



# The Image – Monthly NEWSLETTER

## The Abertawe Photographic Society –

Based near the heart of Swansea, Abertawe Photographic Society is an established, friendly and welcoming club, who's members both amateur and professional all share a common interest, in all aspects of photography.

Whether you are a complete beginner or a seasoned snapper, interested in digital techniques or 35mm film, there is a warm welcome by a likeminded group of people sharing in the search for the perfect image.

By sharing, not only our enthusiasm but also our skills, techniques and knowledge, we all grow as a club and by trying new things we all get the opportunity to stretch our boundaries. All members are encouraged to take part in club events.

The Society meets every Tuesday at:  
**Greenhill Community Centre**  
 Chapel Street, Dyfatty,  
 Swansea.SA1 1NB.

## This Month's Events: December

7<sup>th</sup> Editing Images & **Comp Hand-In**

14<sup>th</sup> Open TBC

21<sup>st</sup> First Monthly Competition – Tim Fernside

28<sup>th</sup> Reading Photos – Rob Mitchell

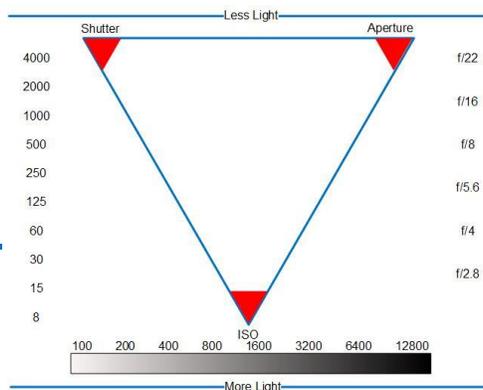
## 2017 Presentation Evening

Tuesday 31<sup>st</sup> January was the APS Presentation evening. Members & Guest were treated to a Chip Supper, courtesy of Pendery Chip shop prior to guests Brian Coleman & Sue Jennings presenting the trophies. Congratulations to the 2016 All Winners:

Title	2016 Winner
Beginners/Newcomers Trophy	Dave Jones
The Dave English Award	Mike Hopkins
Wildlife	Darren Boxer
All Winners Mono Print	Trevor Evans
All Winners Colour Print	Darren Boxer
All Winners Digital/Slide	Darren Boxer
Annual Portrait Digital/Slide	Mike Evans
Annual Portrait Mono Print	Helen Parker
Annual Portrait Colour Print	Peter Wells
Annual Colour Print	Ferenc Bliszko
Black & White Challenge Shield	Helen Parker
Digital/Slide Challenge Shield	Jeff Driscoll
Colour Print Challenge Shield	Jeff Driscoll
The Sue Jennings Cup	Darren Boxer

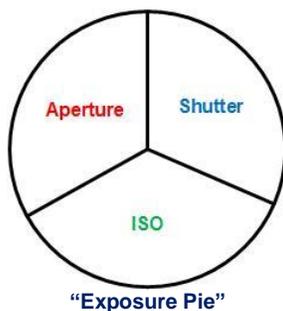
## Attempting to Explain the Exposure Triangle

I'm sure you have all heard of the Exposure Triangle, which relates to what is probably the most important rule in photography. I have encountered triangles throughout my working life where they are used to explain certain aspects, for example the Fire Triangle (Fuel/Oxygen/Ignition Source, and many others, which I'm sure many of you have come across. Often I have inverted the triangle for various reasons, sometimes to show a clearer understanding of its meaning, which is what you will see I have done here.



Triangles have been around since ancient Greek times when mathematical scholars first used them, in certain parts of the World they are used as magical or good luck symbols, such as in South America. The latter, is a strange one for me as all triangles have three sides and contain 180 degrees, divide the three sides into the 180 and you get 60, which means you have the devils three 6s.

So getting back to the Exposure Triangle, and I have found it not the easiest analogy to use. It was however explained to me in much simpler terms with the use of the "Exposure Pie". This represents a pie that is split into three equal portions, each portion representing Aperture, Shutter Speed and ISO, as shown below:



Let's assume that the Aperture is set at f/8, ISO at 100, and our Shutter speed at 250. If you decide to cut your pie into different size segments, perhaps your Aperture segment to 5.6 (one stop lower), then your Shutter Speed pie segment becomes larger, i.e. 500 (one stop higher). So in essence, if you want a bigger or smaller portion of the pie then one of the remaining pie portions must be smaller or bigger respectively.

