

Portraiture By Sun Light

This article belongs completely to Ed Shapiro, a professional photographer, who contributed a lot to the art. It is based on the content of a topic of forum. I have to thank Ed for covering this topic. I could not find any place where Ed gathered and published his knowledge, so I decided to extend the audience of the forum where he posted this topic. So here it goes...

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Photography - from the Greek words Photos (light) Graphos (drawing) - in modern terms "imaging with light". As portrait photographers, it is imperative that we study light as a physical and aesthetic phenomenon, in order for us to fully understand our most important and basic tool.

The first use of the word "photography" can be traced back to a letter from Herschel to Fox-Talbot dated January 17, 1839. The first published paper using the word "Photography" appeared in March of that same year. We can assume that the only common practical light source, in those days, was natural light in all its' incarnations and configurations. Modern photography includes all useful processes for the production of images through the action of radiant energy on sensitized materials.

Even in the days of Fox-Talbot, I am sure there were scientists attempting to harness fire, invent new fuels and other forces for the purposes of creating light - other than from candles, torches and other primitive implements. With early sensitized materials they (the early pioneers of photography) probably could not conjure up enough foot candles to successfully form an image on the whatever rudimentary substances that they had.

Today, as in days of yore, the best, cheapest and readily available source of radiant energy is our old friend the sun. Because the sun light in all its' forms, incarnations, configurations and modifications is THE only completely natural light source here on earth, some study of our nearest star is certainly in order. First a little "science".

Astronomers classify our sun as a dwarf star which is the most important object in our solar system. All life in the solar system is ultimately dependent upon radiation from the sun. All forms of power production, with the exception of nuclear energy, originate from it. At 93,000,000 miles away from our planet, the sun influences every aspect of our lives from enabling the growth of vegetation, to our warmth, or lack thereof to our mood when sunshine is present, or when it is covered by clouds. It can change the wave movements in the oceans and influence the behavior of radio waves. The sun's makeup is gaseous throughout and its central temperature is 14×10^6 to the 6th power degrees Kelvin - That hot! - it makes an erupting volcano with molten lava and magma seem like a birthday candle. The sun is made of several layers but the photosphere is the one that should interest photographers- that's where the light comes from. The effective color temperature is 6000 degrees K. which, give or take a few degrees (depending on the time of day) works well with daylight balanced color film, all black and white film and films that are infrared biased. Sunlight incorporates the entire optical spectrum which is also a practicality for photographers. The actual color temperature of sunlight (for purpose of color photography) is approximately 6000 degrees K. and varies with the time of day, the angle at which the rays of light penetrate our atmosphere and the presence of particles in the air caused by such things as pollution, visible fumes and other such phenomena. The effective color temperature also varies with cloud cover, atmospheric haze and precipitation. This very oversimplified science lesson is just to lend some background to the usage of natural light in portraiture and other specializations in photography. My apologies to any real scientists out there, but please realize that all comments herein are directed towards applied photography, not rocket-science. Suffice it to say that the sun, that wonderful mass of gaseous explosions millions and millions of miles away is not only an awesome field for scientists and theologians, but for artists as well.

The sun itself, as seen on earth and its' relationship with mankind, has been the subject of countless primitive recordings and works of art since the beginning of recorded history, and now in the form modern photographs. Images of the sun appeared on the walls of caves and tombs unearthed by archaeologists and studied by anthropologists. There are biblical references, literature and scientific artifacts pertaining to old sol. The very early

images were scribed or carved in the form of symbols that were graphic in nature but without the illusion of depth or dimensionality.

The Old Masters (painters) discovered ways of reproducing the play of light on the landscape and on the human form on their canvases. Unlike their primitive counterparts, these masters were able to SEE light and developed quite sophisticated techniques to create a new sense of reality in their works. The "chiaroscuro" phenomena (the concept of light and shadow) emerged from the early Italian School where complex under-painting techniques were incorporated to create incredible depth and realism, especially in the likenesses of people. The aesthetics intrinsic in these masterpieces laid the ground for traditional portraiture through the ages and likewise for classical photographic portraiture as we know it today.

The Bible teaches us that the Good Lord created the sun (light) in 1 day. That was a big job and He didn't have any more time to devote to that part of the project - what with the rest of creation to contend with, a 6 day deadline and with Adam and Eve pulling those "snake" shenanigans in the garden, He only could give us one sun. ONE LIGHT SOURCE! For us photographers- a giant light bulb in the sky. As the early masters of art discovered and have passed down through the ages, is that a realistic interpretation of scenery, structures and people entail only one apparent source of light reflecting from the surfaces of all objects and persons. The light source is unidirectional whether it directly from the sun, reflected sunlight from a surface such as a wall, coming through a window, door or skylight, filtered through the atmosphere, clouds, and/or any translucent material, (man made or natural). Light can also be found in other areas of the sky where the subject is not directly lit by the direct rays of the sun. These lighting forms, to the eye, seem more multidirectional or ambidirectional than direct sunlight, but when some of those old masterpieces are studied, one will notice the artists recognized that trees, structures and other elements provided the light and shadow effect that skilled photographers today call subtractive lighting. There is no doubt that the masters could SEE LIGHT in all its configurations, colors, moods and directionality and the success of their work was, to a significant degree, based on their keen observational talents.

