

## **TYPES OF LIGHT and PORTABLE FLASH : A BASIC INTRODUCTION**

### 1. DIRECT — 2. DIRECTIONAL/DIFFUSED — 3. DIFFUSED

1. **Direct Light** is high in contrast. It creates bright highlights and dark shadows with hard, or sharp edges.



Examples of direct light:

- Sun on a clear day directly falling onto your subject
- A portable flash or photo lamp pointing directly at your subject

Dorothea Lange. Woman of the High Plains, 1938.

2. **Directional/Diffused light** is partly direct and partly diffused. Shadows are present, but they are softer and not as dark as those cast by direct light. Their lines are softer, their shape has more of a gradient from between light and dark light.

Examples of directional/diffused light:

- scattered sunny weather when the sun's rays come through in cloud patches or from the sky stretches between clouds.
- a shaded area, such as under a tree is a good example of a setting that has this type of light.
- a scene where the light is bouncing onto the subject primarily from one direction (e.g. a skylight, or large window).
- light from a flash or photo lamp can be directional/diffused if it is softened by a translucent material or if it is bounced off another surface.



Gordon Parks, Government charwoman, 1942.

3. **Diffused light** is low in contrast and bathes subjects in light from all sides so that shadows are weak or even absent. Colours are less brilliant than they are in direct light and are likely to be muted. Because diffused light is likely to be dimmer than direct light, you might not be able to use a small aperture with a fast shutter speed.

Examples of diffused light:

- a heavily overcast day creates diffused light because the light is cast evenly by the whole dome of the sky.
- indoors, diffused light can be created with a very broad source of light used close to the subject (such as light bounced into a large umbrella reflector) plus additional fill light



Gay Block. Alyson Cooper, 1981.

### NATURAL LIGHT vs. ARTIFICIAL LIGHT

NATURAL LIGHT: You can take great photos working with whatever natural light is available.



-A high ISO film is useful when natural light is dim. It will help you shoot at a fast enough shutter speed to stop motion or at a small enough aperture to give adequate depth of field.

Susan Worsham. Georgia, The Day After the Family Dog Died. Date Unknown.

**ARTIFICIAL LIGHT:** This type of light comes in various bulb formats. It includes every type of light ray that is not emitted from the sun.

-How well you measure your light readings, factor in the type of film you are using or use lighting equipment will greatly affect how well your images turn out when shooting with artificial light.



Philip diCoccia. Brent Booth, 21 years old, Des Moines, Iowa, \$30. 1990-92.

#### ARTIFICIAL LIGHTING EQUIPMENT:

1. *Continuously burning incandescent bulbs and "photolamps"* : Incandescent bulbs have been replaced in many applications by other types of electric light, such as fluorescent lamps, compact fluorescent lamps(CFL), cold cathode fluorescent lamps (CCFL), high-intensity discharge lamps, and light-emitting diode lamps (LED)

\*More on photo lamps and continuous lighting in expanded lighting lecture october 6.



2. ***Electronic Flash:*** portable, battery operated flash -->

Also referred to as "strobe" lighting. Power comes from either batteries or an electrical outlet. Some units are built into cameras, but more powerful, flexible equipment is usually a detachable accessory. Because electronic flash units offer a short burst of light synchronized with the camera's shutter, they freeze motion and are a good choice when you want to light unposed shots or moving subjects at night.

### **How the flash works:**

The flash must be synchronized with the camera's shutter so the flash of light occurs when the shutter is fully open. With a 35mm SLR, shutter speeds of 1/60 or slower will synchronize with electronic flash; some models have shutters that synchronize at speeds up to 1/300 sec. The speed at which the flash and shutter function together is called ***the sync speed***.

\*\*At shutter speeds faster than the camera's sync speed, the camera's shutter curtains are open only part of the way at any time so only part of the film will be exposed.

### ***Determining FLASH exposure:***

To calculate your own flash exposure, you need to know 2 main things:

- 1) The amount of distance the light needs to travel to the subject.
- 2) The guide number.

"The **guide number** represents an exposure constant for a **flash** unit. For example, a **guide number** of 80 at ISO 100 means that a target 20 meters away will be correctly illuminated with an aperture of f/4 ( $80 = 20 \times 4$ ) using a sensitivity of ISO 100." - Wikipedia

**BE ADVISED:** It is useful to know how this equation works BUT most flash units have a calculator dial that will do this division for you. Dial in the film speed and the flash-to-subject distance and the dial will show the correct f stop. Just look on your own portable flash for the small chart and you will figure it out.

### ***ATTACHING THE FLASH***

Most detachable flash units that come with manual 35mm cameras slide onto a slot on top of the camera called the shoe or "hot shoe plate" and can be tightened there. There is a sensor on the camera there that syncs to your flash.

Please note:

***You may want to read ahead in detail about portable flash and lighting types in the course textbook on reserve in the library:***

***(pp 128-139 A Short Course in Photography Barbara London, Jim Stone)***