why black velvet backdrops, which absorb virtually all of the light that strikes them, are often used in photography.

Quality of the Light

Lighting is generally defined as being hard or soft. Hard light creates deep, crisp shadows (the difference between highlight areas and shadow areas is sharply defined). This creates a dramatic look with high contrast that tends to

As a visual artist and
photographer, light is
the primary resource
of your craft.

accentuate shape and texture. Soft light creates lighter, more gentle shadows (the transitions from highlight areas to shadow areas are more gradual). This lower-contrast lighting tends to smooth shapes and texture. Because soft light tends to be flattering, it is popular in all types of people photography. However, great images can also be made with hard light sources—or even a combination of both soft and hard.

Size of the Light Source. The controlling factor in whether a light source will produce hard light or soft light is its size *relative to the subject*. The larger the light is in relation to the subject, the softer (less contrasty) the light will appear; the smaller the light source is in relation to the subject, the harder (more contrasty) the light will appear.

What this means is that, placed at equal distances from the subject, a large light source (like a softbox) will produce softer light, while a small light source (like a spotlight) will produce harder light. However, even the same source can be made harder or softer depending on how far it is placed from the subject. If it is placed close, it will be relatively large in relation to them and produce softer light. If the same source is placed far from the subject, though, it will be relatively small in relation to the subject and produce harder light.

Natural Light. To see how this works, let's look at a source we are all familiar with: the sun. The sun is a huge light source but, because it is so far from us, direct sunlight at noon creates very harsh contrast. In most cases, direct overhead sunlight should be avoided when photographing people; it

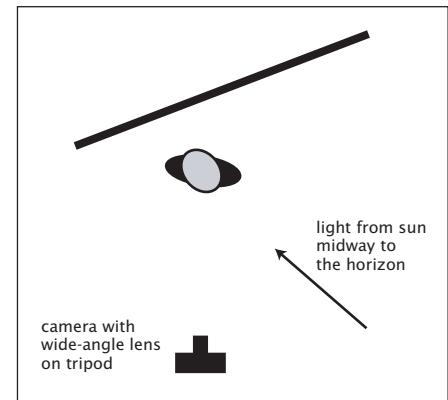
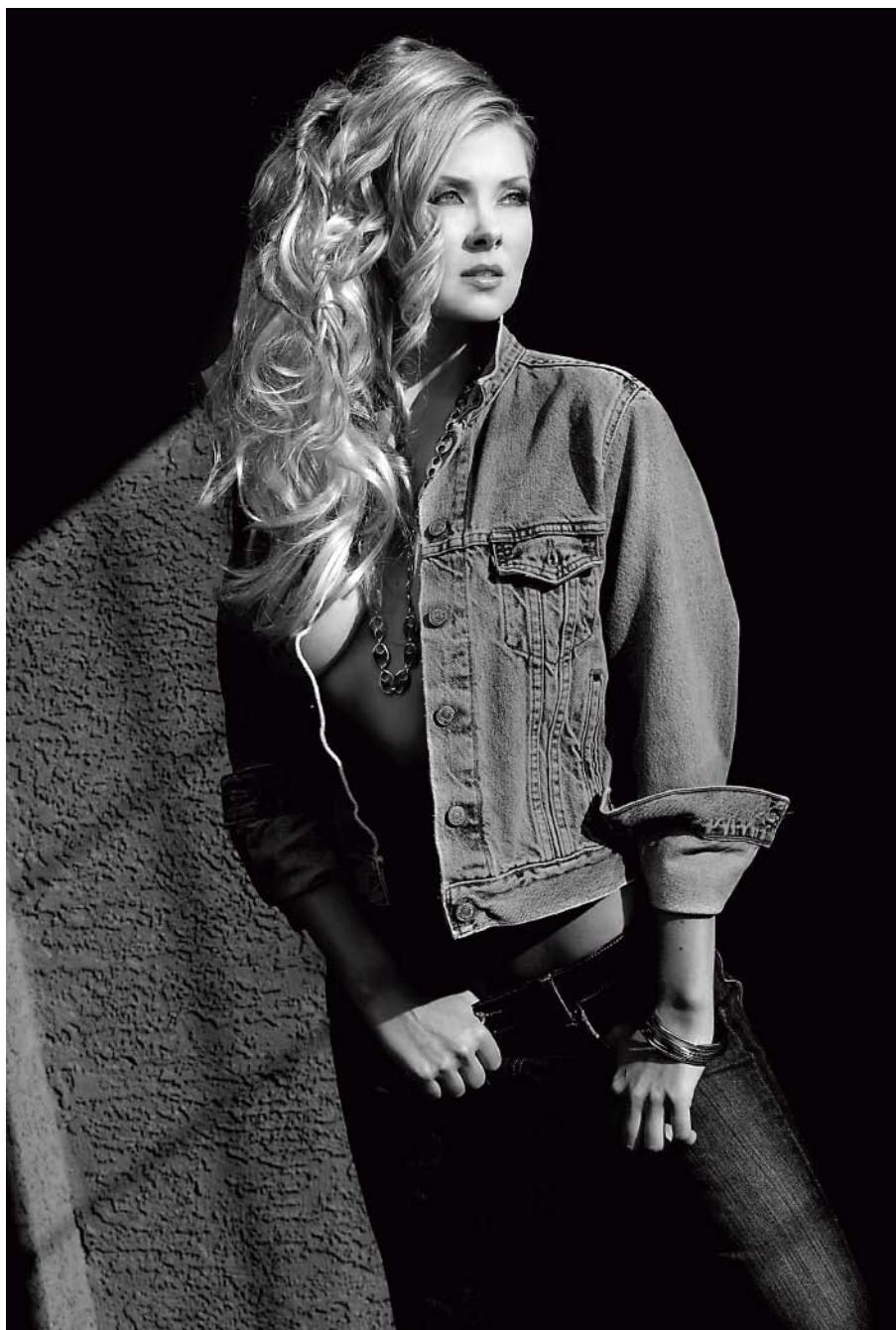
2-3 (left). Soft light creates very gentle transitions between the shadows and highlights, for a smooth look with less contrast.

2-4 (right). Hard light creates sharper transitions between the shadows and highlights, for a more dramatic look with greater contrast.



causes the eyes to appear dark and lifeless and produces harsh shadows under the nose. Models also tend to squint uncontrollably at this time, creating more problems. The light can also flatten the face and accentuate large noses, scars, and wrinkles. (*Note:* As the sun sinks below the horizon, it becomes much easier to work with. The rays of the sun become warmer in color, because the increased atmosphere through which they travel blocks the shorter rays and allows only the warmer, red rays to penetrate. Photographers call the time when the sun drops to the horizon and the sky is illuminated with a warm glow the “golden hour,” because these warmer rays can truly beautify a model’s face. Unfortunately, this “golden hour” passes quickly, so the photographer must plan ahead and work quickly to take advantage of this magnificent light.)

Just because the bright sunlight can be harsh doesn’t mean you can’t use it to create nice images, though—especially if you can wait until the sun drops a little in the sky. Image 2-5 was created for Jen, who wanted something a bit



2-5. Midday light can be used to create nice images—you just have to know how to work with it.



2-6. When the sun is too harsh, consider moving inside to use window light. This can be a very flattering light source—especially if large windows are available.

sexy to add a new dimension to her portfolio. Because of Jen's schedule, the shoot had to be scheduled in the afternoon. As a result, we were shooting in bright sunlight. This shot was taken when the sun had started to drop, but was still not in the "golden hour"; the sun was still bright and the lighting was very high in contrast. Harder, more directional light is good for texture, such as in the jacket, but requires that the model close her eyes until the moment of the shutter clicks. As we were shooting, I noticed the pattern of light on the building and moved the model into the area, thus capturing this shot. If you are shooting a model in full sun and the emphasis is on the model, have her turn her face toward the sun. Instruct the model to close her eyes, then open them when you cue her for the shot. If the emphasis is on the garments rather than the model (for example, in a catalog shoot), simply have the model wear sunglasses or look away.

So, direct sunlight is harsh. But are there ways to find softer sunlight effects? Absolutely. When the sky is covered with clouds, the sun lights the clouds, and the clouds—a massive light source that, relatively speaking, are a lot closer to us than the sun—cast soft light on our subjects. Ef-

fectively, light cloud cover turns the sun into one huge softbox, softening the hard light. Colors are more vibrant, shadows recede, and the contrast between shadows and highlight is much lower. This light can be beautiful and especially flattering to a model's face and figure.

Direction of the Light

In addition to its quality, you must also consider the direction of the light. As noted above, light that comes from overhead is usually not flattering, because it creates dark shadows on the eyes. Instead, look for light that strikes the subject from another angle.

Front Light. Light that comes from directly in front of the subject is commonly used in beauty photography because it tends to smooth the skin and

flatter female faces. However, it can also flatten the features and create a lack of depth in your image.

Angled or Side Light. Light that strikes the subject's face from an angle puts highlights on one side of the subject (the side closer to the light) and shadows on the other side of the subject (the side farther from the light). This adds a sense of depth and helps show the shape of the subject. As a result, it is a great lighting choice for images designed to showcase the model's body (such as fitness shots). Because light from the side accentuates texture, it also works well for clothing shots where texture needs to be visible. One downfall of this lighting is that the model's face will be shown with texture,



This adds a sense of depth and helps show the shape of the subject.

2-7. Light that skims across the body from the side is great for highlighting a toned physique.

2-8. In this image, Backlighting created highlights to separate the subject from the background.

One thing to watch out for when using strong backlighting is lens flare.



as well. This can be effective with men's facial structure, but it is not normally as flattering to a woman's face.

Backlight. Backlight occurs when the light source is directly behind the subject and directed toward the camera. One thing to watch out for when using strong backlighting is lens flare. This occurs when light shines directly into the lens and results in a loss of contrast and color saturation, and in some cases the creation of bright geometric artifacts (reflections off the elements within the lens itself).

When paired with some kind of stronger front or side light, backlighting can add impact and separation to a photograph by accenting the edges of the subject, an effect called rim lighting. In image 2-8, a light placed at an angle to the subject illuminated her from the front. Two lights behind the subject



2-9, 2-10, 2-11. Different flash settings combine with backlighting to produce a variety of effects.



Few light sources are actually neutral in their color. Most have some some color cast.

created bright highlights (rim lighting) along the edges of her body, separating her from the background. In this case, the lights themselves also formed a compositional element in the background.

With a weaker (or nonexistent) front or side light, backlighting can also allow you to create silhouette (or semi-silhouette) effects. Experimenting with this technique you can achieve some amazing photographs. In the series of photographs on the facing page (images 2-9, 2-10, 2-11), I focused on the model. Her body shielded my lens, and I had her move slightly to my left so the sun would just break past her body. I varied the output of my flash for each photograph, achieving a variety of different exposure and results. Who is to say which exposure is correct?

Light and Color

Color Temperature. When we look at a visible light source, it appears to be white, but it's actually a mixture of colors that our eyes are designed to perceive as white. In fact, few light sources are actually neutral in their color. Most have some some color cast. This color is measured in degrees Kelvin (K). As a result, it is known as the color temperature. The higher the temperature, the more bluish the light is; the lower the temperature, the more reddish the light is. As shown in the table below, light sources have many different color temperatures.

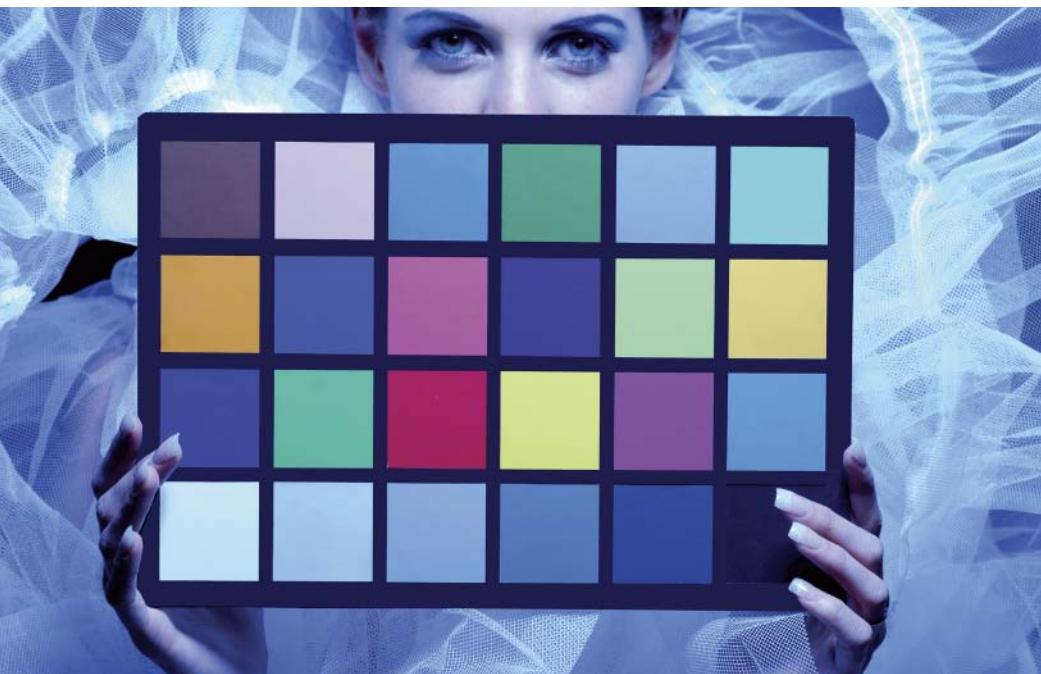
Overcast daylight	6500–7200K
Midday sun	5400–5700K
Sunrise or sunset	2000–3000K
Fluorescent (daylight-balanced)	6500K
Electronic flash	5600–6200K
Fluorescent (cool white)	4300K
Tungsten-halogen	3200K
Household lamps (40–150W)	2500–2900K
Candle flame	2000K

Color temperature has a direct bearing on how colors will be recorded in your images. In many cases, getting the desired image colors requires compensating for the color of the light source. This is most commonly accomplished through film selection, filtration, or white-balance selection.

Daylight films render colors accurately, as your eye sees them, when used under light with a color temperature of 5500K (the light found in the middle of the day). Later in the day (say, at the “golden hour” discussed on page 34), the color temperature is lower. Shooting with daylight film, this will result in colors that are warmer than they appeared to your eye. To correct for this, you would need to add a color-compensating filter to your camera.



2-12, 2-13. Without changing the lighting, notice the huge change that adjusting the white-balance setting makes in the way all of the colors on this chart are recorded.

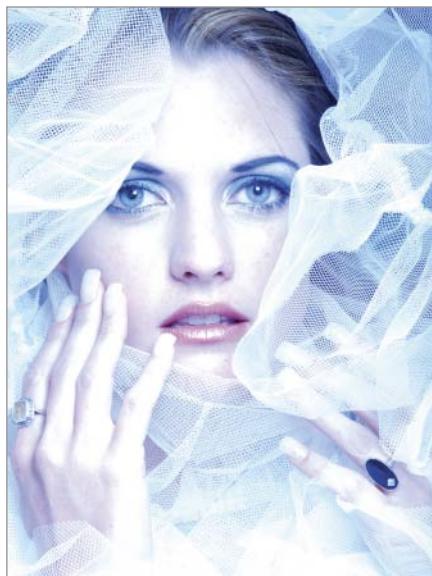


Create a custom white-balance settings by taking a reading off a white card . . .

In the digital world, however, things are simpler. To control how your camera “sees” color, you adjust its white-balance setting to match the color temperature of the light. Digital SLRs have white-balance presets (like daylight, incandescent, and fluorescent) or you can create a custom white-balance settings by taking a reading off a white card illuminated by the light source you’ll be using.

Practical Example: Adding Variety with White Balance. Images **2-14**, **2-15**, and **2-16**, all photographs of Brigitte, were shot to illustrate how a simple change in white balance or exposure will drastically change the effects of your photographs. The lighting for this series was a very simple: a small soft box was pointed directly at the model from about six feet away and angled

2-14 (right), 2-15 (top left), 2-16 (bottom left). Changes in white balance and exposure are a simple way to add variety. In image 2-14, the white-balance and exposure were set to match the flash. In image 2-15, the exposure remained the same, but the white-balance setting was changed to tungsten. In image 2-16, the white-balance setting was left on tungsten, but the image was overexposed by one stop.



down to cover the mask of her face (the forehead, eyes, cheeks, nose, lips, and chin). Two White Lightning strobes were aimed at the model's garment and goboed to prevent lens flare. With these lights, the correct white balance (normal representation of colors) should be either a daylight or flash setting on your camera's menu. Setting the camera to a tungsten white balance produces a blue tonality that can lead to spectacularly beautiful images.

This is not a situation of right or wrong, good or bad; the only question is whether or not the results meet your expectations—and the expectations of the client who is paying you. For example, this would not be an appropriate technique to try if you knew that the client required accurate color to show a garment or product packaging. (*Note:* When you take a job from a commercial client, there will normally be an art department or, at minimum, a





2-17. Further variations can be explored using postproduction enhancements.

