

Darn Flash!

Or.

Getting A Better Understanding Of What Your
Flash Is Doing And Why, And How To Get It To Do
What You Actually Want

Outline

Tonight we will talk about the basics of photography with flash, I hope to do a more in depth talk at the Library about large and small off camera flash that will go in to more detail on modifiers and accessories.

But the exposure principles we are going to talk about are the same however we use short duration lighting.

So what is the camera telling the flash to do?'

With small 'dedicated' camera flash we have two core modes:

1/ In iTTL/ETTL the camera will send a pre flash to judge flash exposure on the subject, and only what the camera thinks is the subject.

2/ In flash Manual mode (not to be confused with camera Manual mode) the camera will just tell the flash to fire at the power level you set. This is how almost all "studio" flashes work.

Q: So, how does flash affect our exposure triangle?

A: It makes a second exposure triangle!

1: Shutter speed

2: ISO

3: Aperture

4: Flash power/distance

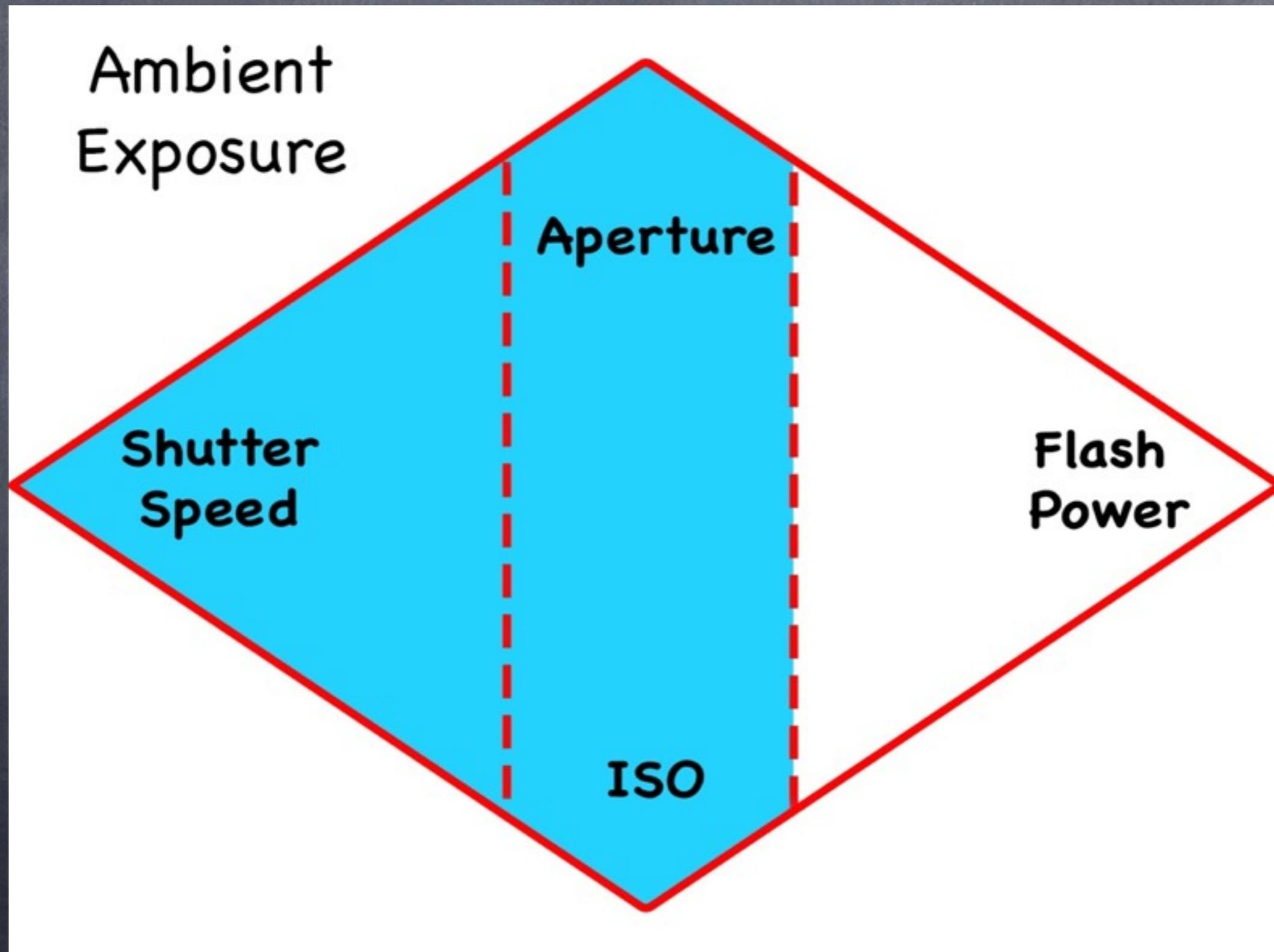
We now have two Exposure Triangles, one for the 'ambient' and one for the 'flash'.

