TABLETOP WORKSHOP

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QUALITIES OF LIGHT

There are 6 qualities of light.

The first 3 QUALITIES OF LIGHT can be measured. They can also be manipulated after a photograph is taken. You make decisions about these 3 qualities when you take a picture, but you have an opportunity to fine-tune them later.

1. BRIGHTNESS
   The brightness of a light can be controlled by the type of light, by its wattage, and by its distance from the subject

   Brightness is measured in candlefeet.

2. CONTRAST
   Contrast is measured by the ratio of the highlights and shadows in a photograph. The greater the ratio, the higher the light contrast. A smaller ratio lowers the light contrast.

3. COLOR
   Color is measured by degrees Kelvin. 2800-3400 K is a very warm red to yellow light. Household tungsten (incandescent) bulbs fall into this temperature range. 5000-6500+ K is a cooler bluish light. Daylight and studio strobes fall into this category.

   Color negative films and most transparency films are balanced for daylight (5000-5500 K). Most manufacturers make a transparency film balanced for tungsten (about 3200 K).

   You can use daylight film with tungsten light if you use a color correction on the camera or lights.

   Higher end digital cameras have white balance settings (daylight, shade, overcast, tungsten, florescent, etc.), and they also allow you to set a custom white balance for a specific light source.

The second 3 QUALITIES OF LIGHT cannot be measured. You make decisions carefully about these 3 when you take the picture because they cannot be manipulated later.

4. SPECULAR

   A specular light is an uninterrupted beam of light.

   It is small in size in relation to the subject.

   Specular light is hard light and casts hard shadows.

5. DIFFUSE

   Diffuse light is opposite of specular light. Interrupting the specular beam of light with any translucent material creates diffuse light.

   This light is larger than a specular light source.

   The light is also softer and casts more open shadows.

6. DIRECTION

   The direction of the light is very important because it shapes the subject and gives it form and dimension.

   The direction of the light should be chosen to best show the subject.

   If the subject has texture, side lighting will enhance that texture. If you want to minimize the texture, a more frontal light is required.

   You have to decide where you want the highlight to fall.

   The direction of the light illuminates the subject (positive area of your composition). It also casts a shadow (negative area of your composition). Analyze the positive and negative areas to make sure they work together. If they do not, try changing the direction of the light so the subject and its shadow are in harmony.

TYPES OF ARTIFICAL LIGHT

1. STROBES (STUDIO FLASH)

   Strobes are an excellent source of light. They are very bright (brighter than tungsten). This allows you to take photos with a short exposure & smaller apertures that create greater depth of field.

   They are balanced for daylight.

   Strobes can be expensive when bought new. Used equipment may be an option, but beware. Make sure everything works or can be repaired with minimum cost.

   Strobes require a flash meter to measure their brightness & give you a starting place to set your camera.

2. PHOTO FLOODS

   Photofloods are balanced for daylight.

   I usually use a 250W bulb, which is not as bright as flash.
   They are extremely hot. Buy special sockets with reflectors that are made specifically for these bulbs. SMITH/VICTOR is a good brand for this kind of equipment.

   They are not very expensive, about $3.50 for a 250W and $7.00? for a 500W.

   The photoflood bulbs will only last about 4 hours, so you should not leave them burning. When I turn them off, I allow them to cool before turning them back on.

3. HOUSEHOLD TUNGSTEN BULBS

   These bulbs are very inexpensive. I buy utility lights with a reflector and a clamp at Wal-Mart for $5.00. These may be rated for 60W, 100W, or 150W maximum. Check before you buy. I have all 3.

   They are not very bright. Longer exposures will be needed, possibly as long as 8-10 seconds.

   Household bulbs are NOT balanced for daylight film. Some sort of color correction will need to be used. 20x24 sheets of ROSCO gel material can be purchased for about $7.00 to be used between the lights and the subject. Also, you can use an 81A filter on the camera. These filters will increase the exposure time by 1-2 stops.

SETTING UP A COMPOSITION

START WITH A SUBJECT

I choose an object or a series of related objects that I want to photograph. I try to keep it simple. Once I have decided on the subject, I decide which brightness key I want to use for the shoot.