## Understanding What Exposure Is:

In order to be able to use your digital camera effectively and take great images you need to understand you need to understand exposure. You may have been able to take decent images when you first had your camera, but once you have an understanding of exposure, you will find the pictures that you produce are great images.

## Understanding Why You Need to Change Your Camera Settings:

You first need to understand what **exposure of the image** is and how will it affect your photographs. Exposure is a general term that refers to what is probably the two most important fundamentals of photography – it refers to control of the lightness and the darkness of the image.

Your camera has a built in light meter, which controls the exposure. This light meter determines what the correct exposure is by setting the Aperture (f-stop) and shutter speed. Although the Aperture may be confusing as the lowest number, e.g. 2.8 is a bigger lens opening than the f22. It's actually a fraction, whereby the *f* represents the focal length. The aperture is determined by dividing the lens focal length by the aperture. f/2.8 would be 1/2.8 versus f/22 which would be 1/22. If you look at it like slices of a pie, you would get a lot more pie with 1/2.8 than you would with 1/22.

This can be frightening to achieve the correct aperture and shutter speeds on every picture to get the light right or the lightness and darkness and exposure. Perhaps a good way to understand this is to think of a bucket of water with a hole in the bottom. If you have, a large hole in the bottom of the bucket (large aperture) water will drain out quickly (fast shutter speed). Conversely, for the same amount of water, if you have a small hole in the bottom of the bucket (small aperture), the water will drain out slowly (slow shutter speed).

Exposure or lightness and darkness in the picture are a combination of the aperture, which is the size of the hole in the lens, and the shutter speed, which is the length of time that the shutter is open. So, if you leave the shutter open longer, you're getting more light to the digital sensor, and the picture gets brighter, or lighter. If you shorten the exposure (give less light to the film or to the digital sensor), the exposure gets darker. Longer shutter speed: more

exposure, more light; shorter shutter speed: less exposure, less light.

Here's a simple example to help further understand the aperture of f-stop. Let's say you have lens with a focal length of 50mm and the f-number is f/1.8. The f-number is determined by focal length/aperture as shown below:

$$50\text{mm Focal Length} / f/2 = 25\text{mm Iris Opening}$$

### Manual Mode:

When I first bought my camera, and of course not understanding all of its functions, I continually shot in P mode, where the camera attempts to understand the correct Aperture, Speed and ISO as well one or two other aspects such as White

|Balance.

Just after joining APS and signing up for a basic camera course locally I soon learnt the art of shooting in Manual Mode as well as Aperture Priority and other modes.



By studying my camera's controls I soon came to learn that in the Manual Mode you can set both the aperture and shutter speed. I also learnt to realize that if I really wanted to take better pictures I needed to control the light, the exposure, then I needed to use the manual exposure mode, and asked myself the question, "Why would I want to change your Aperture, Shutter Speed or ISO?". There are different reasons to do so, and it's important to understand these reasons.

### Why You Would Want to Change the Aperture:

As you will probably understand, aperture is quite important to control the picture as it lets in light, and light is the most important aspect for your image. Without light, you won't have an image. For many photographers, and some competition judges if you wish, the aperture is far more important to achieving great pictures than the shutter speed, because it controls the depth of field of the picture, whereas it's more difficult to tell if a picture was shot at 1/250 or 1/1000 of a second.

Here are some reasons why you would change the exposure:

- ✓ Set the aperture to control both the light and the amount that is in focus, in other words, the depth of field.
- ✓ Set a wide opening, like f/2 or 2.8, to blur the background and have your subject razor sharp. Also, you'll probably want to use the largest aperture when shooting in low-light, in order to prevent blur.
- ✓ Shoot a medium aperture, 5.6 or 8 so the subject is sharp and background is slightly out of focus but still recognizable.
- ✓ Shoot at smaller apertures, like f/11 and possibly smaller, for a landscape picture when you want the flowers in the foreground, the river, and the mountains all in focus.