Demonstrate to the client that you are proficient and possess creative ability.

graphic designer with whom you will work. Be creative. Give them a variety of options—maybe even something you try in postproduction, as seen in image 2-17. Demonstrate to the client that you are proficient and possess creative ability. By doing so, you will gain their trust and respect, which usually opens them to allowing you more creative control.)

Light Intensity and Metering

Another characteristic of light is its intensity. The amount of light from any source grows weaker over distance. The Inverse Square Law states that the increase/decrease in illumination on a subject is inversely proportionate to the

This is why people have exposure problems using the automatic feature on their camera.

square of the change in distance from the light to the subject. This sounds confusing, but what it means is that if you double the distance from the light to the subject, the amount of light on the subject will be reduced to a quarter of its original intensity. As you can imagine, this has obvious implications for exposure—but you should also keep in mind that changing the distance between the light and the subject will also affect the quality of the light, as discussed on page 33.

Exposure is critical, and that means you must know how to meter the light properly. If possible, you should not rely on the in-camera light meter. These built-in meters, called reflected-light meters, measure the light that comes back to the camera from the subject. Based on this measurement, the meter recommends an exposure setting that will produce tones that are 18-percent gray. The problem with this is that the meter doesn't know what the subject is—whether it is a black box on a black background or a white egg on a white background. Unless your subject actually is something with an 18-percent gray tonality, the suggested reading won't be accurate. This is why people have exposure problems using the automatic feature on their camera. (Note: If you do need to use the in-camera meter, you can hold an 18-percent gray card in front of your subject, meter that, and be assured of much more accurate results.)

A better type of meter for portraiture is the handheld incident-light meter. This device measures the amount of light falling on the subject, so it gives an appropriate reading that is independent of the subject's tonality. To use this kind of meter, stand at the subject's position and point the hemisphere of the meter at the camera lens. (Note: Flash meters are also incident-light meters. These are helpful when using multiple strobes in a studio setup.)



2-18. Scenes in which the tones are primarily very light or very dark can trick in-camera meters. A handheld incident light meter will provide more accurate results.

3. Light Placement

Objectives

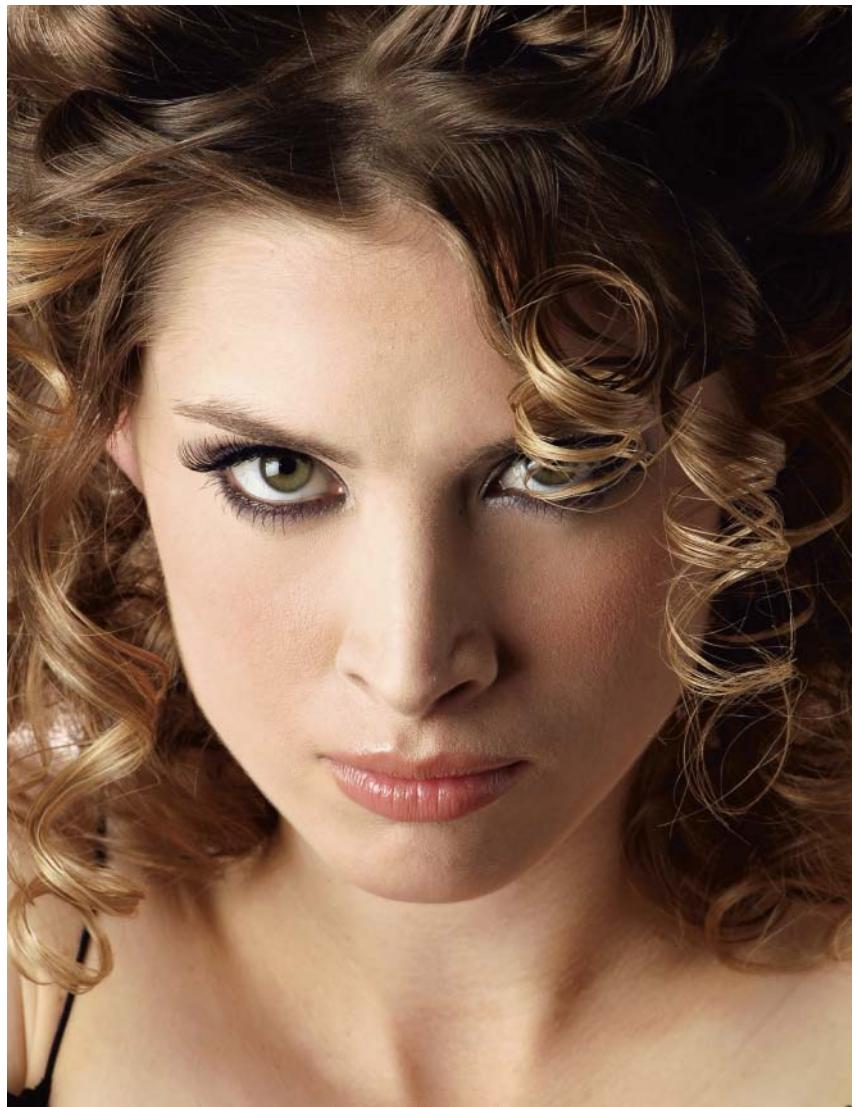
When lighting a model, you must make many decisions. Often, your objectives will be dictated by the model or the client. A model may want an image that showcases her facial beauty, one that highlights her long legs, a shot that shows her potential as a swimsuit model, or one that displays her edgy, high-fashion look. A client may want soft, beauty images that show the flawless look produced by their new line of makeup, or a harder image that displays the design and texture of their urban-wear collection. Whatever the objectives, it is your job to bring those abstract ideas to life. A large part of how you will do this is through the use of lighting—through the placement of lights (the subject of this chapter), the selection of light sources (see chapter 4), and the use of light modifiers (see chapter 5).

Main Light

When designing a lighting scheme for a model, one must first consider the mask of the face (the frontal planes of the face, including the forehead, eyes, nose, cheeks, and lips). The light that creates the principal pattern of light and shadow on this area is called the main light.

We've already looked at some of the basics of the direction of light (see pages 35–39), but this is where those concepts really come into play. Unless you are creating a silhouette, your main light will be placed to strike the front of the subject. But should it be placed directly in front of the subject? Or at an angle? And if it's at an angle, what's the right angle?

3-1. Placing the main light more to the side of the subject creates facial contouring and adds drama to the image.



3-2. Placing the main light in front of the subject creates almost shadowless lighting—a style often seen in beauty photography.

The answers depend on the look you're trying to create.



The answers depend on the look you're trying to create. Placing the main light directly in front of the model creates a smooth, almost shadowless look that is often seen in beauty photography. However, it can also flatten the features—and it isn't ideal for showing the texture of the model's clothing. Placing the main light at an angle is better for revealing the contours of the model's face and can create a look with more dramatic impact. However, while it brings out the texture of the model's garment (which may be a plus, depending on the image), it also brings out any imperfections in the skin (which may be a negative, depending on the model and the image). The more the main light moves to the side of the subject, the greater the contouring it will provide, and the more it will tend to emphasize the textures in the image.

Practical Example: Lighting the Mask of the Face. In the following examples (images 3-3, 3-4, 3-5, 3-6, and 3-7), you can see that when the light is too high or at the wrong angle, the results are very unflattering. Simply by having the model lift her face to the main light, notice how flawless her skin becomes. If you flood the face with soft, even light, it beautifies the skin tone



3-3. The lighting setup for this shot. The main light (a small softbox; see chapter 5) was placed at an angle above the model and remained in the same position throughout the series. Only the position of the model's face in relation to this light was changed.



3-4. With the model looking at the camera, the main light is too high in relation to her face. It creates very unattractive shadows.



3-5. Having the model lift her chin helps, but now the main light is a bit too far to the side. It still creates some unattractive shadows.



3-6. With the model's face lifted directly toward the main light, the lighting on the mask of her face becomes more even and much more beautiful.

3-7 (facing page). This is the final cropped version of the image. As you can see, great lighting doesn't require a lot of equipment—you can use just one light if you know how to use it effectively!





3-8 (facing page), 3-9 (right). In these images, the hair light adds shine on the model's hair and helps separate her from the background.

If you flood the face with soft, even light, it beautifies the skin tone and minimizes facial flaws.



and minimizes facial flaws. The light fills in the hollows of the eyes and all the facial creases, creating a much more desirable image. (Note: Using a drape, such as a fur hood, helps frame the face. When using a drape with texture, though, be careful not to overlight it; you will lose the detail. The challenge is to light the model's face, but leave texture in the drape or garment. This is why I chose a single light source for image 3-7. The light filled in the model's face, but did not spill over to the sides, leaving detail in the hood.)

Fill Light

The fill light is a secondary light source used to lighten the shadows created by the main light. This is normally placed close to the camera to avoid creating a second set of shadows on the face, which would look unnatural. Fill



This is normally placed close to the camera to avoid creating a second set of shadows on the face . . .

3-10. Notice the highlight that runs the length of the model's left arm. These are the kinds of highlights that can be created using accent lights.

light can be created using any light source (electronic flash, studio lights, etc.), but creating fill light with a reflector is also very popular because the results are easy to control. For some examples of creating fill light with reflectors, see pages 70–71. To see fill light created with electronic flash, see page 65. When adding a fill-light source to your setup, be aware that this source can create a second catchlight in the model’s eyes. If this is objectionable to you, you’ll need to remove it in Photoshop.

Hair Light

The hair light is a light, usually a small one, that is placed above and slightly behind the model to add highlights on the hair and help separate her from the background. This light must be carefully controlled so that it does not spill onto the model’s face or shine directly into the camera lens, causing contrast-degrading flare. See images **3-8** and **3-9** (pages 48–49) for an example.

Background Light(s)

The background light, as the name implies, is used to illuminate the background so that the subject will stand out from it. When using one background light, it is usually placed on a small stand directly behind the subject (blocked from the view of the camera). In other setups—especially when the background needs to be evenly lit—a pair of flanking background lights are used, directed at the background from either side of the set.

Accent Light(s)

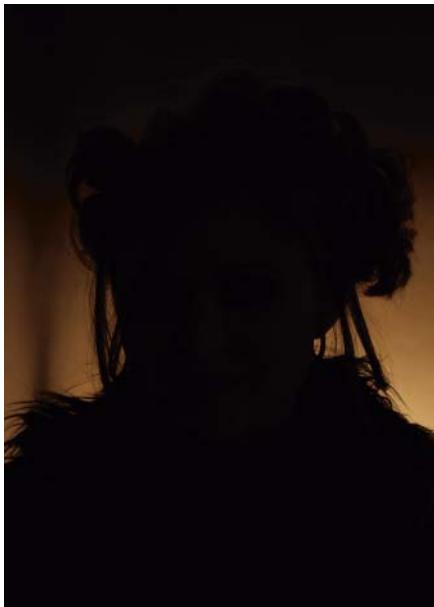
Accent lights, also called kickers, are extra lights used to add highlights to the sides of the face or body (see image **3-10**). This helps draw the eye where you want it and adds a greater feeling of depth in the image. These lights are placed behind and to the side(s) of the subject, so they catch just the edge of the subject and create brilliant highlights. As with any backlighting source, you need to be careful not to create lens flare when adding accent lights.

Accent lights, also called kickers, are extra lights used to add highlights to the sides of the face or body.

Lighting in the Studio

The following image series shows both the separate and the combined effect of the individual studio lights. This is only a sample setup; you will develop your own methods and style as you shoot. If you want to learn quickly, shoot your own series of photos with the various lights firing alone. This is a great way to learn about the qualities and purpose of each light, as well as the proper placement of each.

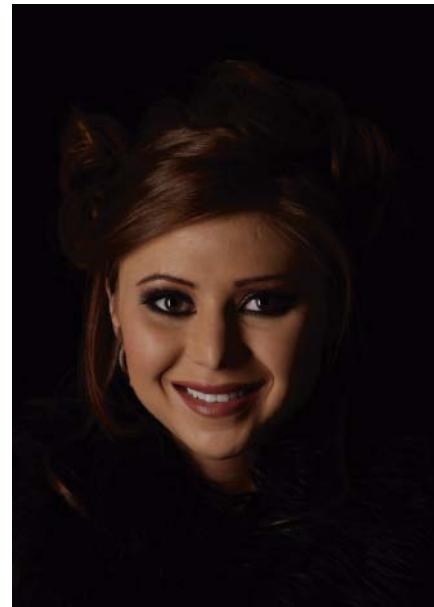
In image **3-11** (next page), a barebulb studio strobe was placed as close to the background as possible. (Be careful: this can cause seamless paper to catch fire!) This light is difficult to meter so expect some trial and error to be involved in getting the correct exposure (here, a reading on the wall about two



3-11. This image was created with only the background light on.



3-12. This image was created with only the hair light on.



3-13. This image was created with only the fill light on.



3-14 (above). This image was created with only the main light on.



3-15 (right). This image shows the combined effect of all the lights discussed in the previous images—plus the a gold reflector below the model's chest for added fill and warmth.

3-16. Here, you see an overview of the final setup.



feet from the strobe was f/32). A gel (see page 83) was also taped around the flash tube to create a warm coloration. Because of the heat produced when firing the flash, you should not place anything directly in contact with the flash tube. Buy only heat-resistant gels from a camera store or theatrical supply house. This method of lighting the background can be used on a flat wall or seamless paper, but I prefer a little more detail to break up the background—as you can see in this image.

For the next image (3-12), only the hair light was fired. This was a parabolic (see page 76) placed above and slightly behind the model on a boom arm. Like the background light, it had a warming filter attached. The hair light exposure was f/16. You can see how this light adds highlights to the model's hair, and even to her shoulders, but does not spill down onto her face.

In image 3-13, you see the effect of firing only the fill flash. This was a softbox placed to camera left and metered at f/8.

Image 3-14 shows the effect of the main light alone. This was a softbox placed to camera right and set at f/11. I chose to place the light on this side of the model because, in some poses, her hair covered the other side of her face.

The final headshot (3-15) was shot with the coat pulled down around her shoulders, because the model wanted to show her chest and shoulders a bit. As seen in the setup shot (3-16), a gold reflector was also placed just beneath her chest to add fill and an overall warming effect. (*Note:* If you are using variable-power light sources, you can quickly modify the effect from all the lights in a setup like this. Experiment with different ways of lighting so that your results are predictable. This is how you begin to create your own style.)

You can see how this light adds highlights to the model's hair, and even to her shoulders

Lighting Outdoors and On Location

Lighting outdoors and on location is similar to lighting in the studio, insofar as you will be trying to achieve the same objectives. What's different is that you will be working with available light (rather than studio light)—light you find, rather than light that you create.

Because you generally cannot move available light sources (like the sun) as you would a studio light, you will need to move your subject in relation to the main light to create the effect you want. Then, add fill as desired (using electronic flash or a reflector) to refine the lighting pattern created by the main light.

When working outdoors and on location, you won't always be able to add the little refinements you would in the studio (like incorporating a few precisely set hair lights and accent lights). If you could, there would be no reason to work in the studio at all! However, you should still keep your eyes open for ways to use natural light to create these effects. For example, a beam of light streaming down through an opening in the overhead foliage might work as a natural hair light.



3-17. Learning how to position your model in relation to the existing light is the key to making great images in the great outdoors.

4. Types of Light Sources

Natural light is not limited to the outdoors, nor is artificial light exclusively indoors.

Natural vs. Artificial Light

There are two sources of light: natural (which includes sunlight, moonlight, and reflected light from either the sun or moon), and artificial (which includes sources like tungsten lights, fluorescent lights, electronic flash, and studio flash). Natural light is not limited to the outdoors, nor is artificial light exclusively indoors. Many times, I use flash to fill in shadows while shooting outdoors. I have also effectively used filtered window light for an indoor shot with natural light.

As you'll see in the following sections, sunlight is a great option for photography. It's natural, often very flattering to your subjects, and widely abundant (and you can't beat the price!). However, it does present certain challenges when it comes to control—and, unless you can shoot near a window, it's not always an option for images shot indoors. In many cases, you'll also find that you need more precise control than you can easily exercise over natural light. That is why photographers also need to be adept at creating effective lighting setups using artificial light sources.

As a photographer, both of these forms of light are at your disposal. It's up to you to learn how to use them effectively in all their many incarnations.

Sunlight

Generally, the average photographer is most concerned with daylight. But saying "daylight" is just the beginning of the story—there are countless variations of just this one light source.

