THE CHARACTERISTICS OF LIGHT

You Should Understand as a Photographer

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“The Entire principle of photography is to control the light…”

The Characteristics of Light You Should Understand as a Photographer

Light is the fundamental medium for any photographer.

The entire principle of photography, is to control the light, shaping it to create the image that we desire. To become truly proficient as a photographer, you need to fully understand light and your role in directing it to your camera’s sensor.

In this chapter, we are going to take a look at the characteristics of light.

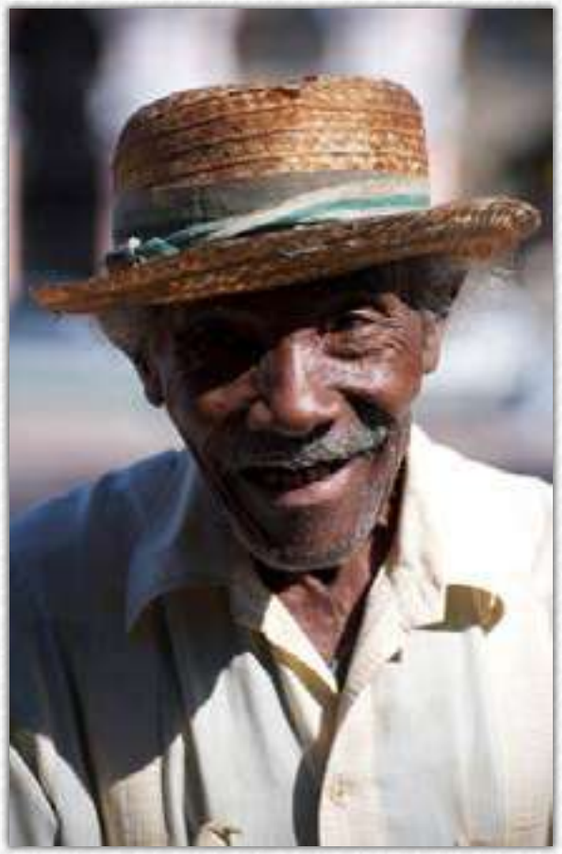
LIGHT AND SHADE

Light and Shade

"The light illuminates our subject, the shade defines it..."

Perhaps one of the most basic principles to understand is that great images do not come from light alone, they come from a combination of light and shade.

Whilst the light illuminates our subject, the shade defines it, the shadows adding depth and contrast. Perhaps the easiest way to understand this is to imagine a shot where the flash has completely obliterated the subjects face. The image is entirely unusable, the subject unrecognizable.