Back to photography- Isn't it nice to know that the so called RULES of classic portraiture were not made up by a bunch of old stodgy reactionary guys at the P.P. of A. executive offices? I'm sure many of you out there imagine them dressed in thread worn tweed jackets and bow ties (even the ladies) with their Masters medals around their necks, some clutching a dilapidated bulb from an air driven Packard shutter in their bony hands, sitting at a boardroom table making up the rules. Some of them smell of camphor because they forgot to remove the mothballs from their pockets. All untrue - fact is - that some traditional photographic organizations continue to perpetuate certain time honored aesthetic principals that have become axiomatic, especially in the fine art of rendering the human likeness as illuminated by our sun or reasonable facsimiles thereof.

If you are a photographer who was born and bred in studio environment and feel somewhat out of technical control when working out of doors - all you need to do to regain command of things is to reassign the functions of your studio lights to the sun and a few simple tools. If you a dyed-in-wool natural light photographer who wants to gain more lighting savvy in the studio or other artificial light venue - all YOU need to do is simulate natural light in the studio with some slightly more complex contraptions and you are home free. If you are a total newcomer to lighting for photography just dig in, read on and have a good time.

For the purposes of this article, I will discuss the comparison between classical portrait lighting, using the sun as a standard source, to studio instrumentation and methods. Simply stated - you can find the light or make the light.

One basic concept of classical portraiture is to create a likeness- an undistorted and easily recognizable image of a person especially the face. Lighting plays an important role in this theory. Another imperative aspect of lighting is to create modeling, roundness, a sense of a third dimension while defining and separating the planes of the face. Yet a further facet, in portraiture, is the rendition of texture in the skin and clothing of the subject. Last but not least there is the photographer's ability in shaping of the face so as to flatter and enhance the subject - a most definite component of fine classical portraiture and definitely a function of lighting as well as posing the subject. All of these lighting functions are the job of the MAIN LIGHT which could be a simple electrical flood lamp in a 12 inch parabolic reflector, the same configuration using electronic flash, or the sun.

We are speaking about ONE light source. Having 2 or more visible light sources would be confusing to the eye and would in some ways distort the natural likeness of the subject. Remember - we have only ONE sun. The key work

here is "VISIBLE". As we all know, modern photographic studios and outdoor set ups entail many supplementary lights and reflectors. The most realistic and beautiful images result when only ONE light source is apparent to the viewer. We use the other lights to "fill in" the shadows because, to date, no photographic materials or electronic medium has the brightness range of the human eye. Ergo, important information in the shadows would be lost in the resulting photographs and even with processing manipulation, could appear unnatural in the final print. The use of a fill light source is very critical as well because it can merely normalize the brightness range deficits in the film and paper or allow the photographer the artistic license to alter the image and create ambience and mood in the final work. Other lights are incorporated to extend the glow of the main light (such as a hair light or kickers) but much skill is required to preserve the one light effect. UNITY of lighting is one of the most quintessential properties of professional portraiture.

Over the years, portrait photographers have given names to various lighting patterns as they appear on the face of the subject. Some of these lighting forms are named for famous masters such as Rembrandt because early photographic portraitists who were artists by training, were influenced by the work of the old masters and sought to emulate their usage of light. It became evident to these pioneers of photographic portraiture that these lighting patterns would lend a valid likeness to their photographs. Other lighting patterns are named by their light and shadow effects on the face using the landmarks of the face to describe the lighting's appearance on the face. For example, When a frontal view of the face is lighted by a simple parabolic flood lamp from a position in front of the face but higher than the face, a butterfly like shadow appears under the nose. A small reflection of the light, called a catch light, shows in the 12 O'clock position in the eyes, ergo "butterfly lighting". When the same light is moved laterally, approximately 35 degrees from its' original frontal position, the shadow under the nose takes on the shape of a loop - the catchlight in the eyes no moves to the 11 or 1 O'clock position. This is called modified butterfly lighting or loop lighting. The shadow cast by the nose and the position of the catchlight in the eyes serve as indicators that the photographer is on the way to successful facial lighting. Lighting by landmark is a good start however, the skill lies in the hundreds of variations and nuances that stem from these basic lighting plans. Butterfly lighting fundamentally defines the face and works well, aesthetically with symmetrical faces. Loop lighting produces more modeling and flexibility in technique to shape the face. All of these lightings, of course, are to be observed from the camera position. These are only 2 very rudimentary examples of lighting forms. If we were to leave everything position for a loop lighting on the subject and walk away from the camera on the shadow side of the subject, at the 35-40 degree we could observe the loop lighting effect on the face in the classic 2/3 camera position. At 90 degrees on the shadow side, we can see the classic profile or rim lighting. Many other lighting situations will be discussed in later posts.

Back to the sun - On a bright sun day, we can ostensibly create any of the aforementioned lightings. Since we can move studio lighting apparatus to create our lighting effects at any time of day or night and we can not "move" the sun, there are a few time restrictions when we use unmodified sunlight as our main light for portraiture. We have to work in the daylight hours ideally from sun rise to 10 or 11 a.m., depending on your geographical local and again from around 2 p.m. to sunset once more, depending on your global position. High noon is siesta time for photographic portraiture by direct sunlight because the lighting would be unflattering and would obscure important features of the face with "bad" shadows. The top of the head would receive a brilliant highlight which would diminish about the forehead region. The eye brow (orbital) area of the facial structure would cast shadows in the eye sockets thereby obscuring the brilliance of the eyes and the nose may cast a shadow onto the lips and chin that tends to fragment the facial features. If the subject is actually facing the sun, squinting and other contorted facial expressions will occur due to the subject's discomfort. In the morning and especially late afternoon we will see those classical lighting forms appear on the face. We find the light by repositioning the subject until the lighting is right. At this time of day the sun is lower in the sky and has the directionality needed to produce aesthetically pleasing highlights and shadows - the same chiroscuro miracle that the old masters saw hundreds of years ago.

Ed Shapiro