Bright Sunlight. There are several problems inherent in working with bright sunlight. These problems intensify when shooting against a brightly lit background such as a light-colored wall, a beach, or snow. In these cases, the overall light tones in the image can trick the in-camera meter and lead to incorrect exposures. When shooting against a predominately dark background, you may find that your film or image sensor can't handle the very high contrast of the scene—you'll either have blown-out highlights (white with no detail) or blocked up shadows (black with no detail). Fortunately, with a digital camera, it is easy to shoot a few images and then preview them. Working in the manual mode (for total control), pay attention to the exposure settings as you are shooting, review your results, then adjust the aperture,



shutter speed, and ISO as needed. For the most accurate results, it's advisable to use an incident light meter and monitor the amount of light that is actually striking your subject, then set your camera accordingly. You also bracket your exposures (shoot some above and below the meter's recommended exposure setting) to ensure you capture all the critical details.

Cloudy Skies. Some beginning photographers hide when clouds cover the sun. The seasoned professional, however, realizes how beneficial this lighting can be. It is as if the sky has become a huge softbox, softening the hard light. Film and digital imaging equipment have a difficult time recording the high-contrast scenes created by bright sunlight. When cloud cover softens this light, however, the range of contrast between shadow and highlight is lowered. Color is more vibrant and shadows are not as overpowering. The softer light is also easier on the model's eyes. If desired, the images captured on a cloudy day can be warmed up either with an on-camera filter, by adjusting the white-balance setting, or after the shoot in Photoshop.

Practical Example: Bright Sunlight. Sunlight is the major source of light for photography—in fact, we're usually only imitating it when we use studio lights. Therefore, photographers must learn to work with the variety and quality of light given by the sun on any particular date and time.

For this demonstration, I will address five varieties of sunlight and the advantages and disadvantages of each. The photographs in this series are

4-1 (left). The high contrast in this scene, shot in bright sunlight, wasn't captured optimally using the camera's autoexposure mode.

4-2 (right). Switching to the manual mode allowed the scene to be recorded more appealingly.

unedited, allowing you to fully appreciate the differences in quality between them. All of the images were shot at $1/200$ second at f/11—except for image 4-3; because of the low intensity of the light, this image was shot at $1/60$ second at f/8.

For photograph 4-3, the sun was diffused by a thin layer of clouds, which provided beautiful, even lighting that was soft and virtually shadow-free. Notice how the exposure is consistent throughout the entire image. Also, notice how the colors in the jeans are true to life. This is like having a huge softbox covering the model. It is no wonder that this is the preferred light for most photographers. Very little modification needs to be done to create beautiful photographs of models or landscape scenes under this light. When shooting models, however, it is usually best if you direct the model to turn her face away from the sun to prevent squinting.

4-3 (left). Sunlight through a thin layer of clouds produced soft, even lighting.

4-4 (right). When the clouds moved out, the model was left in direct sun. Even with the addition of a reflector, the shadows are very pronounced.

In photograph 4-4, the clouds had moved from the scene and the model was in full afternoon sun. Although a silver reflector was placed next to the fence, bouncing the sunlight back to the model, the shadows are still very prevalent. There's a significant difference in quality between this image and





the previous one; the image sensor can no longer handle the large difference in exposure between the bright sunlight and the heavy shadows. Notice, particularly, the heavy shadows on the background. There is an advantage to using this style light, though: it allows you to enhance the curves of the model's body. Notice the shadowing on the model's chest and how it accentuates the contours of the legs. Be careful, however, that you put sufficient fill light on the model's face. Otherwise, you will create unwanted contours on her face, as well! Because the reflected light in a situation like this can be very bright, you may need to have the model close her eyes and open them for the exposure on a set count.

Photograph **4-5** was shot without the use of a reflector. Notice how hard the light is on the model's face and how every little imperfection is magnified. The shirt has also lost some of the detail. Overall, it is not a very pleasing photograph.

Bright sunlight coming over your shoulder can be acceptable with landscapes. It can also work with models, provided that the face is not the primary area of interest in the image, as shown in photograph **4-6**. Many high-

4-5 (left). Removing the reflector results in an image that is not appealing.

4-6 (right). Hard light is common in fashion photography because it emphasizes the texture of the clothing.

fashion images are actually shot this way because of the way the harder light enhances the texture of the clothing. In this situation, it is best to have the model look away from the sun or at least down. Generally speaking, if a photograph calls for bright light with contrast, it is best to schedule the shoot for the golden hour (see page 34).

Photograph **4-7** shows what, when given the choice, is my favorite solution to this lighting situation. This is a combination of sunlight with fill flash. It is the most technically challenging to accomplish and make look natural, but it provides the photographer with the most control. The principle is this: the sunlight exposes the majority of the image; therefore, you set your exposure for the sunlight. Then, you add an auxiliary flash to fill in (lighten) the shadows to whatever degree you desire. You let the sunlight contour the model's body and use the flash to reduce the negative effects of sunlight on imperfections. This also allows the model to look away from the sun, eliminating squinting.

Photograph **4-8** was shot under an overcast sky with the use of a flash. This combination gives the photographer the softness of the cloud-covered sun-

4-7 (left). Adding fill flash allows you to create a more flattering effect.

4-8 (right). Here, cloud-covered skies paired with flash create a good lighting scenario.



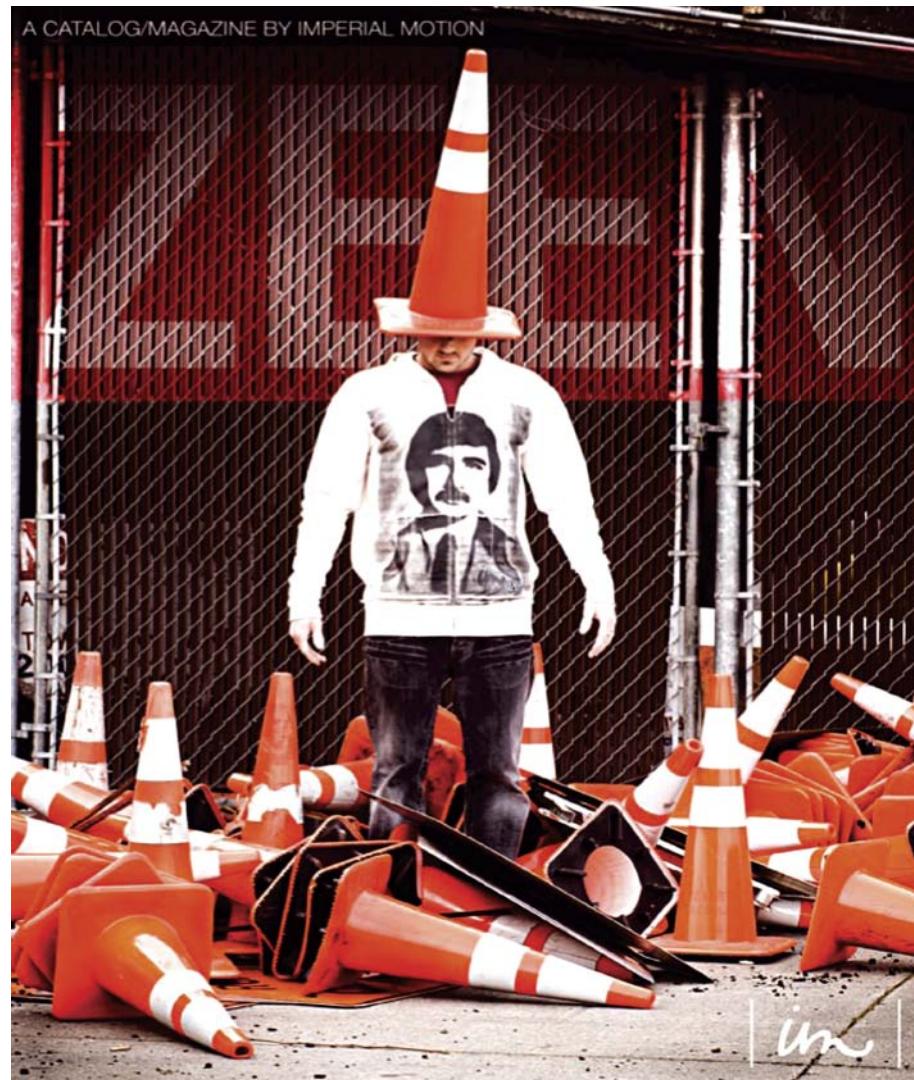
light and the control of using a flash. Notice the detail in the jeans, the vibrant color, and the lack of heavy shadows. Many photographers prefer this lighting combination for shooting models, because you have the beautiful light covering the model's face and figure—but, by controlling the output of the flash, you can also quickly change the look and feel of the image.

Practical Example: Morning Light. Image 4-9 was a test for the model's submission to *Playboy*. The goal was to create a dramatic shot to accompany a series of cowgirl-themed images. This was to be an impact shot. In order to shoot the early-morning sunrise, we were in the desert, set up, and ready to shoot well before dawn. The quality of light at this time of day is warmer, as the sun's rays penetrate more of the atmosphere, but it is also very brief. As a result, exacting preparation was essential—we knew there would be only a brief moment when all the ingredients came together for the perfect shot. This is just a fact of working with natural light and sun position: you must pre-

4-9. This image, a shot for the model's submission to *Playboy*, was created outdoors at sunrise.



4-10. The challenge in this shoot for ZEEN was to use natural light only to create images with a raw, snapshot-like feel.



plan exactly what image you wish to capture and be ready the moment the sun is in the right position.

The lighting was very simple for this image, because I didn't want to capture detail in the model's body. Using the meter in the camera, I metered to the right of the sun with the sun just out of the viewfinder. After you have a starting point for your exposure, then you need to bracket the shots by several f-stops; normally underexposing works the best when creating a silhouette like this. I also advise keeping the camera on a tripod so you can change the shutter speed freely; you will want to set the aperture to get the maximum depth of field. Notice how the backlight created rim lighting on the model's body, separating her silhouette from the dark landscape in the lower half of the frame.

I also advise keeping the camera on a tripod so you can change the shutter speed freely.

Practical Example: Use What You Find. Image 4-10 was created for ZEEN, an alternative clothing design company that needed a cover shot for their catalog/magazine. ZEEN had a street-smart concept that called for a cast of skateboarders and a raw look borrowed from point-and-shoot snap-





4-11. The Westcott Spiderlite is supplied with both daylight-balanced fluorescent and tungsten tubes.

shots—complete with lens flare and controlled “mistakes.” The client’s directions were, “We’ll walk the street until we find something interesting, then you’ll shoot.” This shot was fortuitous—we simply happened upon the stack of cones, giving the opportunity for a relaxed, playful photo that suited the image of the company.

Throughout the shoot, the challenge was to use natural light, open shade, cloud cover, and bright sunlight without any auxiliary light source. To accomplish this, the positioning of the models was constantly monitored to take advantage of natural reflectors, since no fill lights were used. I used shade whenever possible (as in the cover shot seen here). In the bright sunlight, I directed the models to look away from the sunlight, so the product was evenly lit but the models’ faces were not hit with heavy shadows. (Note: A session like this gives you a good opportunity to shoot additional photographs that the client can use in their promotional materials.)

Tungsten Lighting

There are two types of tungsten lights commonly used in photography. The first are regular household (incandescent) lightbulbs. The color temperature of these lights is around 3200K, making them considerably warmer than daylight. To achieve a normal white balance when using them, you’ll need to switch to tungsten-balanced film, add blue color-balancing filtration over your lens, or adjust the white-balance setting on your digital camera.

When using household tungsten lighting as your only light source, be aware that the intensity of the light is not normally bright enough to allow you to shoot at a fast shutter speed. This is contrary to what your eyes will be telling you, because these lights seem so bright and are very hot. Because the light intensity is deceptively low, it is very difficult to stop motion in the subject. You can however boost the ISO—if you don’t mind the grainy effect.

One advantage of shooting with tungsten light is that, unlike flash, it is a continuous source. This makes it easier to predict exactly what the lighting will look like on the subject—you can actually see the light on the subject that will be used to make the exposure. As a result, many photographers enjoy using tungsten-halogen light sources that are designed specifically for photography. These typically emit a whiter light than conventional tungsten (incandescent) lights. Photographic bulbs are also more intense than household tungsten bulbs—and they generate less heat, making them more comfortable for your model and increasing the lifespan of each bulb. A popular example is the Westcott Spiderlite, a system that accommodates five daylight-balanced lights (tungsten, fluorescent, or flash tubes) in one light head.

4-12 (facing page). Tungsten light can be low in intensity, meaning longer shutter speeds and higher ISO settings may be needed—but you can use these facts to your creative advantage.

Practical Example: Slow Shutter Speed, High ISO. In image 4-12, I boosted the ISO setting on my camera to 1600 and allowed colored cellophane to be blown across the image. The exposure was $\frac{1}{30}$ second. I love the

unpredictability of creating an image like this—notice the shadows that were created by the cellophane blowing across the model’s face.

Fluorescent Lighting

The fluorescent lights used in non-photographic applications have a greenish cast that makes them less than ideal for photography. If you need to work with them—to shoot at a store, restaurant, or some other commercial venue, for instance—you must be aware of the color effects and compensate for them. Unfortunately, the fluorescent lighting in public areas tends to exhibit a wide range of color temperatures, which makes it difficult to achieve a perfect white balance (although creating a custom white balance will improve things considerably).

Currently, some companies are making fluorescent bulbs/tubes with exacting color temperatures to balance with tungsten (3200K) or daylight (5600K). They are being used with great success in the video market. As noted in the section on tungsten lighting, Westcott offers a photographic lighting system that will accommodate daylight-balanced tungsten tubes, flash tubes, and fluorescents. The ease for changing the lighting sources depending upon your photographic requirements with one system is something beginners and professionals should research. I use my Spiderlites mainly for video with the fluorescent tubes. When I want a tungsten light source, I can also use the Spiderlites for still photographs.

The main advantage of the fluorescent lighting over tungsten lighting is the lack of heat. Additionally, fluorescent lighting is very even, which can make it a good choice for smoothing textures. The disadvantage of the fluorescents, at this time at least, is that the output is nowhere near as bright as tungsten—or flash, for that matter.

Electronic Flash

Electronic flash units are portable, inexpensive, daylight-balanced, and easy to use. Because of their small size, however, flash units create light that is too harsh and flat to be flattering. As a result, straight on-camera flash should usually be avoided when photographing models—unless it is used as a fill-light source. If you need to make greater use of electronic flash, consider investing in one of the many portable light modifiers that are available. These are designed to diffuse, soften, and redirect the small light source. Most can even be used with your flash in auto or TTL mode, making exposure calculation effortless.

Practical Example: Fill Flash. Images 4-13 and 4-14 show the effect of using electronic flash as an auxiliary light source to fill in the shadow side of the model’s face, making it more pleasing. Be careful, however, not to let the flash overpower the sunlight (or other main light source). If it does, you will

Consider investing in
one of the many
portable light modifiers
that are available.



4-13 (left), 4-14 (right). Both images were shot at $1/200$ second at f/7.1. Notice how the addition of flash fill in the second image does not overpower the pattern created by the natural light. It simply makes the shadows less intense.

lose the contouring created by the side light and be left with only a backlight or highlighting effect.

Studio Strobe

Most professional photographers choose to do their studio work with day-light-balanced studio strobes. These are cool working, portable, and run on household current—or, with the addition of a battery supply, you can use them outside the studio, too. Selecting units equipped with modeling lights (continuous quartz-halogen bulbs that simulate the effect of the flash itself) will help you to visually gauge the effect you are creating and make it easier to focus.

Studio strobes are of two varieties: monolights and power-pack kits. Monolights are self-contained; they contain light triggers that fire the strobe when they sense the light of another strobe, so they can be used very far apart, making them good for location lighting or large rooms. Power-pack systems accept multiple strobe heads—up to four heads can usually be plugged into a single pack. This type of system is most often used in studios, though, since

you cannot move the lights more than about twenty-five feet from the power pack.

Before you buy anything, define exactly what you wish to shoot (Is it models only? Or do you also need to photograph products? Or other subjects?) and what you *must* have to accomplish this objective. Studying the work and types of equipment used by other professionals can help you here. Studio strobe systems vary widely in price—from a few hundred dollars to tens of thousands—but you can achieve excellent results without owning top-of-the-line products. Look for equipment that suits your budget and learn to use that equipment to produce the results you want. Don’t get caught up in the “latest and greatest” craze, buying equipment you will only use once or twice. As your requirements change, add a piece at a time. Learn to use what you already own to produce predictable results before you acquire something else.

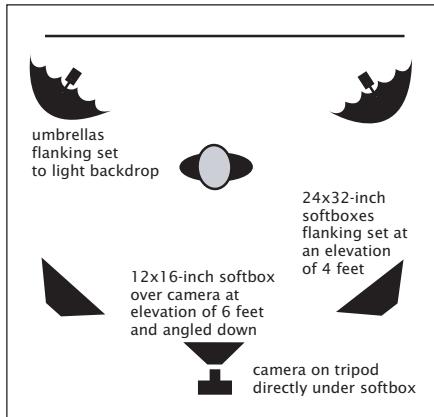
As you see in this book, many photographs can be created with just one light. If you wish to do actual studio work, however, I would recommend at least three lights with variable power. The lights need to be able to accept softboxes, umbrellas, or both (more on these in chapter 5). You’ll also need heavy-duty stands (one with a boom arm for hair lights) and several sandbags to stabilize the light stands.