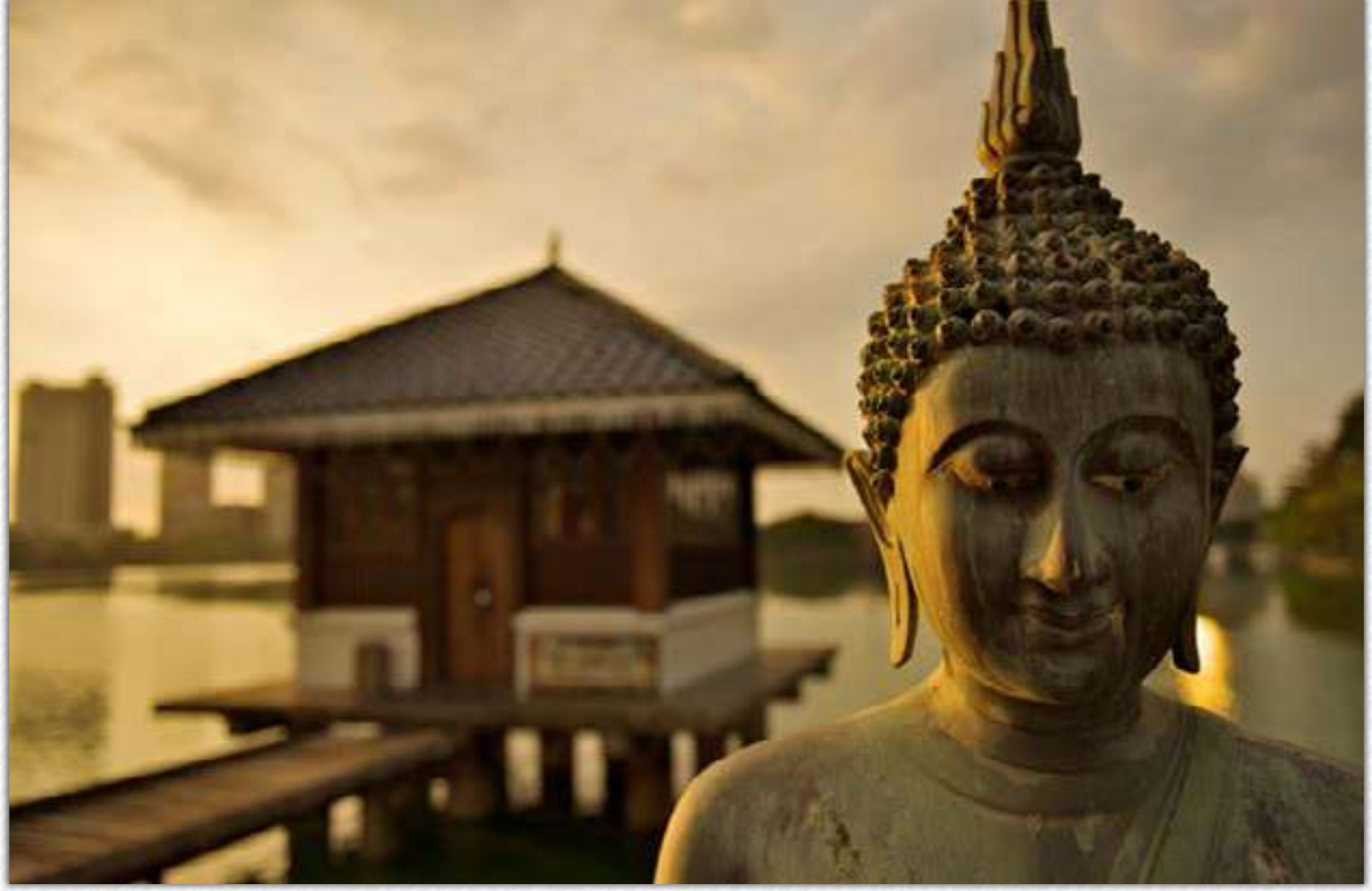


The harsh light of the midday sun

What we need in the image is the shade and to get that, in the case of the flash, we can do two things, reduce the exposure in the camera or reduce the power of the flash. Both will do the same thing, and that is introduce shadows in the image creating depth. Of course that's not the entire story, the other piece to the light and shade jigsaw is the position of the shadow.

Anyone who has ever observed a sundial quietly going about it's business, will realize that the shadow is directly related to the position of the sun in the sky. In summer, in the middle of the day, with the sun high in the sky, the shadows are short and intensely black. On a winters day in late afternoon the shadows are long and soft.

It is this variation that we must use to our advantage to create great images. You will know that shooting in the midday sun, whilst giving you rich colors, can and often does make your images look flat and uninspiring. This is because the small and harsh shadows do not give any modeling to your scene.



In high contrast scenes, the shadows are so black that there is no definition in them, we cannot even see what is supposed to be there.

"Golden Hours - the time just before and after sunrise and just before and after sun-set..."

The obvious solution is to shoot at a different time of day, a period known to photographers as the Golden Hour. There are in fact two Golden Hours, the time just before and after sunrise and just before and after sunset.

This is the time when the sun's rays are creating long soft shadows, giving great depth and soft contrast to our scene allowing our eyes, and indeed our sensors to see into the shadows.

The other main element to the light and shade story is your position to the light.

When we are first told about photography, usually by people that are not photographers, we are told to “stand with the sun to our back” in order to take good pictures. One of the elementary skills you will learn as a photographer is that this entirely untrue.

You can in-fact stand in any position, the key is understanding how to control the light, for example if shooting straight to the sun, use some sort of shade to prevent the suns rays causing flare on the lens unless that is the effect you are looking for. You can make some great portraits by shooting towards the sun but to do this you will need to introduce a second light source to illuminate your subject, for example a flash or reflector.

“the key is understanding how to control the light...”

Of course throughout this section on light and shade we have talked mainly about our light source being the sun, however, all the above information is entirely relevant whatever light source you are using be it the sun, flash or continuous light or reflected light.

THE COLOR OF LIGHT

The Color of Light

"Color temperature is measured on the Kelvin scale..."

The second main characteristic of light is its color.

We wont dwell too much on this as it is being covered extensively in a chapter of it's own. Our eyes are pretty amazing things, way more adaptable than even the very best sensors. For that reason, we often do not see the color of light other than a golden sunset or a bright blue day. However the color of the light is changing subtlety every minute of the day.