Please note that depending on your format, tiny apertures like f/16 and smaller will cause you to lose sharpness due to diffraction effects.

### Why You Would Want to Change the ISO:

Changing the ISO on your digital camera will control the camera's sensitivity to light. Therefore, on a bright sunny day we would want to set the camera to be less sensitive with an ISO of 100. Conversely, in low light where there's less ambient light, you require more sensitivity in the camera, and you will need to raise the ISO to possibly as high as 1600, or perhaps even higher, in order to allow more light so that your image is not blurred and dark. But remember, a low ISO (100) will give us less noise in our image, and a higher ISO will give us more noise.

So how do you determine what ISO is required for your image? For those of who used film you bought the film for the light you would be shooting in. Therefore, today you set the ISO depending on the light you will shoot in.

### Why Would You Want the Shutter Speed?

By setting your camera's shutter speed you can freeze motion or show movement. If you're shooting a picture with your camera hand-held, you will need a shutter speed that is as fast as or faster than the focal length of your lens. In other words, if you were shooting on a 100mm lens, a shutter speed of 1/100 of a second would be optimal. Camera blur can be eliminated at these speeds. Here is a table of Typical Examples of shutter speed:

Shutter Speed	Typical Examples
1 - 30+ seconds	Specialty night and low-light photos on a tripod
2 - 1/2 second	To add a silky look to flowing water Landscape photos on a tripod for enhanced depth of field
1/2 to 1/30 second	To add motion blur to the background of a moving subject Carefully taken hand-held photos with stabilization
1/50 - 1/100 second	Typical hand-held photos without substantial zoom
1/250 - 1/500 second	To freeze everyday sports/action subject movement Hand-held photos with substantial zoom (telephoto lens)
1/1000 - 1/4000 second	To freeze extremely fast, up-close subject motion

For low light or nighttime photography, where you will need more light to come through your lens/shutter, you will need to set your shutter speed to a 1/13<sup>th</sup> or 1/15<sup>th</sup> of a second, or perhaps even longer.

### Some Last Piece of Advice:

If you can't get that great exposure you were hoping for, don't worry. In such instances err on the side of underexposure, in other words let your image be a little darker. When a picture is over-exposed, all of the information is lost and cannot be recovered. With underexposed pictures, you have a greater chance of recovering the picture through post-processing in Photoshop or other programs. You can set your camera to underexpose by using EV compensation (exposure value compensation).

Another good piece of advice, which I have mentioned in previous editions of the Image, is to know your camera, and until you do, always carry with you your camera's User Manual for reference.

Well I hope I have cleared up some of the mystery behind the exposure triangle, maybe not? If any of you have further clarity do not be shy in coming forward.

### You and the Law:

A conversation that has been asked on a couple of club nights is "Am I legally allowed to take photographs anywhere?" Well the answer to the question is YES and NO.

Why YES and NO, well it all depends where you are photographing and really who you are photographing in some instance.

### Photography and the Law:

In the UK there is no Law which prevents you from taking photographs in a public place. However, there are other laws that you may be arrested for, but that depends largely on you, or your character/demeanor.

Police have the authority to 'Stop & Search' but only if they suspect that you may be carrying drugs, weapons, stolen property or items that could be used to commit a crime, an act of terrorism or cause criminal damage.

This partly comes under the Terrorism Act 2000, Section 43; searches under what was Section 44 have now been banned.

If you are stopped by the Police they have no powers to delete images during a search under Section 43.

If you photograph a Police Officer in the course of his normal duties and incidents, he cannot arrest you, but he may question you if you are as why you are.

Be careful where you place a tripod, if it causes an obstruction, you can be arrested for obstruction.

Security Guards have no powers to stop and search, but can ask you to leave private land, as well as, if necessary use reasonable force.

If you are taking photographs and the owner asks you to leave, and you fail to do so then this can be classed as trespassing.

Taking photographs at railway stations is allowed, but you may need permission if you use a tripod and/or a flash, so it may be wise to ask first.

Airports are private property, but most airports do have viewing areas where you can photograph planes.

I hope I have covered this for you, but one last thought, be careful if children are in your image area, some parents these days do object if their child is photographed.