Practical Example: Strobe for Consistent Results. For this *Billionaire Mafia* poster (4-15), I needed to shoot multiple individual subjects moving as if they were walking away from a tragic scene. Because the exact scene was yet to be determined, I had to do this without knowing precisely how each image would be blended together to create the final design.

The first challenge here was the lighting. Each subject needed to be shot with similar lighting so the final image would be uniform, yet the look also needed to be individualized sufficiently to enhance each actor’s unique look and personality. To do this, I used a light setup that I call my basic lighting (see the accompanying diagram). This is a very versatile setup that has three major benefits. First, it can easily be transported to location shoots; it requires only three light sources, all of which can be easily carried. (Here, I’ve added two lights on the background, as well, making it just slightly more complex). Second, it allows a great deal of flexibility both for the photographer and subject, especially when shooting an inexperienced model; no matter which way the model turns, he/she is well lit. Third, it is nearly foolproof. It’s pretty, it’s predictable, and it’s easy to set up.

Another challenge was creating the needed feeling of movement, even though we were shooting in a studio on a seamless backdrop. To achieve this, I placed a piece of tape on the floor and had the model stand on the tape as I pre-focused the camera at that spot. Then, I had the model move as close to the background as possible and walk forward in an exaggerated motion past the spot on the paper. When he/she hit the mark, I fired the camera. It

Each subject needed to be shot with similar lighting, so the final image would be uniform . . .



is critical that the model walk *through* the focus point in order to achieve the objective—the feeling of movement. The photographer must also anticipate precisely when the model will be in focus. To facilitate this, I increased the output on the flash so I could shoot at a higher f-stop setting. This increased the depth of field, making it easier to catch the subject in focus.

4-15. The poster for *Billionaire Mafia* required consistent lighting, because the models' images were all shot individually, then composited into the final design.



5. Light Modifiers

Some light modifiers can be used with any light source, from sunlight to studio strobe. These are all handy devices to have around. Best of all, they tend to be inexpensive—and many can even be improvised with a quick trip to the hardware store. Reflectors, gobos, and scrims fall into this category. Other light modifiers, like softboxes and umbrellas, are designed specifically for use on studio lights. These can range widely in price, but are invaluable for exercising complete creative control.

Reflectors

A reflector is any object used to bounce light—it could be a wall, a white t-shirt, a mirror, or a commercially purchased kit. This is an easy and effective way to control light. Unlike using flash for fill light, reflectors give you visual confirmation of where the light is. With reflectors, you can also set up and

These are all handy devices to have around. Best of all, they tend to be inexpensive.



5-1. Collapsible reflectors, available in a wide variety of finishes, are a very popular (and portable) type of reflector.

fine-tune your results more quickly than with flash. Additionally, you are not limited to the flash-sync speed of your camera.

Surface. Reflectors range widely in size, color, and design. Typically, photographic reflectors have either a matte white, silver foil, or gold foil surface. The metallic surfaces provide more light intensity and contrast in the bounced light than the matte white surface. Gold reflectors also add a warm coloration to the bounced light. Mirrors are another type of reflector to experiment with. Because they return almost all of the light that strikes them, they can actually be used outdoors to turn backlight into front light.

Design. Round fabric reflectors on collapsible metal frames (often called disc reflectors) are a very popular design option, especially for location photography. They are easy to transport and simple to position—an assistant can simply hold the reflector in position, then adjust it according to your instructions. (*Note:* When I shoot on location, I typically bring a piece of white cardboard to use as a reflector, along with a Westcott disc reflector that is silver on one side and gold on the other.) For studio photography, large, white opaque reflectors (often called flats) are often moved into position on rollers or casters. Once in place, studio lights can be bounced into them to create a large, soft source of light.

For Fill. Reflectors are most commonly used to provide fill light, picking up some of the main light and wrapping it around onto the shadow side of the face to make the shadows less intense. To use a reflector for fill, place it slightly in front of the model's face. Direct the reflected beam of light gradually toward the subject's face until you get the desired results. Be careful when doing this; the reflected light can actually be quite intense if you shine it right in the model's eyes. You must also avoid creating unwanted shadows of the nose on the opposite cheek. This is best accomplished by positioning the reflector to fill the whole mask of the face.

Practical Example: Reflected Fill on Location. Let's look at the different effect you can create using a variety of reflectors for fill when shooting on location. Image 5-2 (next page) shows the subject with no reflected fill.

In image 5-3 (next page), the assistant is holding a white card (which can also be used as a gobo; see page 73). The white board reflects the same color of light that is striking it and reflects back to the model a soft light that is usually easy on her eyes. This eliminates some of the squinting associated with shooting in bright sunlight. Even if the reflected light is not intense enough to increase the light value much in the shadow area, the reflector still creates pleasing catch lights in the eyes. The disadvantage of using a white board is that it is rigid and doesn't reflect a great deal of light back to the subject compared to a silver reflector. However, its dual function as a gobo outweighs the disadvantages. Additionally, since it is rigid, it can easily be leaned against a tree or a stand while the assistant is busy or holding another reflector.

The reflected light can actually be quite intense if you shine it right in the model's eyes.



5-2. The subject was photographed with no added fill light.

Like the white board, a silver reflector bounces light without changing the color balance (5-5 and 5-6). However, because the surface of the reflector is metallic, it is highly reflective. This means that, used at the same distance to the subject as a white reflector, the light from a silver reflector will be more intense. To reduce the intensity of the fill, the reflector can be placed at a greater distance from the subject. The physical flexibility of the discs makes them versatile in kicking light to a specified area. They can be used to increase light levels in the shadow areas but also to create beautiful highlights on the hair, a piece of jewelry, or even a shoulder (to help separate the model from the background).

As seen in image 5-7 and 5-8, a gold disc reflector reflects warm and romantic light back to the subject. The gold color can also compensate for some of the blue cast that is prevalent in a heavily shadowed area. Although I personally would not have chosen this image (because of



5-3, 5-4 (top and bottom). A white board is used to add soft fill light.



5-5, 5-6 (top and bottom). A silver reflector.

5-7, 5-8 (top and bottom). A gold reflector adds warm-colored fill light.



5-9 (facing page). Natural reflectors, like the late-day light reflected off a building, can be very flattering light sources.

the hand positions), it was the model's favorite image from this series. To finish it, the image was cleaned up in Photoshop and the edges were darkened slightly to direct the viewer's eyes to the model's face.

Practical Example: Natural Reflectors. Image 5-9 was taken with the late afternoon sun reflecting off a building and onto the model at an industrial park. The gray background was another building in the complex. Because I used a long lens, a 300mm Nikkor, and shot with the aperture wide open, the building in the background went out of focus just enough to look like the horizon line on a beach. Keep your eyes open for great natural reflectors in your environment—and when you see them, note the time of day to shoot there. These can be simple, beautiful light sources.

Gobos

Sometimes, instead of adding light, you'll need to remove light from a certain part of the photograph. A good solution is to use a device called a gobo (or flag), which is a light-blocking device that can be attached to a light stand or held by an assistant. While gobos come in a variety of colors, I prefer solid black because this absorbs the most light. In outdoor photography, a gobo is often used to block overhead light from creating dark shadows on the model's eyes. Gobos can also be used to block light from a background, to create shadows on the model's face or body, or to prevent light sources from creating lens flare.

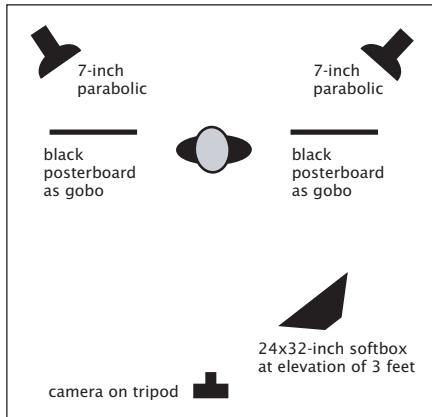
It needed to be
eyecatching and
showcase the selected
accessories . . .

For another effect, you can also direct your background light through a gobo with a patterned cutout to cast shadows on the background. (Note: The origin of the term "gobo" is unknown, but most consider it short for "go-between." If you are working with a Japanese client, however, note that "gobo" is also a popular Japanese vegetable—often served steamed!)

Practical Example: Gobos to Control Accent Lighting. Image 5-10 (next page) was created as a promotional piece for a vintage clothing store called The Attic. It needed to be eyecatching and it had to showcase the selected accessories—along with the model. The client, an aficionado of 1930s pinup images, wanted a photo in which the model looked like a free-spirited person—an image with old-fashioned charm and a modern twist. To achieve this we paired the unique setting (the store itself) and vintage props with a model who had a current look—hence the tattoos and piercings.

As you can see in the diagram, the main light was a softbox placed to camera right. Strobe heads, each fitted with a 7-inch parabolic reflector (see page 76), were placed to either side of the model to create accent lighting on the sides of her body, separating her from the dark background. To prevent these parabolics from spilling unwanted light back toward the camera and the foreground, gobos were attached to light stands flanking the model. These black cards ensured that light was placed only where it was wanted.





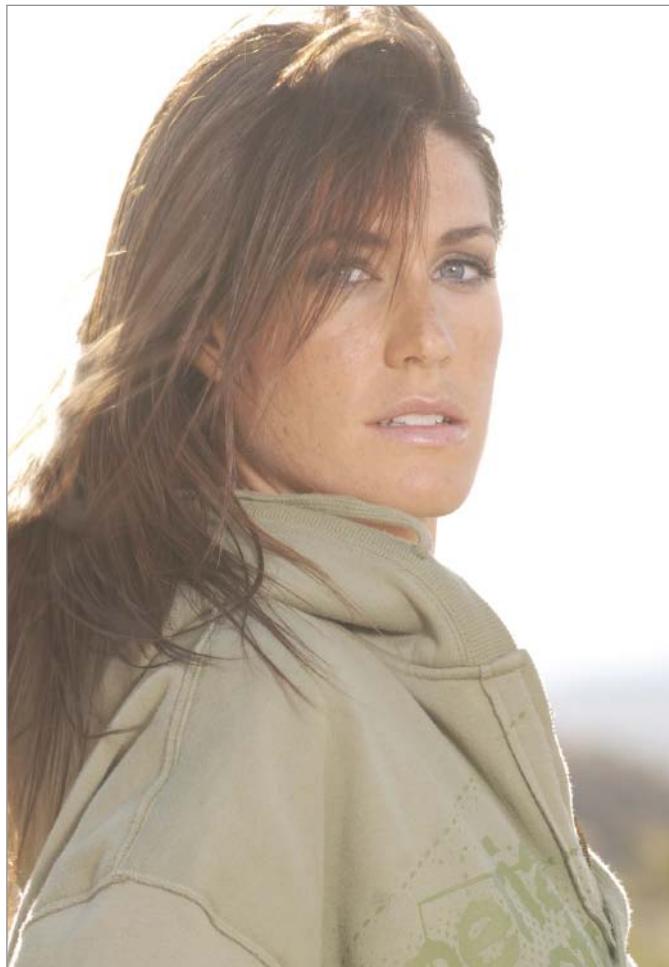
5-10 (facing page). Gobos helped control the effect created by the accent lights behind the model. A “hand printed” edge created in Photoshop added a final touch to the vintage look.

The image was finished with a classic film-edge border in Photoshop, completing the vintage look.

Practical Example: Gobos to Control Lens Flare. The first image (**5-11**) was shot outdoors using flash for fill light but without a gobo to control lens flare. Notice the loss of sharpness and the over all hazy look of the shot. The second image (**5-12**) was shot with the same exposure and fill-in flash. In fact, there are only two differences between this and the previous shot. First, I had the model turn slightly so I would have her against a dark background. Second, I added a lens shade, essentially a gobo, to keep the sunlight from hitting the lens. These two quick steps eliminated the haze and resulted in a much better image.

Scrim

Scrim are translucent devices used to diffuse light. As the light passes through the scrim, its rays are scattered (see page 32), making it softer and producing less contrast on the subject. Basically, a scrim works the same way the diffuser in a softbox works (see page 79), but it can be used with any light source.



5-11, 5-12. Adjusting the model’s position and adding a lens shade resulted in a much better image.

Large scrims can be placed between the subject and direct sunlight to soften the look of the lighting. Scrims can also be used in window frames to soften the sunlight. In the studio, portable scrims can also be placed between the subject and a studio light. Commercially made scrims are available in a variety of sizes, but something as simple as a white shower curtain can also be used as a scrim.

Barebulb Lighting

Moving along to devices designed to work on studio light sources, the simplest light modifier you can use is none at all—the bare flash head. From this undirected source, light scatters in every direction. Some photographers use a barebulb flash as a background light directly behind the subject. Because of its crisp quality, it also works for fill light in combination with sunlight. Additionally, barebulb heads are used inside softboxes so that the maximum spray of light fills the diffusing device.

Parabolics

Parabolics are simple metal dishes, in a variety of sizes, that are used to direct the light from a bare flash bulb. Often called “pans” because of their shape, these mount to the perimeter of the light housing. Parabolics create hard lighting that is bright in the center but loses intensity toward the edges. Adjusting the light to use the softer edge (a practice called feathering the light) helps create a more gentle effect when using these light sources.

In classic Hollywood photography, everything was lit with parabolics that had polished silver interiors; these provided the light intensity needed to work with very slow film. Today, some parabolics have a brushed silver surface or a faceted texture on the interior to help diffuse the light. Parabolics, especially wide-angle ones, are often used to focus light into an umbrella, as well as to shoot into flats or scrims. The farther the light is placed from the reflector/scrim, the softer the resulting light will be.

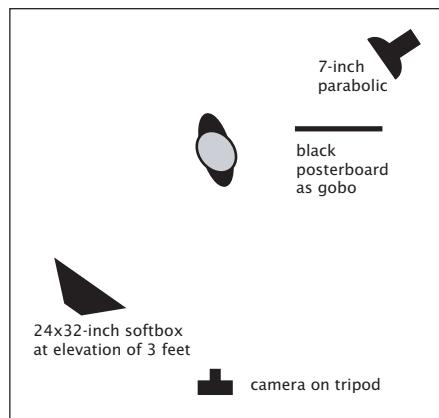
Practical Example: Backlighting with Parabolics. This reflected image (5-14), created for the dancer, was shot in the studio. The main light was a 24x32-inch softbox placed to camera left.

I wanted to shoot the model with hard edge light on one side. To do this, I placed a 7-inch parabolic (with a diffuser; see page 78) behind her to camera left. This was pointed at an angle back toward the camera. The strobe from this backlight was set one stop hotter (brighter) than the main light; if the setting were any lower you would not notice the light. This higher setting also separated her from the background and highlighted the translucent fabric around her. Additionally, it created a shadow in front of the subject that helped to enhance the reflection effect that was later applied in Photoshop. (Note: Often I use colored gels with this style of lighting, but we knew this



5-13. Light panels feature translucent scrims and reflective panels that can be used in combination.

In classic Hollywood photography, everything was lit with parabolics . . .



5-14. A 7-inch parabolic created hard edge light and a grounding shadow that was used in creating the reflected image.



image was going to be black & white. If you shoot with gels for black & white you don't get a clean white; every color reproduces differently in black & white.) As you can see in the accompanying diagram, a gobo was also used to prevent the backlight from hitting the camera lens.

Photoshop was used to convert the photo to black & white. (*Note:* You can go to Image > Adjustments > Black & White to do this, or consult a Photoshop book for other techniques.) Then, I made a copy of the image, which was flipped to create the reflection. Because I used the backlight to create a shadow in front of the subject, she looked grounded. This allowed me to simply blend the inverted image together with her shadows from the original image. Reflections are always darker than the original, so darkening the copied reflection also made it look more real.

Beauty Dish

Beauty dishes look similar to parabolics, but they are larger (usually over 20 inches in diameter) and have a white interior. Additionally, in a beauty dish the strobe is placed behind a shield so that it does not illuminate the model directly. Instead, it bounces into the white dish, which reflects the light back onto the model. This creates a smaller round catchlight and light that is softer than from a parabolic but harder than from a softbox. It can produce a nice look on younger models with good skin.

Diffusers

Working much like a scrim, a diffuser is frosted plastic or acetate in a frame or screen that is designed to mount onto a parabolic, usually on the perimeter. This creates a broader, more diffused lighting pattern. Diffusers are also available to fit over beauty dishes. (*Note:* When using a diffuser over a light—especially a hot light, like tungsten—make sure there is room for heat to escape between the diffuser and the parabolic to prevent overheating.)

Barn Doors

Barn doors are black, metallic, adjustable flaps that can be opened or closed. These control the width of the beam of the light so you light only what you want lit. They also keep light off the camera lens, helping to prevent lens flare.