There are 3 basic brightness keys.

1. MIXED BRIGHTNESS KEY

   Most photographs have approximately equal values of light and dark tones. Neither dominates the photograph. This is a mixed key.

2. HIGH BRIGHTNESS KEY

   When light tones dominate a photograph, it is considered high key.

3. LOW BRIGHTNESS KEY

When dark tones dominate a photograph, it is considered low key.

MAKE THE SET

The set may take some thinking. I try different materials, light or dark for the background. Set it up, and play around with it.

START LIGHTING WITH ONE LIGHT

I start with only one light. That is the key light or the main light. In nature we have only one light source, the Sun. In the studio, the key light will be the "sun". Work your composition with the main light only. This may be all the light you need. Add more lights only when you need them.

METERING

After I have made my lighting decisions, I need to meter the light. A light meter is a tool, but it isn't smart enough to know what your scene or set is like (high key, low key, etc.).

There are 2 kinds of meters.

1. Ambient light meter—This type of meter will be needed if you are using natural light such as outdoors or window light or existing light like tungsten bulbs. The meter in your camera is an ambient meter. Hand-held meters are also available.

2. Flash meter—This type of meter will be needed if you are using strobes. Flash meters usually have a setting for ambient light as well.

There are 2 ways to meter a set or scene using an ambient or flash meter.

1. Reflective reading—meter the light that is reflected off the subject. When you use your camera's meter, you are getting a reflective meter reading. The camera meter will analyze the light reflected into the camera and give you shutter speed/aperture settings that will expose your photograph to an 18% gray. Suppose you had a high key scene like snow or a set with a white background. If you rely on the reflective meter in your camera, it will interpret the reflected light and turn that pretty white into a medium light gray, about 2 stops underexposed. It will do the same with a very low key background, except that the rich shadows in this set will be washed out to gray because that is what the meter is designed to do, give you 18% gray. This set will be about 2 stops overexposed.

2. Incident reading—meter the light that is falling on the subject. The easiest way to get an incident meter reading is to use a hand-held meter. The meter is pointed toward the light source (sun, tungsten light, strobes, window, etc).

This will give you a reading of the actual light without regard to the subject of the photograph. An incident meter reading is preferable to a reflective meter reading.

CAMERA CONTROLS

After I get the light the way I want it, and I have metered the light, I work on the camera controls. I decide if I want a narrow or deep of depth of field. A large aperture will make my depth of field shallow, while a small aperture will give me greater depth of field. I also need to decide what lens I want to use. Longer lenses reduce depth of field and narrow the angle of view.

START SHOOTING

I use my digital camera like a Polaroid. I shoot the set, evaluate, change things, and shoot again, etc. until I get the photograph I want.

Sometimes I leave things set up for days. As I walk past it, I get a new perspective on it and sometimes that sparks a new idea.

COMPOSITIONAL ELEMENTS

Here are some of the many compositional elements. Use them as guidelines to build your composition.

RULE OF THIRDS

Imagine a tic-tac-toe grid in the viewfinder of your camera. This divides your composition into thirds. Use these lines and where they intersect to position your main subject.

S-CURVE

Use the sweep of an S to create a composition that is soothing and peaceful.

BALANCE

1. Symmetrical balance is even on both sides.
2. Asymmetrical balance is uneven.
3. Radial balance starts at a central point and radiates outward.

LINE

1. Vertical lines are dominant. They are sturdy like trees. They imply alertness.
2. Horizontal lines are peaceful. They are quiet and relaxing.
3. Diagonal lines are exciting. They are powerful and bold. When diagonal lines are used as diminishing lines, they create the illusion of distance and depth.

REPETITION

Repeating shapes, colors, lines, textures, etc. creates a visually exciting photograph.

COLOR

Use color to make a statement. Bold colors are loud and exciting. Soft pastel colors are restful.

OVERLAPPING

Overlapping creates depth and sense of space.

SHAPE

Use a combination of shapes to create interest.

TEXTURE

Textures can be used in compositions to add variety.

CONTRAST

You can use contrasting colors, textures, shapes, etc. to build you composition.