Ambient: Shutter Speed/ISO/Aperture*

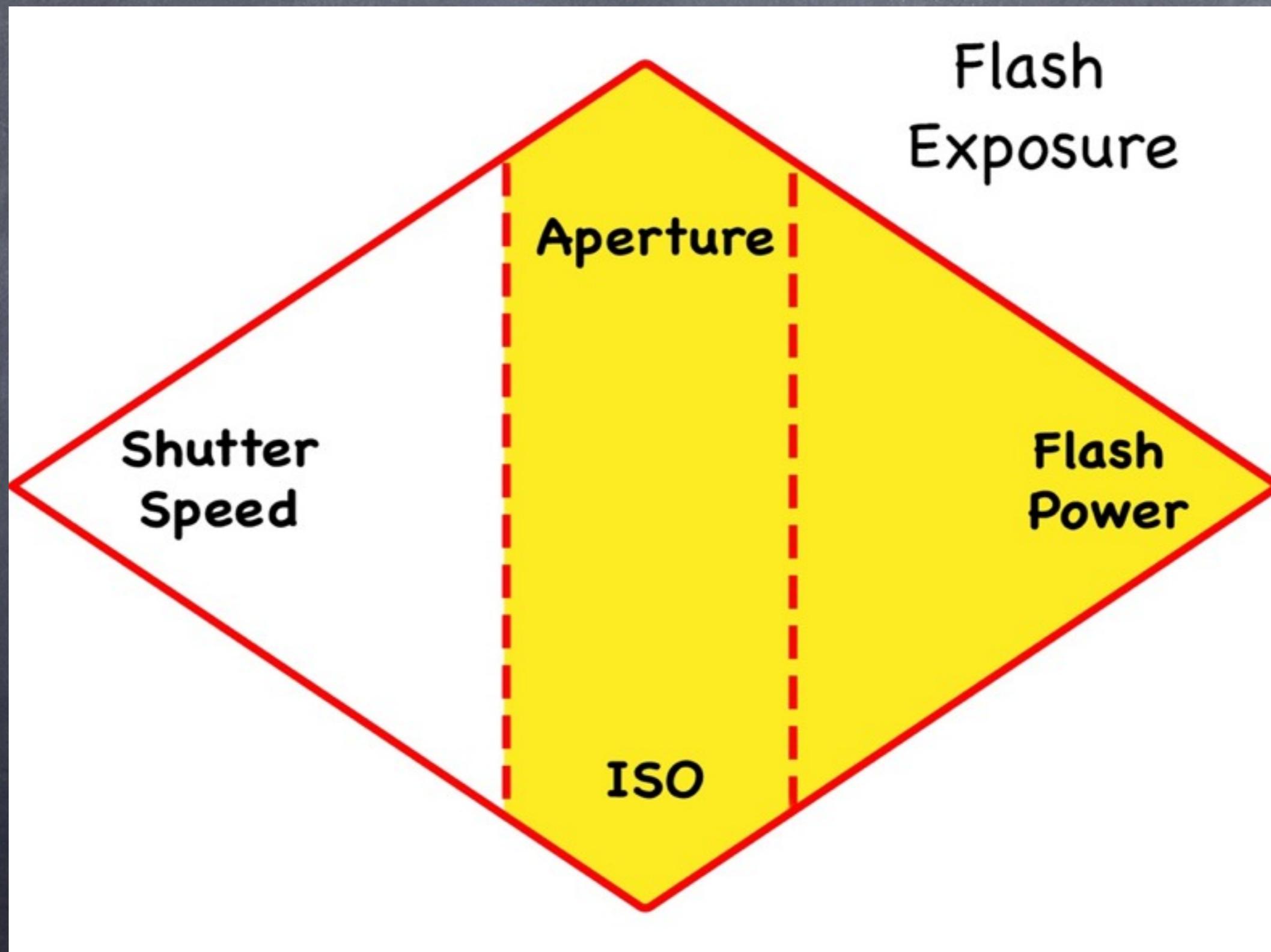
Flash: ISO/Aperture/Flash Power-distance*