Spotlights

Spotlights (sometimes just called “spots”) are hard light sources. Usually, they are small lights with a Fresnel lens attached to focus the beam and make it stay condensed over a long distance. This makes it useful for lighting a select area of the scene, like a corner of the room. Barn doors are usually affixed to spotlights to control the light.

It can produce a nice look on younger models with good skin.

Grid Spots

Grid spots are honeycomb-shaped metal grids that snap onto the light housing. The comb in the honeycomb grid prevents the light from spreading out, producing a narrow core of light that falls off quickly, so there is very little spill. This gives you a great degree of control in placing the light.

Snoots

Snoots are top-hat-shaped accessories that snap onto the light housing to narrow its output to a very thin beam. They are often used for small edge lights from behind the subject.



5-15. Umbrellas are available in a variety of sizes and shapes. Some have opaque backing for maximum light output; others are translucent for shoot-through effects.

Umbrellas

There are two types of photographic umbrellas. Most common are umbrellas with a black exterior and white or silver interior. When using these, the concave side of the umbrella faces the subject. The strobe is fired into the umbrella's reflective surface and its light bounces back toward the subject. Because umbrellas are relatively large, this results in soft lighting (see page 32 for more on the quality of light). A silver-lined umbrella produces light that is a bit harder than that from a matte-white umbrella.

The second type of umbrella is made of translucent fabric and used in the reverse position, with the rounded convex side toward the subject. In this type of light, the strobe is pointed into the umbrella and shines through the translucent fabric onto the subject. This produces softer light that is very much like that from a softbox (see below).

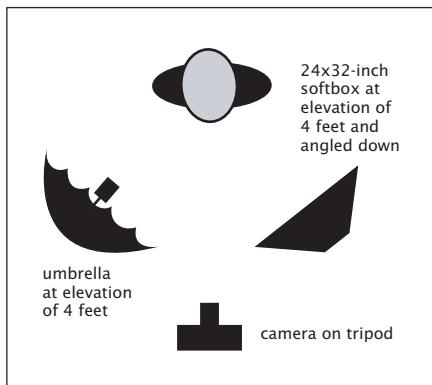
Softboxes

A softbox is a fabric box, usually with fiberglass rods for stability, that houses one or more undiffused strobe heads. The front surface of this box, toward which the strobe heads are fired, is usually a double thickness of translucent nylon. The sides are black on the outside and white on the inside.

Softboxes come in a variety of sizes and shapes. Most are square or rectangular, but there are also round and octagonal ones. Strip lights, which are basically long and skinny softboxes, are also very popular. Softbox sizes range from 12-inches square all the way up to 5x7 feet. Softboxes allow you to put a lot of diffused light in a controlled area. They also provide more precise control than umbrellas, which tend to lose light intensity due to scattering.

Practical Example: Soft and Beautiful. To photograph a model so that her face is soft and beautiful, it is usually best to spread the light source out and soften it with an umbrella or a softbox. When I am shooting on location, I usually bring one of each for versatility and to cut down on equipment. For image **5-16** (next page), I used a silver-lined umbrella to camera left and a 24x32-inch softbox to camera right. This produced light that spread out





5-16 (facing page), 5-17 (top). Pairing a softbox with an umbrella, placed on opposite sides of the subject, creates a very soft look. It also creates multiple catchlights, as seen in the blow-up of her eyes only (5-17). If you like, these can be removed in Photoshop, as seen in the final image (5-16).

beautifully over the whole photograph, creating the desired result: a beauty shot that emphasized the model's eyes and delicate features.

I have noticed one benefit of pairing a softbox with an umbrella: they produce two different qualities of light. They both are soft and spread out the light, but the softbox produces a softer light while the umbrella produces slightly more contrast. There is a problem, however. Many purists do not like the multiple catchlights in the eyes that this setup produces (5-17). Therefore, you may wish to take them out in Photoshop, as seen in the final image.

Notice how nothing in the photograph distracts from her face. I decided to frame her face with rabbit fur because it was soft and the texture of the fur would work nicely with her smooth skin. I knew that I was going to have to crop the image very tightly so that no distractions would appear around her, so I didn't worry about the background.

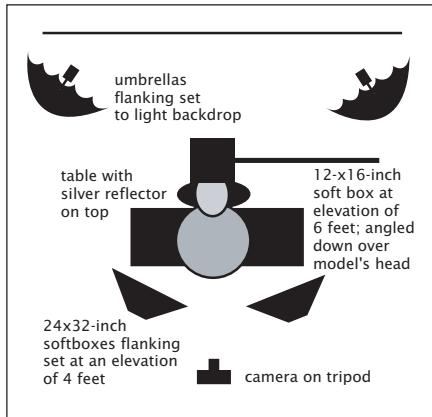
Practical Example: A Fresh, Colorful Look. The client for image 5-18 (next page) was a hair, makeup, and photo stylist who wanted an image that was "wild with eye-catching bursts of color" to advertise her skills. The pose also needed to be high in energy to complement the fun of the accessories.

With that objective in mind, I was free to concentrate on lighting that would complement her work. With a veritable fiesta of color to shoot, lighting was critical to maintain a fresh, festive appearance. Subtle reflections were needed to highlight the confections and to avoid making the face appear flat.

To achieve this, the model was photographed against a white seamless background, which was lit by umbrellas to either side of the set, ensuring it would render as clean, bright white. A 12x16-inch softbox was placed six feet above the model to create highlights on the hair style and accessories. This helped to bring out the wild colors and to reveal the detail in the shapes and textures.

To light the model's face, 24x36-inch softboxes were placed to either side of the model. These were positioned about four feet high, then angled down toward the model's face. (Note: A lighting setup where two main lights are used on opposite sides of the model's face is called crosslighting or clamshell lighting.) For a little fill light from below, to ensure the shadows beneath her



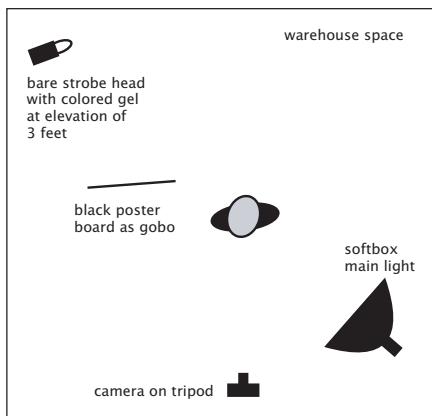


5-18 (facing page). Crosslighting from two softboxes helped create this fresh and wildly colorful look.

nose and chin were not too dark, a reflector was placed in front of the model on the table at which she was seated.

Colored Gels

Another light modifier to keep in mind when photographing models is colored gels that can be affixed to your light sources. These can totally change the feel of an image. In image 5-19, for example, I used a colored gel over the 7-inch parabolic that lit the background, making the old warehouse look more interesting. In this case, the model's outfit dictated the color of the gel I selected. I lit the model evenly with a 24x32-inch softbox and placed a gobo so very little of the pink light reached her. You'll note hints of pink on the edges of her body, but the rest of her skin tones are natural and realistic. (*Hint:* Keep the model as far from the background as possible. It is critical to separate the light on the background from the light on the model. You need to maintain independent control of each. Most photographers put the model too close to the background, losing control of the separation of light.)



5-19 (right). Adding a pink gel on the background light made the warehouse setting look much more interesting.



6. Matching the Light to the Image

Determining the Model's Best Market

When working on a model's portfolio, there are three major criteria you need to keep in mind: age, height, and overall appearance. These will help you to determine the markets in which she is most likely to obtain work and, therefore, the types of images (and lighting) you should use in her portfolio.

Age. The model's age will help you to determine whether her portfolio should be directed toward a local, regional, or international market. Generally, models under sixteen are limited to local and regional modeling because of school requirements, work restrictions, the need for chaperones, etc. While it is true that international agents accept younger models, especially in Japan, this is the exception rather than the rule. Models who are over twenty-one also tend to be limited to local and regional work. This is because most major high-fashion agencies are hesitant to invest their time, effort, and money in a model who has a "limited shelf life." This is harsh but true. Of course, there are commercial and talent-oriented markets in which models over the age of twenty-five are considered very desirable. (*Note:* A "talent" is someone who specializes in acting roles, such as in television commercials or as a spokesmodel for a particular company.) Be prepared to offer these market possibilities as an alternative for the prospective model who happens to be a bit older.

Generally, models under sixteen are limited to local and regional modeling.



6-1, 6-2 (facing page). On advertising shoots, the art director or ad agency will normally have a planned concept. It's your job to create the lighting design and mood needed to produce it. In these images, notice how the clothes (the products being advertised) take precedence over the models.

6-3 (left). Understanding the demands of the industry will help you tailor a model's images toward the genres where she is most likely to find success.



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Height. Height is critical. Shorter models are limited to more commercially oriented work and specialty modeling, such as hand work, fit (a model that designers hire to fit clothing on during the design process), lingerie, swimwear, hair, and beauty (modeling where the products [such as makeup, jewelry, or hair-care products] require facial beauty). Taller models have a much broader market.

Overall Appearance. Here your own personal “eye” will determine whether or not it is worthwhile to work with the potential model. Styles and preferred looks change as often as hemlines. What was unacceptable two years ago is in demand now. It is the photographer’s responsibility to stay informed of the current “looks.” However, clear skin, straight teeth, and good bone structure are always in fashion.

Once you have determined the market in which your client wants to seek work, you can begin thinking about how to create images that will help her reach that goal. Keep in mind that these are only guidelines—generally accepted standards. If a model doesn’t fit in the category she wants to work in, a great portfolio and a lot of determination can still help to make it happen.

As you read through the details that follow on the different subgenres of model photography, examine the images carefully. Think back to the lighting techniques we have looked at in the previous chapters and consider how these different strategies are used to create a look that is harmonious with the intent of the image. In particular, study how all the elements in the frame—including the lighting—function in terms of composition (*i.e.*, how your eye flows through the frame and where it comes to rest).

Clear skin, straight teeth, and good bone structure are always in fashion.

Commercial Images

Commercial print work refers to photos used in magazines, newspapers, catalogs, point-of-purchase packaging and displays, billboards, etc. Ad agencies or manufacturers who are trying to sell a specific product or service create this market. This is a lucrative area of work because of the high-profile usage of the image and the availability of exclusive contracts. These ads can define a product’s reputation, so the work is also demanding. Everything must work together—the model, the photographer, the stylist, the advertising director, and the garments/product—if the desired image is to be realized.

Because commercial print work is very product-oriented, it generally requires a different type of model than normally used for fashion-oriented ads. For example, commercial print images may feature anyone from a little baby crawling on the floor for a diaper ad, to a gray-haired, little old lady advertising an assisted-living home. Commercial print work may also include using body-part models, such as those who specialize in hand modeling.

In commercial print work, remember that neither the backgrounds, the models, nor any other objects can obscure or overpower the product. The

6-4. In commercial print work, the model is used to draw your attention to the product—in this case, the dress.

The art director or ad agency will usually present the photographer with a storyboard . . .

FALLFLING

"Luck Be A Lady" >>>
Orna Farha designs a savvy black and fuchsia printed, flirtatious ruffle dress, \$385.

"Men in Black" >>>

Funny and flashy neon signs are the heart and spark of Las Vegas. Even if you're not a high roller, the luxe of a tux makes the right impression in a city that sparkles.

Men's formal wear from Pal Zileri includes a black wool, two-button peak lapel jacket with velvet trim and matching trousers.

Also modeled is a micro-crepe three-button classic style with matching trousers.

Pal Zileri is at the Grand Canal Shoppes in the Venetian Resort.

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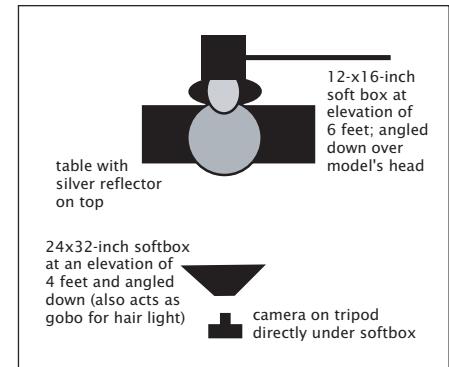
LUXURY LAS VEGAS SEPTEMBER 2004

product is the star and the viewer's eye must be quickly directed to it. When working for a client, the art director or ad agency will usually present the photographer with a storyboard or layout of the photos that are needed. Rarely does the photographer have the freedom to create his own shot; rather, it is his responsibility to re-create the preconceived layout as presented. Therefore, his main responsibility is to set the lighting and create the mood directed by the art director.

Practical Example: Mariposa Films. Originally, the client for image 6-6 simply requested a photo to put on a business card—something that included a butterfly, since “mariposa” means butterfly in Spanish. However, I took a more proactive approach. I wanted to design something magical—a photo that would create emotion and visually allude to the creative genius behind the company and the documentaries they produce.

To create this photograph, two bunches of fresh Gerbera daisies with small accent flowers were cut and arranged with wire hairpins, creating full coverage of the model’s hair. We also added a couple of butterflies. The model’s neck was covered with paper, then flowers and butterflies were added to the front of the picture.

An ivory oil-free cream foundation was applied to the model’s face for a flawless look. Sheer lip liner in a light pink was used over both lips, and then overdrawn on the top lip. This was followed by clear gloss. Natural blush was applied under the cheekbone and dusted lightly on the top of the cheeks. The



6-5 (left), 6-6 (facing page). The original capture was enhanced in Photoshop to create the final look.



model's eyebrows were darkened slightly with brow powder, then a silver-shimmer eyeshadow was added to the entire eyelid, followed by magenta over the lower lid and brow bone. Dark purple and black liner pencil was used at the eyeline and black false lashes were added. The look was finished with rice set powder.

Posed in front of black seamless paper, the model was lit by one 24x32-inch softbox placed on axis with the camera (four feet high and angled down toward the model's face). A 12x16-inch softbox was added about six feet over the model, pointed down toward the top of her head to add highlights on the flowers and butterfly. A silver reflector placed on the tabletop in front of the model created fill light on her face.

To complete the look, the image was cropped tightly. It was then cleaned up slightly, removing any creases and blemishes on the model's skin and eliminating any unwanted hair. Next, the model's left ear was removed, along with the hair showing near her ear. The wing of the black & white butterfly near the bottom of the frame was removed. Then, colors were sampled from the flowers and additional makeup was applied. The main butterfly was selected and its contrast was boosted. The lower black & white butterfly and a section of flowers were then imported from another photograph.

Fashion Images

The fashion photography genre includes images of anything that can be worn—garments, hair-care products, perfumes, makeup, jewelry, etc. There are several types of fashion print work, including editorial, catalog, athletic/sports, swimwear, and lingerie. Fashion print generally utilizes the typical fashion model—a tall, thin, beautiful person. However, there is a trend toward using “real” people, including plus-size models, in mainstream fashion print. In images where clothing is the featured product, the lighting is often from

6-7. Fashion images typically feature tall, thin, beautiful models.





6-8, 6-9, 6-10. Glamour photography is the term used to describe tasteful depictions of the beauty of the human body.



more of an angle, skimming across the clothing to accentuate its texture and design. In beauty images—ones designed to showcase makeup, for instance—more frontal lighting may be desired to nearly eliminate any shadows and make the model's skin look as flawless as possible.

Glamour Images

To the general public, the term “glamour photography” brings to mind classic photos of Marilyn Monroe, Elizabeth Taylor, or the current crop of Hollywood superstars. For the commercial photographer, however, the term is used to describe any work that emphasizes the beauty of the human body. While it can include nude photography, it is not limited to nudes; it may also include the use of lingerie, swimwear, and other clothing. Some glamour shots

may be useful in the beauty industry for the promotion of commercial products. Another opportunity for the publication of glamour photography is in the finer adult magazines; on selected web sites; and for calendars, posters, and other retail products. Tasteful nudity has become acceptable, as long as it is subtle and sexy, rather than tacky or risqué.

As a result, the typical subject used in glamour photography has shifted from the busty, blatantly sexy, bottle-blond to the beautiful, perfectly proportioned woman with a sexy, girl-next-door look. Proof of this is the fact that the more sophisticated men's magazines have become very celebrity-driven, featuring tastefully glamorous images of many of today's supermodels and Hollywood stars. (*Note:* Again, the key here is "tasteful." The more hardcore men's publications are called "top-shelf" magazines, and most commercial clients will not be interested in a model who has done top-shelf work.)

The look of the lighting in these images can vary widely, from soft and sultry to very dramatic and edgy. The goal will be to accent your model's best features—her physical beauty. In this kind of image, the model is the product, so it's all about lighting her to look her very best and most alluring.

Lingerie Images

Lingerie photos can be created either in the studio or on location but should, of course, be shot with good taste and sensibility. Commercial lingerie photography must be exquisite and beautiful but not sexual. If the shot becomes sexual, you are no longer selling the lingerie—you have crossed over into glamour and are showcasing the beauty of the model.