Color temperature is measured on the Kelvin scale, the lowest temperature we would usually find in photography is around the 3000 degrees Kelvin. This equates to a very red light such as that we see in a sunset or from a tungsten light bulb.

Noon on a sunny day would be around 5500K and at the upper end, some flashguns will output a light of around 10000k, which is at the blue end of the spectrum and explains the blueness of flash pictures taken on Auto White balance.

The auto white balance on our cameras is a software algorithm that works out what it believes the scene in front of us should look like, however, what it is in fact trying to do is neutralize the color. This is why if you shoot that magnificent golden sunset with auto white balance, you may well be disappointed that the final image shows little or none of the rich colors you though were there.

The secret is to use either the manual white balance or to shoot Raw, which does not apply any color balancing to the image. You can then recreate the real look of the scene in post production. Take a look at our chapter on color temperature to get an in depth look at this important characteristic of light.

SOFT OR HARD

"A light source's softness is created by a combination of it's intensity and its position to the subject..."

Soft or Hard

We alluded to the softness and hardness of light in the section on light and shade but it is another very important characteristic of light. A light source's softness is created by a combination of it's intensity and its position to the subject.

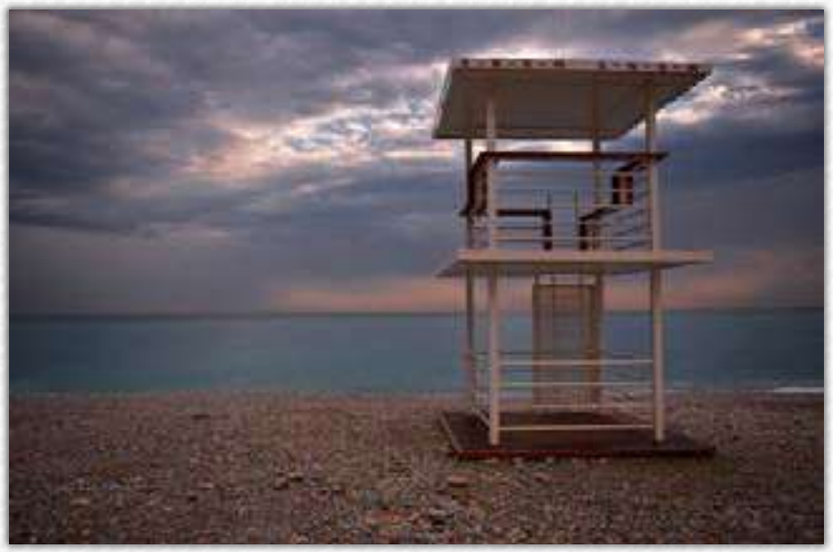
As we said, a bright noon light casting short dark shadows is commonly called hard light, here the sun is intensely bright and is also directly shining onto the subject. Another prime example of this is direct flash from a camera mounted flashgun.

Hard light is identified by hard deep shadows and flat bright illumination of the subject, and usually comes from a small but intense source. This is a combination that leads to hard light's characteristically high contrast.

Conversely, soft light comes from a diffused or reflected source, so the soft light you see at sunset has been diffused by the increased amount of atmosphere it has had to travel through and has much lower angle to the subject. In the studio, soft light comes from the large soft boxes placed over the flash heads or from the reflectors. Another classic example of soft light is the flat even light you get on an overcast day, the clouds acting as one giant soft box to the hard light of the sun.

In general terms, the hardness of light is defined by it's ability to "see" around corners, in other words it's ability to add details to the shadow areas of an image.

Understanding light is the most important element in unlocking the potential of your photography. In the studio we can choose what types of reflectors or soft boxes to attach to our lights and where to position them.



Soft light from an overcast day

“Although you may not directly control the light, you can make informed decisions on what subjects to shoot and at what time of day…”

Outside, although you may not directly control the light, you can make informed decisions on what subjects to shoot and at what time of day as well as under what weather conditions.

For example, you are out in hard light and wanted to shoot some people shots, maybe reconsider and look at using that hard light to punch out the sharp angles and bright colors of an interesting piece of architecture.

Understand light and you understand photography.

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Jason Row is a British born travel photographer now living in Ukraine. You can follow him on The Odessa Files. He also maintains a blog chronicling his exploits as an Expat in the former Soviet Union.

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