Topic 38

Flash Photography

The reason to use flash is of course that flash is very bright (and very fast) for easy camera exposure. In comparison, the brightest light bulbs are dim for photography, not near sunlight bright. Without flash, even well lighted rooms will suffer from long slow shutter speeds, or high ISO, or both. Light bulbs can be fine for still life photography, when a one second shutter is no problem, but which is unacceptable for pictures of people, who tend to move. Flash also allows us to create the lighting, to be like we want it, to place flash wherever we want them, and to be made soft as we might desire, etc.

Flash photography is many things. There is on-camera flash and off-camera flash, manual flash and automatic TTL flash, and direct flash and bounce flash. There is fill flash in bright sun, multiple flash units, studio and portrait and table top flash in umbrellas, high speed flash, and more. Lighting is a big and fun subject, but before anyone can get much into "lighting", there are a few more fundamental basics we need to know, about "light". In all of these cases, there are basic differences between flash and existing continuous ambient light. Flash is not difficult, it is just different than either sunlight or regular continuous room light, and we need to understand flash too.

In short summary, the major points, the really big deal about flash, is:

- The intensity of any near light source falls off fast with distance. Therefore, flash can achieve a correct exposure at only one distance. TTL automation can determine that exposure, but we also need to know that relative to that subject distance, any distant background is necessarily underexposed; any close foreground is necessarily overexposed. Bounce flash can help to minimize this, but distance is a huge issue for flash, with huge implications concerning our use. But in drastic contrast, sunlight is quite unique, very special because the Sun is so distant that its intensity appears not to vary with subject distanc.

- Flash pictures involve two exposures, flash and ambient, with two different concepts of rules.
- Flash is typically very fast, shorter duration than the shutter duration (the shutter merely needs to be open when the flash occurs). Speedlights in particular can be very fast, easily stopping extreme motion. But therefore, flash exposure is not affected by shutter speed. But of course, continuously available ambient light (continuous light) is still affected by shutter speed, like we always understood. Since flash exposure does not care about shutter speed, but shutter speed does affect any continuous ambient light, then specifically, we can use shutter speed as a tool to adjust the ratio between flash and continuous light in our photos.
- Flash is convenient to modify the light itself, as we desire, for example, large close lights (umbrellas for example) are very soft light with vague diffused shadows, instead of the harsh dark shadows from a small light source. Photography of course has other important factors (composition, lighting, etc), but flash is simply about adding light, and flash exposure is simply about adjusting the flash power level to deliver the right amount of light to the specific distance of your subject.
- Flash imposes a few limits we work around, like flash power capability and flash range is limited. Also our maximum shutter speed has a limit (maximum shutter sync speed, which varies with camera model, but usually in the ballpark of around 1/200 second maximum shutter sync speed). And waiting for flash recycle time between pictures can be a factor. But flash also allows us control over more things about the light in our photos - direction, intensity, soft light from umbrellas, etc.

Flash is just a light that we can aim. In one way, it is just another light source, but we can aim flash where we want it (lighting), and we can turn its power up or down (exposure), to deliver the lighting and exposure we want. It is not rocket science. Our picture shows everything that happens. For Exposure, we simply adjust the flash intensity to give the result we want at the subject. In manual flash modes, we simply adjust flash power level to do this. In TTL flash modes, TTL automation gets it close, and then we simply adjust Flash Compensation to adjust this level for our preference. Either way, manual or TTL, if it is too bright, then turn it down, etc.

Flash can be necessary, and it can be a big help. The simplest tips for universally better hot shoe speed light snapshots are:

- Pictures indoors need flash of course, and specifically, **Bounce Flash** offers much better lighting. Aiming the flash head up at the ceiling is simple, not always possible, but better lighting is almost automatic when it is possible. Direct flash is flat uninteresting light, but bounce is from an off-camera angle, causing soft graduated tonal shading that shows shapes, and is greatly improved as bounce does need more flash power.
- Pictures of people outdoors in bright sun need fill flash, to lighten the dark harsh shadows. **Balanced flash** mode is designed to do this, and even the little popup flash will help, if the distance is not too great. Of course, finding some shade is always good (softer light), but a little fill flash is still needed.
- The control of automatic TTL exposure is done with Flash Compensation. Simply adjust Flash Compensation as seen needed. If TTL automation gives too much flash, turn it down a little with -EV Flash Compensation, or vice versa.