The advertisers will determine the focus of the shoot. Sometimes, they want each photo to detail a particular garment. For example, a client may request that the photograph concentrate on the strap of a bra, the underwire, or an especially beautiful strip of lace. Sometimes, they simply want to invoke a feeling of romance, excitement, or glamour. Some clients request more catalog-type photos; some allow the photographer more of an outlet for his personal creativity. As with swimwear models (see page 99), models for lingerie shoots are generally shorter with more curves than the typical high-fashion model.

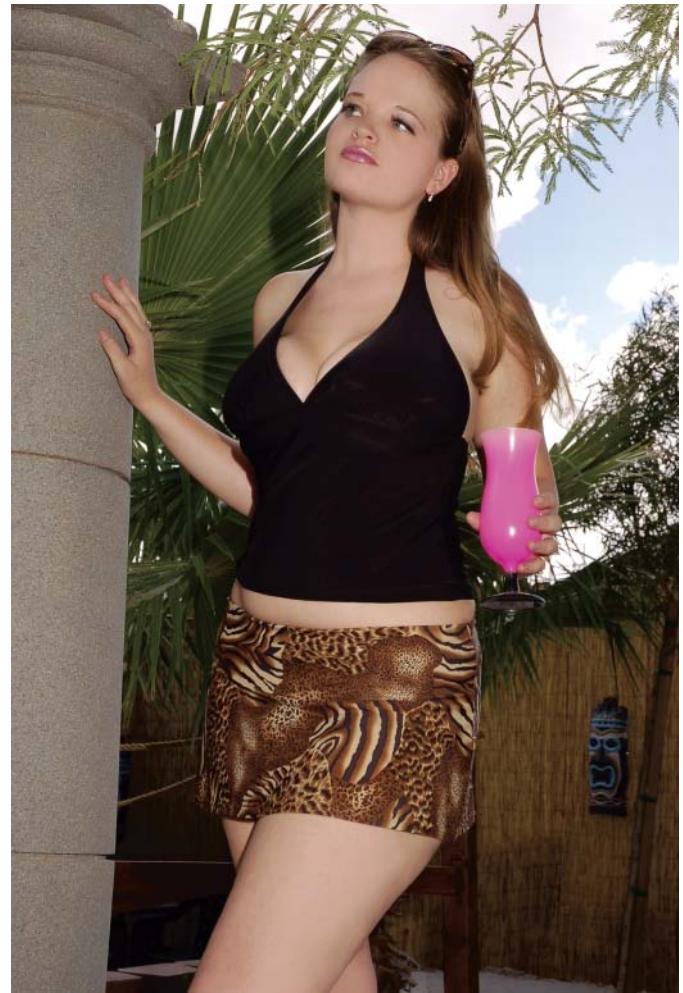
The lighting styles used for lingerie images will vary depending on the look you are trying to achieve. For catalog-style images, the light will be one of your tools for revealing the cut and texture of the model's garments. Be sure to note any special details on the garment, and try to accentuate them. In more glamour-style looks, the lingerie still needs to be accentuated, but there will also be a secondary emphasis on the model's physical beauty in those garments. When shooting portfolio images for a model seeking work in lingerie photography, you'll want to employ lighting that accentuates the model's curves.

The look of the lighting in these images can vary widely . . .

6-11 (below), 6-12 (facing page). Lingerie images can range widely in style from catalog-type images to shots that verge on glamour-style.







Plus-Size Images

In the fashion business, a model who wears size 10, 12, 14, and up is termed a plus-size model. The highest-paid plus-size models are normally sizes 12, 14, or 16. When working with plus-size models, there are two ways to approach the session. The first approach is to use every technique in the book to visually slim the model. This could include exaggerated posing and specialized lighting—usually high-contrast lighting from the side to leave a portion of the body in shadow. Reducing the separation between the subject and the background can also produce a slimming effect.

These exaggerated techniques are normally used only when photographing portfolio images for a model who is concerned about her appearance, or when a client books a particular model because they see something special in her but still want to reduce her size visually.

The second approach is used when a plus-size model is booked by the client as a plus-size model—perhaps to advertise plus-size clothing or to appeal to customers with more average builds than the typical fashion model. In this case, the model should be photographed using the same lighting and posing methods as you would use with any other model. No special tech-

6-13. 6-14. Many agencies are expanding the use of “real people” as models in their advertisements.

niques are necessary. Today, clients and advertising agencies are expanding the use of “real people” in their advertisements, so this is often the scenario you encounter.

Editorial Images

Editorial work is the part of the magazine created by editors, not advertisers. These pages promote a general trend or idea rather than a specific product. When creating this type of work, the editors and photographers are responsible to the style and outlook of the magazine rather than to the manufacturer

6-15, 6-16, 6-17. The poses and models used in editorial images can be extremely varied. It all depends on the trends the magazine wants to showcase or explore.



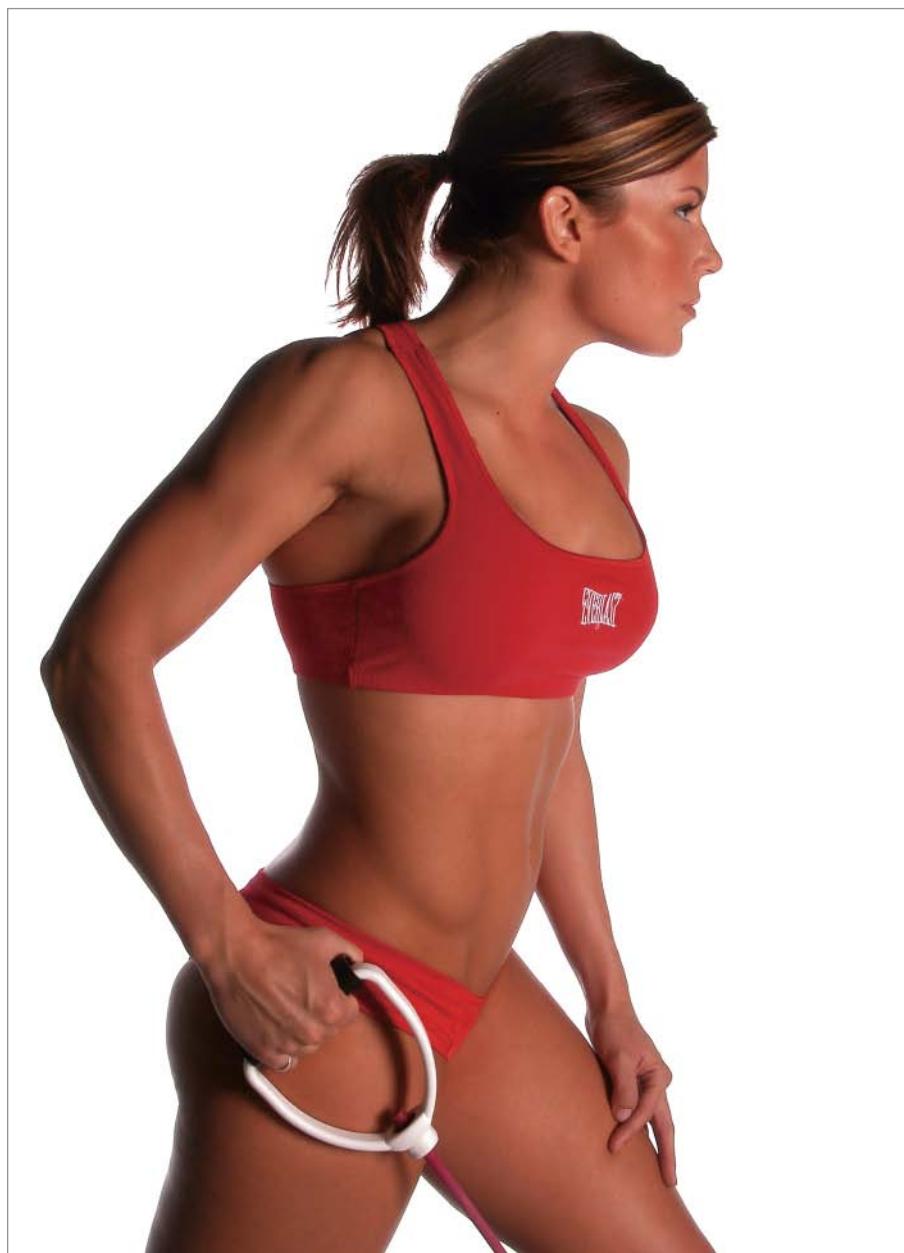
of a garment or product. They try to create a look that will become the next trend. Use inventive lighting, composition, posing, and every other tool at your disposal to produce the most creative work you can. This is the time to push your boundaries (while, of course, working in concert with the editors).

This is the most prestigious and glamorous work for a fashion photographer, but not the most lucrative. This is because editorial work is wonderful for building a photographer's reputation and for gathering more of those all-important tear sheets. Since magazines know that editorial tear sheets are career-builders, they pay less money.

Athletic/Sports Images

Shooting advertisements for athletic equipment or garments involves a different approach than most fashion-oriented shots. These ads generally require less structured, more active shots that generate excitement for the product and for the sport.

When shooting for these kinds of clients, I usually prefer to go on location, rather than shooting in the studio. A local gym, basketball or tennis court, or



6-18. In athletic images, light skimming across the model's body reveals the definition in her physique.



6-19, 6-20, 6-21. Going outdoors is a good approach to creating athletic images. Look for great lighting that allows you to create more active poses.



Your approach to great lighting will be to find it, rather than to create it.

high-school football field will give the photographer opportunities for action shots not available in most studios. If the model whose portfolio you are shooting seems particularly muscular or otherwise well-suited for this kind of work, take a field trip with some sports gear and athletic wear, then experiment with active, high-energy poses.

Because you'll be working on location, your approach to great lighting will be to find it, rather than to create it. Working later in the day or looking for overhead light-blockers will help ensure more directional light (*i.e.*, less overhead light, which creates unflattering shadows). Having a reflector available will also be useful for controlling contrast. Additionally, keep in mind that

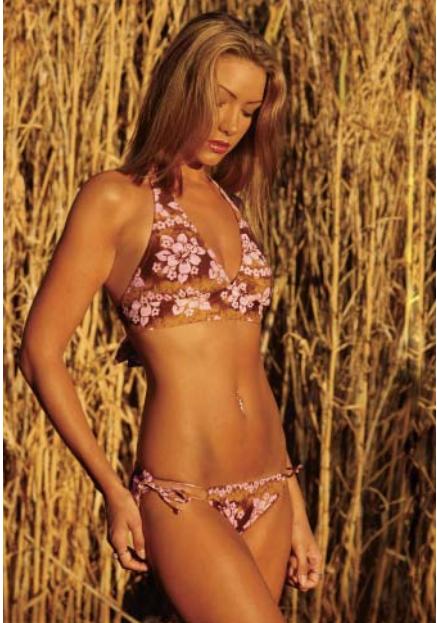
positioning the model so that the main light strikes her body from an angle will help to define the contours of her athletic physique.

Catalog Images

Catalog work refers to the images used in a retailer's catalog, mail-order brochures, flyers, and other materials that are used to sell specific merchandise. The main objective of these images is to present garments or other mer-



6-22, 6-23. In catalog images, the emphasis is on showing the style of the clothing being sold—usually in a very straightforward, detailed way.



6-24, 6-25, 6-26. Outdoor locations make sense for swimsuit photography—but you may need to implement strategies for shooting in bright sunlight to create the most flattering results.

chandise in a straightforward, very detailed manner. This work doesn't carry the status of editorial or advertising print photography, but it can form the backbone of a photographer's income.

For this type of work, models are selected based on their look. Generally, they should represent the ideals of the market segment toward which the particular catalog is targeted—whether it's teenagers, senior citizens, moms, businesspeople, or plus-size women. The idea is transference: "If you buy this outfit, you will look as wonderful as our model does!"

Catalog shoots often involve more than one model per shot, so be prepared to design lighting setups that will accommodate multiple subjects—while keeping the emphasis on the garments or accessories being sold. While catalog shoots don't carry the status of editorial or magazine ads, the current trend in this genre is actually toward more exciting, artistic, and interesting looks. Of course, you must still stay within the needs of the specific client.

Swimwear Images

Exotic locations, white sand beaches, soft breezes, and palm trees—these are key ingredients when shooting swimwear. The very nature of this market demands exotic beauty. In this genre, the line between fashion and glamour softens. As such, the models for this line of work tend to be more curvaceous than those seen in straight fashion photography. Swimwear models can also be shorter than fashion models. The bottom line in this market is transference—the general public wants to feel that if they buy this swimsuit, they too will be hot, sexy, and beautiful.



6-27, 6-28, 6-29. Simple changes in lighting can result in swimwear images that are dramatically different. One has a pinup feel, while the other is more fashion-oriented.

Practical Example: Two Looks in the Desert. These two swimsuit images were shot in the desert, where I employed a mirror to highlight the models' legs or hair. The first shot (6-27) is a poster-style photograph for a professional volleyball player. Fill flash and a mirror were used to separate the

model from background. For this image and the setup shot (6-29), the white balance was set to daylight. In the second image (6-28), we have a swimwear photograph created for a professional model. The highlights from the mirror were used to draw attention to her figure. Here, the camera's white balance was also shifted to tungsten and a warming filter was placed on the soft-box to turn it into a tungsten-colored light source. The result is warm lighting on the subject and cool tones in the background.

Special Attributes

6-30. If you notice that a model has great legs, design an image to showcase them. Use side lighting to show musculature and accent lighting to create long highlights that emphasize the length of the model's legs.

When working with a model on her portfolio, pay particular attention to her special attributes. Many models find ample work in fields where they are called on for their beautiful hands, legs, feet, hair, or other remarkable features. If you spot something unique about your model, consider designing an image to showcase it. (See page 119 for a shoot designed to highlight the model's legs.)



7. Creative Techniques

Drag the Shutter for Creative Effect

Dragging the shutter is a technique that allows you to combine the effects of flash with ambient light. To do this, you will select a shutter speed that is longer than your camera's flash-sync speed. During the exposure, the flash will fire to illuminate the subject. Then, the shutter will remain open, allowing the ambient light in the scene to record. How long the shutter remains open will determine how much ambient light is recorded. Let's look at this technique in practice.

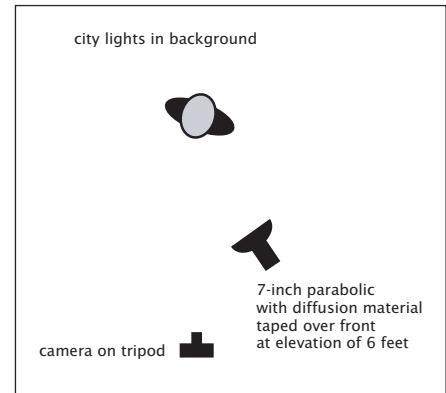
The light for this shot (7-1) was simple: I used a White Lighting strobe with a 7-inch parabolic that had diffusion material taped over it. The only other source of light was the scene of city lights behind the model. To make my exposure, I determined the correct aperture for the optimal exposure on the model. Then, I set the camera at series of slow shutter speeds, from $\frac{1}{2}$ second up to 2 seconds. This process requires some experimentation, and you must bracket the shutter speeds until you arrive at a result that provides the balance you're looking for.

After you determine the correct combination of shutter speed and aperture, try handholding the camera, so you can move it from side to side or up and down during the exposure. Camera movement was what created the swirling lines of light around the model. Note that the model, however, is almost completely sharp behind these lines of light. This is because she was lit only by the very quick flash source, which froze her in place.

Control the Background with Light

Now that you know how to drag the shutter, keep in mind that this same technique can be used on location to control backgrounds that are lit by ambient light. This can help you to adjust the visual effect of a background while keeping the model's exposure constant. Let's look at this whole shoot—start to finish (images 7-2 to 7-9).

To elevate your work as a photographer, you can't go wrong by teaming up with professional hair and makeup stylists. Regardless of how stimulating, creative, or well-lit your images may be, without the finishing touches of good makeup and hair styling, you will not be viewed as a top professional. (*Note:* Always instruct the model to arrive at the shoot with clean, natural hair—no



7-1 (facing page). Dragging the shutter allows you to create some dramatic lighting effects.



styling products should be added, and no straightening or curling should be done. The occasional exception occurs when a hair stylist will ask the model to arrive with “dirty” hair. This is sometimes the case when the stylist knows he or she will be creating an updo or some other style that requires a lot of hold.)