* depending on ambient and flash levels they can impact each other to a degree

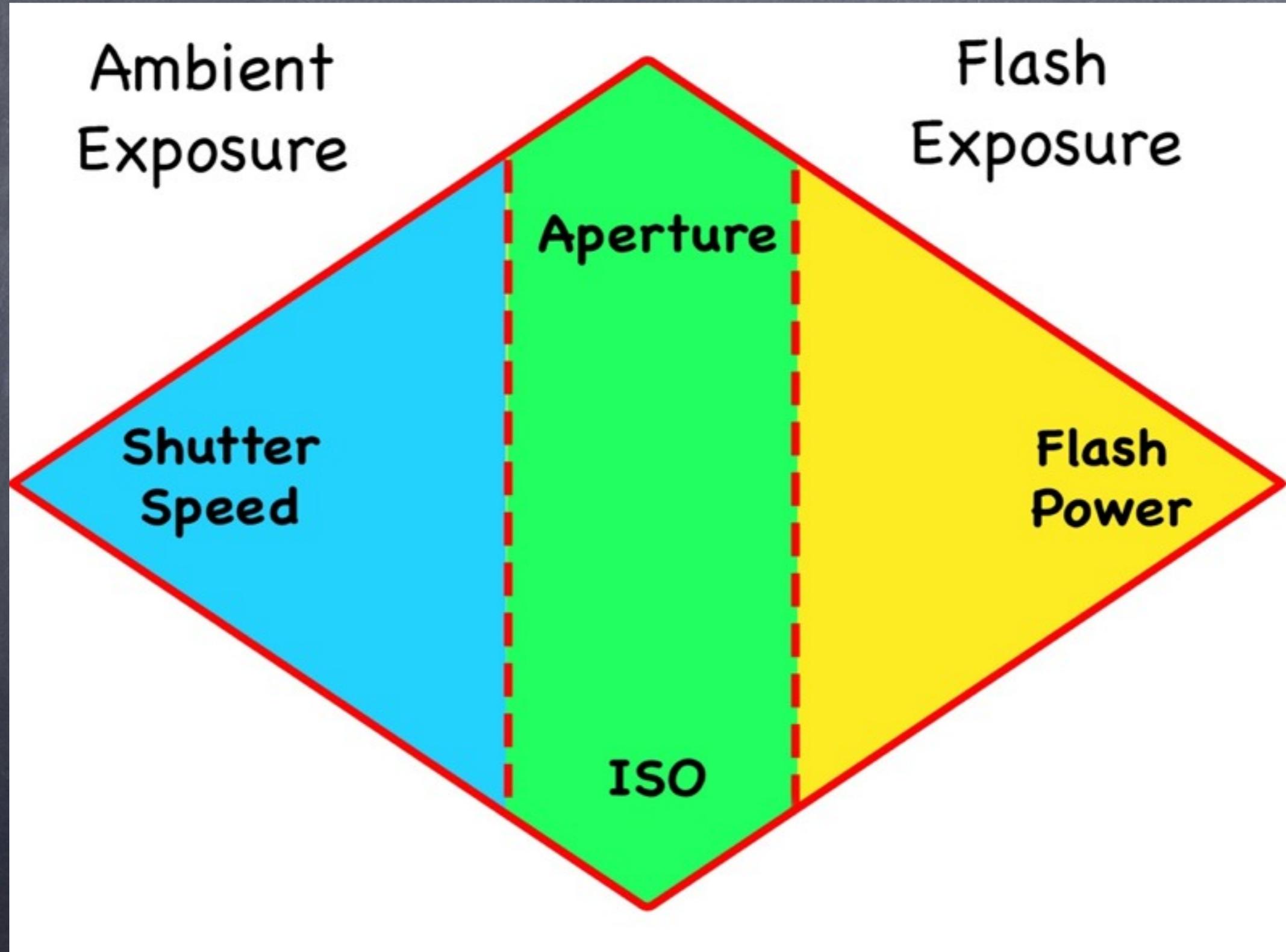
Ambient Exposure Triangle



Flash Exposure Triangle



Both Exposure Triangles



What conclusions can we draw from this? With caveats!

- 1: Shutter speed won't impact the flash exposure*1
- 2: Flash power won't impact the ambient exposure*2
- 3: Aperture and ISO will impact both exposures equally.

*1-If our shutter speed is long enough that the ambient light can register on the subject.

*2-If the flash is powerful or close enough it can light the 'ambient' scene.

Our three main scenarios for maintaining exposure control over our two exposures.

1: Camera in M, flash in iTTL/ETTL and using flash compensation to adjust subject brightness.

2: Camera in M, flash in M and setting exposure values ourselves.

3: Camera in Av (A), flash in iTTL/ETTL and using EV comp to alter background and flash comp to alter subject.

How to set your camera for M and flash to ETTL/iTTL

1/ Take a picture at 100iso/sync speed/lens wide open, flash off.

2/ Chimp!

3a/ If the ambient is too low lengthen shutter speed

3b/ If ambient is too bright close aperture

Take shots until ambient is where you want it. Turn on flash.

4a/ If subject is too dark, raise flash EV compensation

4b/ If subject is too bright lower EV compensation

LIMITS: If subject still too dark raise iso and lower shutter speed.

How to set your camera for Av (A) and iTTL

All Canon cameras, only some Nikons and others, sorry!

1/ Take a picture at your selected aperture.

2/ Chimp!

3a/ If the ambient is too low raise EV compensation

3b/ If ambient is too bright lower EV compensation

4a/ If subject is too dark, raise flash EV compensation

4b/ If subject is too bright lower EV compensation