Compare the first two for this session (**7-2** and **7-3**). In the second image the base makeup (called foundation) has been applied to the model’s forehead. This eliminated her freckles and gave a smooth surface on which the makeup artist could work. If we had been shooting for a natural look, the makeup artist might have allowed the freckles to show through. However, for this fashion shot, we did not want the freckles to draw the viewer’s eye from the focus of the shot

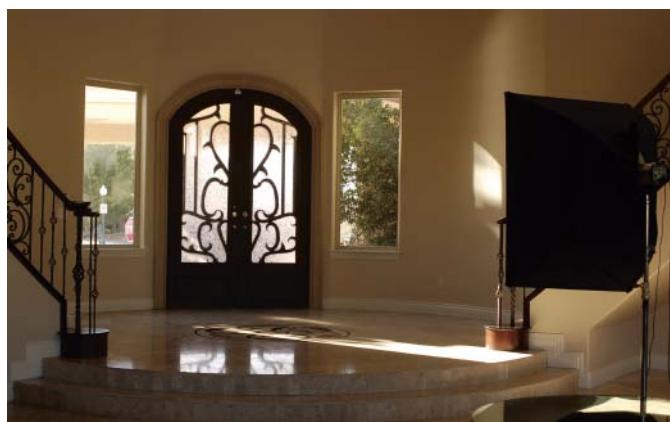
Now, let’s get back to the purpose of this series of photographs: controlling the look of backgrounds. The first step in this process was creating an overview of the scene (**7-4**) without the flash on. In this case, my exposure was determined by a light meter to be $1/15$ second at f/8.

I determined I needed to change my view slightly so as not to see the stop sign outside. I also needed to crop the image more tightly. After making these adjustments, the flash then was turned on and adjusted to give an output value of f/8 at the spot where I was planning to place the model. Then, I took another test shot at $1/15$ second (**7-5**). Note that these two scenes (**7-4** and **7-5**) are virtually identical. The second shot is every-so-slightly more lit at the door due to the flash, but not sufficiently lit to affect the overall feel of the image.

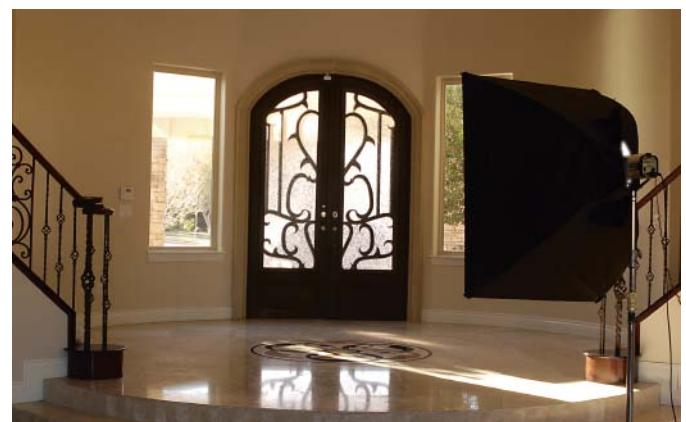
For the third shot (**7-6**), the flash output was left at f/8, but the shutter speed was dropped to $1/4$ second. Notice the drastic change in the scene—especially outside the window. For image **7-7**, the flash output was still f/8, but the shutter speed was dropped even further to $1/2$ second, resulting in even more ambient light recording on the background. I usually run a series of



7-2, 7-3. Great styling sets the stage for a successful shoot.



7-4. An overview of the whole scene was shot with the ambient light only.



7-5. A second overview was shot with the flash reading f/8 at the spot where the model would be. Note that the flash has very little effect on the background.



7-6. A third overview was shot using a longer shutter speed, resulting in a lighter background.



7-7. A third overview was shot using an even longer shutter speed, resulting in a much lighter background.



7-8 (above). Shot at f/8 and 1/4 second, the model has nice skin tones and there is good detail in the background.

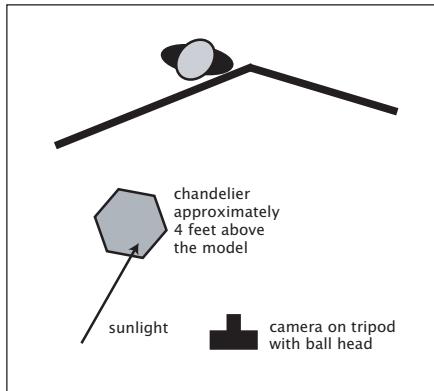
7-9 (right). Shot at f/8 and 1/30 second, the model still has nice skin tones, but the background is much darker.



test exposures like this while the model is preparing so I can determine my desired exposure and decide how much I can change the shutter speed to achieve acceptable differences.

Notice that when the model is in place, she is still correctly exposed—but the background light changes drastically with the shutter speed. For image 7-8, I chose to shoot at 1/4 second at f/8. This exposure added enough light from the windows to see detail in the house while the exposure from the flash





7-10 (facing page). Keep your eyes open for great lighting all around you!

exposed the model correctly (*i.e.*, to my taste). For image 7-9, I shot at $1/30$ second at f/8. Notice how the model's skin tone is virtually the same in the previous shot, but there's a big difference in how much ambient light was allowed to spill into the room. Which is best? It all comes down to personal preference.

Look Around!

Image 7-10 is one of those impromptu "Wow—did that really happen?" shots. I was working on the series of images discussed in the previous section (demonstrating how to make various lighting changes in the background while leaving the model correctly exposed).

Then, as we were finishing up the photo series and breaking everything down, beautiful light came streaming in the window on the second level of the home and hit the chandelier. The light cast by the chandelier had such a beautiful effect that I grabbed the model, had her throw on the coat and run up the stairs. I literally swung the camera around on the tripod and got a couple of photographs before the light went away.

Sometimes being aware of the changing light, and its beauty, can produce better results than hours of planning. As photographers, we have only light with which to record our subjects. We must be able to use it—wherever and whenever we find it.

Create a Storyboard

As a creative exercise for both you and the model, try creating a photographic storyboard. This gives you a chance to work with lighting subjects in motion and can create a series of images for the model to use in promoting her acting ability.

To begin, I did a series of test shots to determine the best direction for the shoot. These are seen in images 7-11 through 7-13 (next page). In these images, I created front lighting using flash. To light up the hall, I added a small Westcott softbox on a Westcott Spiderlite with tungsten lamps in the far doorway. I set my shutter speed for the exposure in the hallway and my aperture for the flash on the subject. I started with my camera's white balance set for daylight, as seen in image 7-11. For the next shot, image 7-12, the lighting setup was the same as above, but I set the camera to black & white.

For the third shot, image 7-13, I set the white balance to tungsten, making the background render more neutrally than in the first image (where it is very warm and golden from the tungsten light) and rendering an interesting blue cast on the model's skin tones (remember, she is lit with daylight-balanced flash). After these initial test shots, I chose to do the series in black & white because it was more dramatic. It also eliminated many colors that seemed to conflict with the model's skin.

To begin, I did a series of test shots to determine the best direction for the shoot.



7-11, 7-12, 7-13. A series of test shots helped me determine the right direction for the storyboard shoot.





7-14, 7-15, 7-16, 7-17, 7-18. Creating a visual storyboard lets you practice lighting active subjects while your model shows off her acting abilities.

To create the storyboard effect seen in images **7-14** to **7-19** (above) and **7-19** to **7-23** (next page), motion in a variety of shots was required. This required either a high shutter speed or flash to stop the action. I chose to use flash. You have to be careful when combining instantaneous flash lighting with continuous lighting. Because

you will need a slower shutter speed for the tungsten exposure, you will get some blur whenever the ambient light bleeds over onto your subject. In the images in this series where the model is flinging the shirt over her shoulder, notice the blurred edges of the garment (such as at the top of the next page).

With a scene like this, you also have an additional problem in that the model is moving both toward and away from the camera. Because of this, your depth of field is critical. You may need to use a narrow aperture, such as f/8 or f/11. Fortunately, with today's digital cameras, you can boost your ISO without much difference in quality of the image. This will help prevent having to drop your shutter speed too low.

Throughout these images, notice how the flash intensity falls off quickly—it has a pronounced effect on the walls of the hallway walls, particularly in





7-19, 7-20, 7-21, 7-22, 7-23 (facing page). Notice how the flash falls off and how the subject's distance to the camera affects the exposure of her skin tones.

7-24 (above). A single light was used directly over the model's head to produce a dramatic conclusion for this series of storyboard images.

the longer body shots. Additionally, look at the shot of the finger (facing page, bottom right) and notice how much brighter the model's hand is than her face—even though it is only about 18 inches closer to the flash. When working with models and flash, the model must not vary her distance from the flash source; if she does, your exposures will be inconsistent. The important factor is the distance from the flash to subject, not the camera location.

For the last photo in this sequence (7-24), I used a single flash source over the model's head and as tight to the wall as possible. This light was fitted with a 7-inch parabolic, which had a diffusion gel on it. Small barn doors on the parabolic kept the light from spreading out too far. It's a dramatic lighting look that fits the emotion the model is portraying.

Add Lens Flare

Lens flare generally appears as bright circles, shimmering lines, or smears of light across a photograph. It can also appear as a film covering the entire photo. Unfortunately, most commercial clients dislike lens flare passionately; they consider it the mark of an amateur. However, some editorial fashion



7-25 (left). This is the same bathing suit as in the following images—but notice the lack of color. Note, too, the unflattering shadows that the direct light created on the model's face.



7-26 (right). The model was turned so that her back was to the sun. Notice the lack of sharpness and contrast created by the resulting lens flare.

gurus feel that occasional, deliberate lens flare adds drama and passion to the image. Either way, it is critical that the photographer understands the phenomenon and knows how to either use it or eliminate it, depending upon the desired effect.

Technically speaking, lens flare is created when non-imaging forming light enters the lens at just the right angle, bounces around the interior of the camera/lens, and eventually ends up being recorded in the image. It can lower the image contrast significantly by increasing the exposure without adding any image content. It also can cause a loss of color saturation and reduce the sharpness of the image.

Lens flare normally occurs because the lens was pointed in the general direction of the sun or a direct artificial light source. If you can stop direct light from hitting the front of the lens, you can reduce or eliminate most lens flare. There are several methods of doing this. At times, I have used my hand to



7-27 (left). The lighting was improved simply by adding a gobo to block stray light from hitting the lens, thus preventing flare.



7-28 (right). This is the final image after Photoshop enhancement. With backlight on the model, a gobo and reflector were used to finesse the lighting. Notice the rim lighting that separates her from the background.

shield the lens—although this is difficult, since I normally need both hands to work the camera. I have directed assistants to hold a reflector as a shield, or you can use a commercial lens hood. I prefer, in most instances, to use a gobo to make sure no extraneous light hits the lens.

Some types of flare, however, can actually enhance the photo, adding a creative, innovative touch. It can add a little something extra to your images when used judiciously. When working with a fashion client that you think might appreciate this, shoot with correct exposures first, then remove the gobo and experiment with lens flare to create a bit of drama. Sometimes the client will really enjoy this unexpected option.

Lens flare can also be produced in the studio for creative effect—or even added in postproduction. The model in image **7-29** (next page) wanted a high-impact photo for his portfolio. His session was originally scheduled as a



7-29 (facing page). Lens flare and bold color combine for great drama in this studio image.

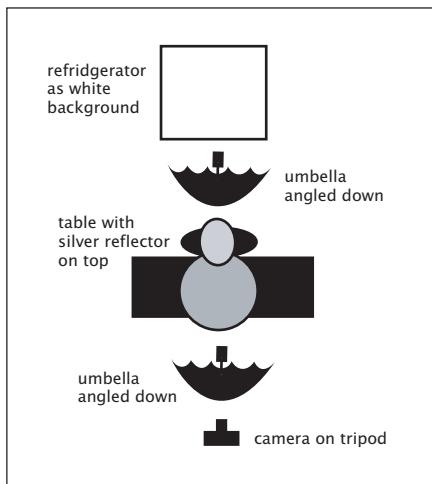
location shoot, but the weather forced us into the studio. So, I was seeking a unique, high-impact look to produce with studio lighting.

I originally set up two background lights and directed the model into position. In the test shots, however, I saw that one light was out—and it created an interesting pattern on the wall that was similar to natural sunlight. I decided not to replace the failed light; I wanted to see what the backlighting would do on the model's body.

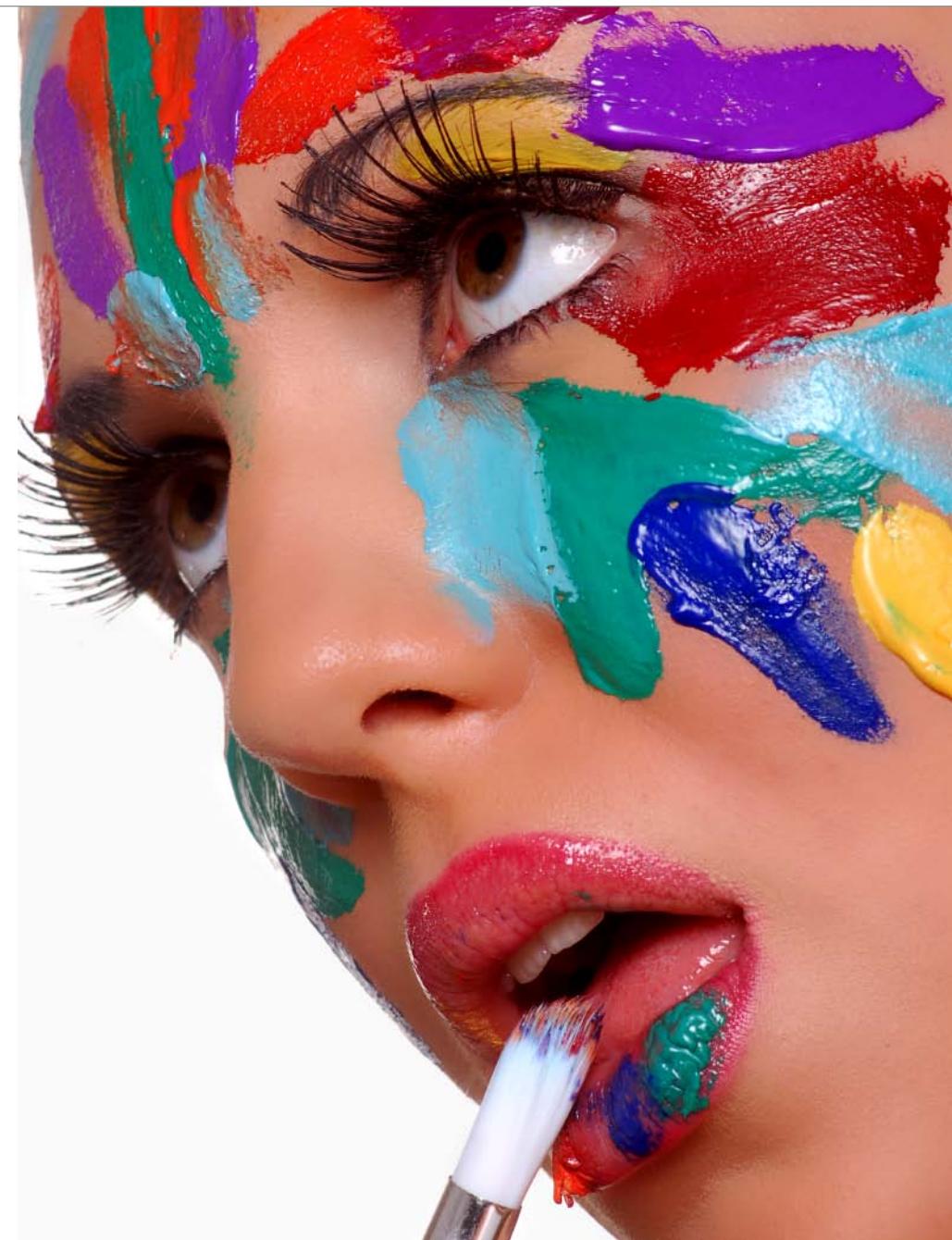
The model posed as if in direct sunlight (facing the light source). Then, I moved to intentionally show some lens flare. Later, I intensified the yellow color in Photoshop and added additional lens flare, since the natural lens flare wasn't sufficiently dramatic.

Do Extreme Close-Ups

The model for image **7-30** wanted to create an eyecatching photo for her portfolio—with bursts of color for extra impact. The original plan was to



7-30 (right). Creating extreme closeups helped us make use of a small shooting area and salvage a rained-out shoot.



shoot headshots on location near the model's home, but nature intervened and a thunderstorm sent us hurrying indoors. Rained out, the only option was to shoot in the model's small kitchen, using the refrigerator as a white backdrop. This meant only extreme close-ups could be shot.

Although we had a very limited space in which to shoot, the lighting principles were the same as most model shoots. I placed the lights close to the model's face, spreading the light over the wide area of the face known as the mask. A silver umbrella was used in front of the model, placed as low and close to the model as possible. The camera was placed just under the umbrella. A second umbrella was positioned just above the model's head and aimed at the refrigerator so the illumination was even.

By drenching her face in warm acrylic colors, a whimsical image was obtained. The paint gives the exciting color that the client required.