LIMITS: If subject is still too dark raise iso, if shutter speed becomes too long go to M mode.

How to set your camera for camera M and flash M

1/ Take a picture at 100iso/sync speed/wide open.

2/ Chimp!

3a/ If the ambient is too low lengthen shutter speed

3b/ If ambient is too bright close aperture

4a/ If subject is too dark, raise flash power level

4b/ If subject is too bright lower flash power level

LIMITS: If subject is still too dark or shutter speed too long raise iso.

Pros-cons to camera M, PROS and iTTL/ETTL CONS

- With varying subject distance flash will auto correct.
- If subject is neutral then close to on axis flash auto exposure works well.
- Can be easier on the brain.
- Maximum control over ambient exposure.
- Working flash EV can be tricky.
- You only have +/-3EV of flash compensation.
- You never really know what the flash is going to do so subject illumination can be inconsistent.

Pros-cons to Av (A), and

PROS iTTL/ETTL CONS

- With varying subject distance flash will auto correct.
- If subject is neutral then close to on axis flash auto exposure works well.
- Can be easier on the brain.
- Low ambient can result in long shutter speeds.
- Some cameras lock shutter speed to 1/60 so ambient can be severely underexposed.
- Working flash and ambient EV separately can be tricky.
- You only have 3EV of ambient and/or flash compensation.
- You never really know what the camera and flash are going to do so results can be inconsistent.

Pros-cons to camera M and flash M

PROS

- Full control over both exposures.
- Maximum EV compensation.
- Consistency of subject illumination even when their reflectance changes.

CONS

- Can be a leap of faith into unfamiliar territory.
- Needs care with changing flash to subject distances.