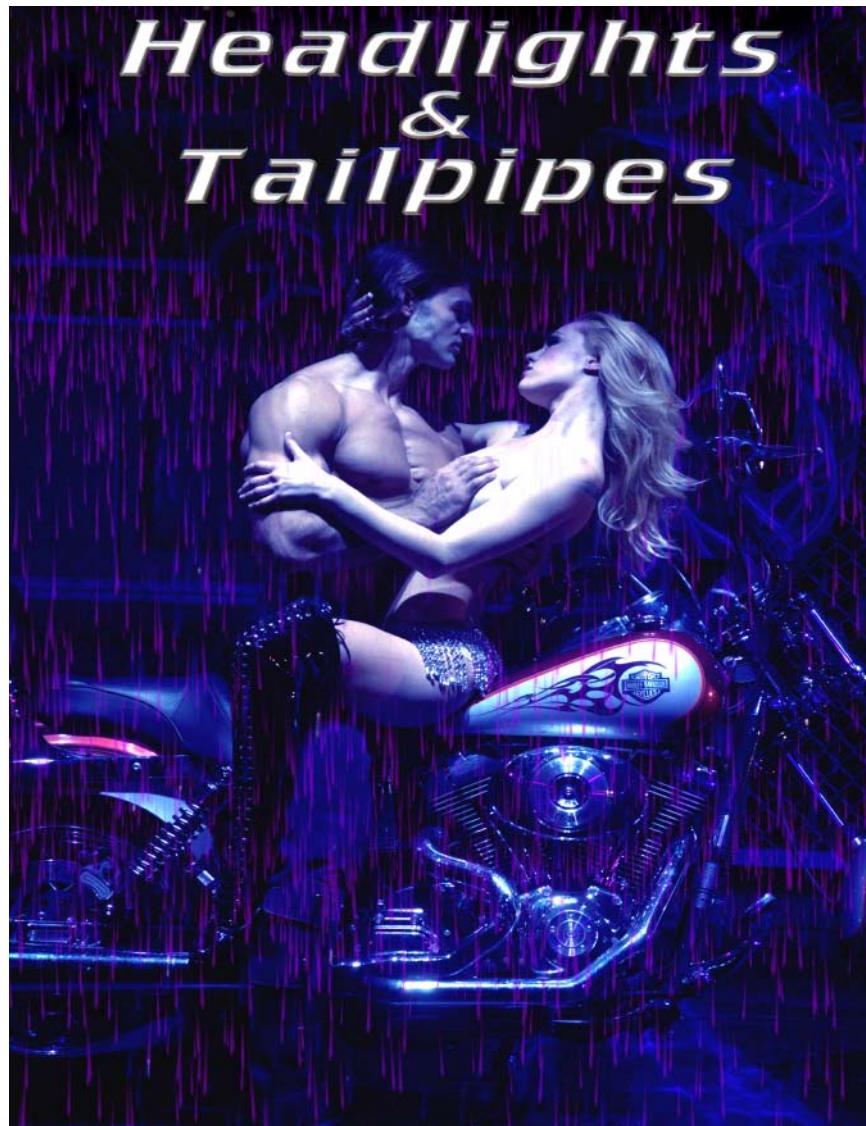
Work with Performers

If you're itching to try some truly challenging photography, try working with performers whose images need to be captured live on stage. You'll need to do your homework, really know your equipment, and work quickly to capture the right moments.

Practical Example: Emerald Dream Ball. Image 7-31 was created as part of an advertising campaign for the New Year's Eve gala at the Rio Hotel and

7-31. Flash froze the subject, while a longer shutter speed allowed the stage lighting to record.





7-32. Preparation was the key to capturing this fleeting moment using only the stage lighting.

Rather than recalculating the output, which would take too much time, I placed two fingers over the flash and continued shooting. Using the viewfinder, I was able to see that the reduction in output was exactly what was required.

Practical Example: Headlights and Tailpipes. For this promo piece (7-32), which was created for a Las Vegas show, I wanted to show a *Romeo and Juliet*-style confrontation in a contemporary setting. The photo was taken on stage during a performance. Hence, there were several limiting factors. First, there was an extremely limited opportunity to shoot and then only from the audience at a pre-determined place (not of my choosing). Second, the shot required the use of ambient lighting that was not under my control. Third, the shot had to be taken quickly as I couldn't ask the actors to "do that again."

I was given three days to produce frames suitable for the show's promotional purposes. The first step was to go to several rehearsals and get an un-

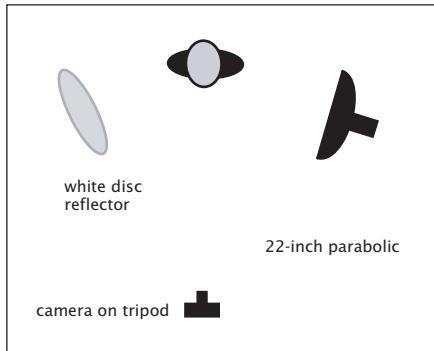
Casino in Las Vegas. The goal was to capture the beauty, power, and grace of the aerialist's performance.

Although there were many other acts performing simultaneously, I wanted to separate the aerialist to emphasize the control and concentration needed for her performance. There also needed to be space in the frame for ad copy.

When shooting a performance dress rehearsal, you are normally not allowed to set up studio strobes or extra tungsten lighting. This is because the lights can cause the performer to miss their timing or overpower the lighting director's setup. Therefore, I used a simple off-camera auxiliary flash. By using a monopod, I was able to shoot at $1/15$ second to record the background while the flash froze the performer.

Because the performer was in constant movement and there was a predominately black background, I could not use the TTL feature. After shooting the first few images, I noticed that the flash was blowing out the lighting from the stage, overexposing the performer.





7-33 (facing page). Dramatic lighting can be used to highlight one part of the body—but you have to pay attention to avoid creating problems in other areas.

To accentuate the legs in this shot for the model's portfolio, I used one light source . . .

derstanding of the flow of the show. At the last dress rehearsal, I was able to shoot many images using tungsten settings and daylight settings to dial in the color temperature of the lighting. I noted which scenes I'd photograph using a tungsten white balance, which to photograph using a daylight white balance, and when I'd need to boost up the camera's ISO. Based on my notes, I shot the first two shows and was able to present the client with a full range of photos from each scene.

For this image, I shot with my camera's white balance at the tungsten setting and a shutter speed of $1/125$ second. From my research, I knew there would be brief moments during this scene when the actors were stationary. The result was a correct exposure. However, the art department decided to add a rain effect and purple coloring because this scene was performed to the song *Purple Rain*.

Highlight One Asset

Another nice challenge you can set for yourself when working on your lighting skills is to photograph an image designed to show off one particular aspect of the model's appearance—and to do this without dramatically compromising the lighting on the rest of her body.

Many photographers use frontal lighting when photographing models, because it gives a beautiful look on the face. However, it can also compromise the model's body by making it look very flat. To accentuate the legs in this shot for the model's portfolio (7-33), I used one light source (a 22-inch White Lightning parabolic) and placed it farther to the side than is normal in a beauty image. This was to accentuate the model's legs and body shape by creating the shadows needed to show depth and form. Note, however, that when you use a side-lighting technique to accentuate the body, it can cast shadows on the face that may not be attractive—especially for women.

To overcome this, you can direct the model to look toward the light so that it fills in the mask of her face. This works as long as it doesn't create an exaggerated shadow of her nose on the cheek. If the strong side lighting still picks up a few facial imperfections, they can be cleaned up in Photoshop. In this case, however, the lighting was used to create a split effect on her face. One side of her face is smoothly lit with almost no shadows (the beauty look), the other side is almost completely in shadow. There's so little detail visible on the shadow side, that we don't see unflattering shadows—it's virtually *all* shadows.

To keep just a bit of detail on the shadow side of the model's body, keeping it from going totally black, I positioned a white reflector to pick up stray light and provide a low level of fill light. Taking a few test shots and reviewing them helped me determine the best position for this reflector, ensuring I'd get the tonal values I wanted.



7-34. Explore ways to incorporate props in your images.

Use a Prop

Designing an image around a prop is another useful strategy to explore.

Practical Example: AK-47. For this shoot (7-34), my assignment was to create a high-impact photo for use in an upcoming movie. The plan was to shoot a model with a prop AK-47, using a low camera angle and dramatic shadows. Since this model has great legs, we decided to add sex appeal to the image by making her legs a secondary focus.

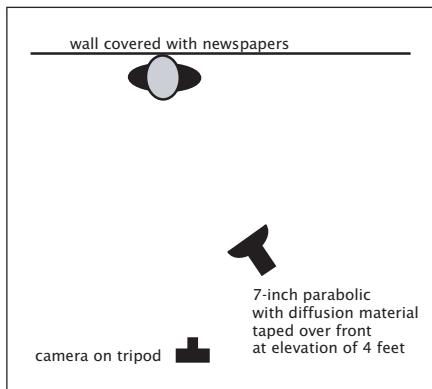
The most important lighting technique used here was patience—waiting for the right time of day to shoot. As the sun approaches the horizon, the light becomes warm and beautiful. The length of the shadows increases and they become more dramatic. In this case, I wanted the model's shadow to point down the road to draw the viewer's eye off into the distance. If you are working in the manual mode for a late-evening shot like this, be aware that the light will change rapidly and needs to be constantly metered.

Practical Example: Newspapers. The next image (7-35) was created as a promotional poster piece for makeup artist Wendalynn Nelson. In this case, the whole shot was designed around the prop: newspapers.

We used a rubber skull cap with strips of newspaper glued to it as hair. The background was also a wall of newspaper. Originally, the model was to have bare shoulders, but after a couple of tests shots it was obvious that the bare shoulders drew too much attention. Therefore, her shoulders were also covered with newspapers.

To light the image, I used a White Lighting strobe in a 7-inch parabolic covered with a diffusion gel. By using a hard light with diffusion gel, I was able to get the extreme contrast I desired. It was important that the viewer

The length of the shadows increases and they become more dramatic.



see shadows on the newsprint to add depth and dimension. Note that the model is also leaning up tight against the background. This eliminated the potential for hard shadows on the background.

To create a totally different look, some enhancements were made in Photoshop (7-36). First, the image was cropped and the contrast boosted. The background was duplicated and converted to black & white. The opacity of this layer was then reduced to allow the colors from the underlying layer to show through. After flattening the two layers, the model's eyebrows were removed using the Clone Stamp tool. To give her skin a porcelain look, a new layer was created (at 50-percent opacity) and white was painted over her face (avoiding the eyes, nose, and lips). On another layer, wide black lines were drawn around the eyes. These were then dramatically blurred to create the heavy shadowing effect. The same technique was used to create the vertical lines of shadow, making her face stand out dramatically.



7-35, 7-36. Newspapers were the genesis for this image, which is shown in its original captured form and after some postproduction enhancements.



8. Additional Tips

U.S./European vs. Asian Modeling Agencies

U.S. and European Agencies. For the major agencies in the U.S. markets and most of Europe, your photos in a model's original portfolio may be replaced. Agencies often have new models do shoots with established photographers in their area—both for the experience this gives the models and in order to introduce the new model to the photographers. The goal of the shots you will create for the model is to capture the attention of a major agency, and hopefully to obtain a contract for the model. As an added bonus, if your shots interest the agency, sometimes they will later use your services to test a prospective model found by their scouts as they tour the country.

Asian Agencies. For the Asian market, such as Japan and Taiwan, the portfolio will stand “as is.” The photos must be sent to Asia, where the model's comp cards will be printed and distributed to clients as part of a marketing effort that begins well before the model leaves the United States. Immediately upon arrival in Asia, the model must be ready to work. Time is of the essence, as a typical model's contract in Asia is normally limited to just two short months (although some models stay three months). Because of this timeline, a working portfolio is an absolutely necessity.

Agencies often have new models do shoots with established photographers in their area.

Comp Cards

In addition to a portfolio, models will need comp cards to get started in the business. This is a promotional piece, featuring photos and contact information, that she uses to attract potential clients. Usually, the model's agent keeps a good supply on hand, and the model has a few with her at all times. These cards are usually 6x9 inches in size, but can also be made the size of a postcard to be mailed as promotional pieces. There is usually one photo on the front and three or four on the back.

The Model's Comfort

When photographing models (especially inexperienced ones), it's important to make the shoot comfortable for them—after all, being in front of a camera and surrounded by lights can be intimidating for anyone. I love making models feel the confidence they need to be at their best on camera. I do this by focusing on their strengths and getting them pumped up about the shoot.

I also use stories to make it clear to them that being in front of a camera in the studio isn't like being in front of Mom's camera at a picnic. One of my favorite stories is about a *Sports Illustrated* swimsuit photographer who shot 40,000 pictures on location to get 60 for print—and that was with a full makeup and hair crew, photographic assistants, and professional models! The lesson is that not every photo has to be perfect.

In a portfolio shoot, it helps to remind your models that no one will see the photo before them. If they hate an image, they can choose not to use it.

Clothing

When shooting images for a model's portfolio, I have her bring a lot of clothes to the studio. The clothes you finally decide on should be ones that are not too trendy. These will look dated quickly and require more photographs be taken. Once a model is established, she can add more trendy items to her portfolio. For the amateur model, try to accomplish a few basic shots: a basic head shot, a glamour head shot, a basic full-body shot, etc. Show the model's beauty with a clean and fresh look instead of a highly stylized one.

When the clothes are an important part of the image, make sure that they fit right—or at least appear to fit right. You can use clips behind the model to pull clothes tighter if they are too big, or you can pose the model in some way that disguises the poor fit, but you have to do something. Otherwise, neither the clothes nor the model will look as good as they could.

Clothes can also be the source of inspiration for an image, so don't think of them only in terms of an accessory. When a unique or appealing or very flattering garment catches your eye, think of ways you could build an image around it.

The clothes you
finally decide on
should be ones that
are not too trendy.

Men vs. Women

When compared with those used by female models, male models' portfolios do not need to show as wide a range of looks or emotions. Men should be photographed looking very casual. A little powder will suffice for makeup. The photos should show the shape of the model's jaw; if he is shirtless, side lighting is also desirable to create harder lines and show off the chest physique. The idea is to convey a sense of power, almost treating the model like a sculpture.

Image Quality

The quality of photos in a model's promotional materials must be exceptional—even test shots must be carefully planned with a purpose in mind. Be fair to the models. Many agencies would rather see snapshots than poor-quality professional photos. Before every shoot, ask yourself what part of the model's "product" you are showing—her physical beauty, legs, lips, sensuality, etc.

Conclusion

Photography is an art that requires continual attention. Continually shoot personal projects to hone your skills. Those of you who put away your camera and don't shoot personal projects will soon lose the creative edge. A friend who is also a noted art director once said to me, "The next time you are wondering why you have chosen a career as an artist, think about this: The one thing that people with money will always pay for is creativity. I would like to add to that comment, "Don't ever lose your creative edge."

People are always telling me they wish they had my job. Well, no one gave me this job. I had to create my own niche, earn my reputation, and continually refresh my thinking, thereby refreshing my creativity. I didn't set out to be famous or to be rich. I shoot because I love to shoot. There are no rules on how to be a successful photographer. You too must do it because you love it. Don't give up, don't give in. Never stop learning and experimenting. Always keep creating.

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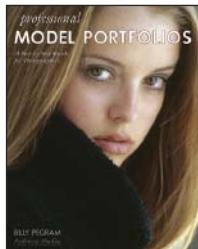
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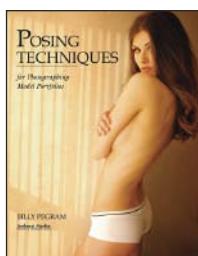
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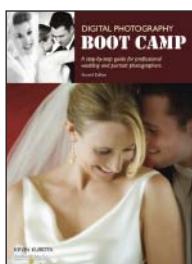
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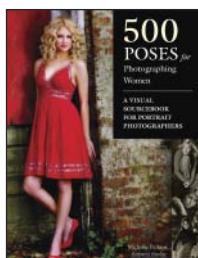
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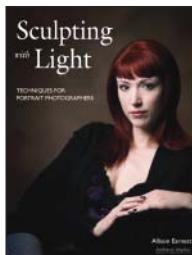
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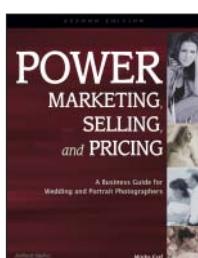
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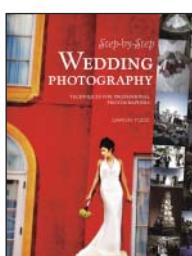


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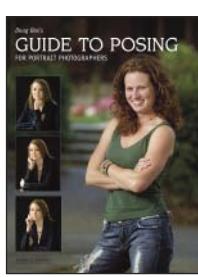
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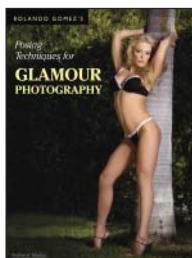
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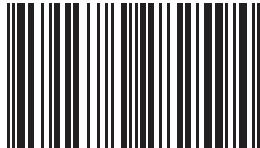
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