

Apogee Photo Magazine

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## Know Your Camera

### *More About Aperture Control*

by **Noella Ballenger**

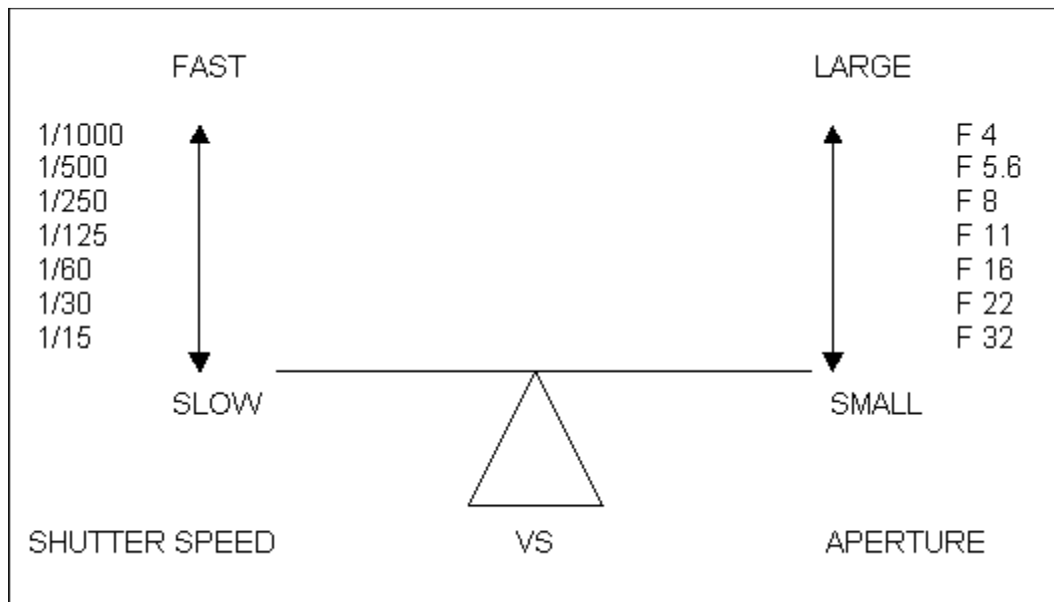
*(Editor's Note: See photographic examples following the article)*

As we mentioned in the first article of this series, mastering the basics about cameras isn't really as difficult as it seems--even for those of you who're confronting the complexities of cameras for the first time. Now that you've conquered the information and exercises we used to begin, we're ready to advance. With each article, we'll expand your understanding of the basic controls on your camera by adding a few variations on what you already know and by suggesting some exercises for you to try. (If you haven't read the first article and tried the exercises we detailed, please go back and begin at the beginning. Why? You'll find that by going step by step, in order, you'll learn more rapidly.)

In the first of our series, we discussed the four basic camera controls: the film speed (ASA/ISO), the shutter, the aperture (f-stops), and the focus control. We suggested exercises that were designed to help you become more familiar with the workings of your camera. In this second article, we want to explore the aperture control a little further.

To recap, exposure of film is made when a certain amount of light hits the film. To manage the amount of light entering the camera through the lens, there are two controls: the shutter and the aperture. The shutter control is fairly straightforward. The shutter controls the amount of light by regulating the amount of time the shutter stays open. The speed at which the shutter opens and closes determines whether you'll freeze the action or allow the motion of the subject to show. The exercise we suggested was for you to set up your camera on a busy street where cars are speeding by. A fast shutter speed freezes the action; a slower shutter speed shows the cars blurring as they whiz by.

The aperture controls the size of the hole in the lens. If the hole is big, lots of light comes through. If the hole is small, then very little light comes through. To make the proper exposure on film, you need to counterbalance the shutter speed and the aperture. Think of the two of them as ends of a teeter-totter.



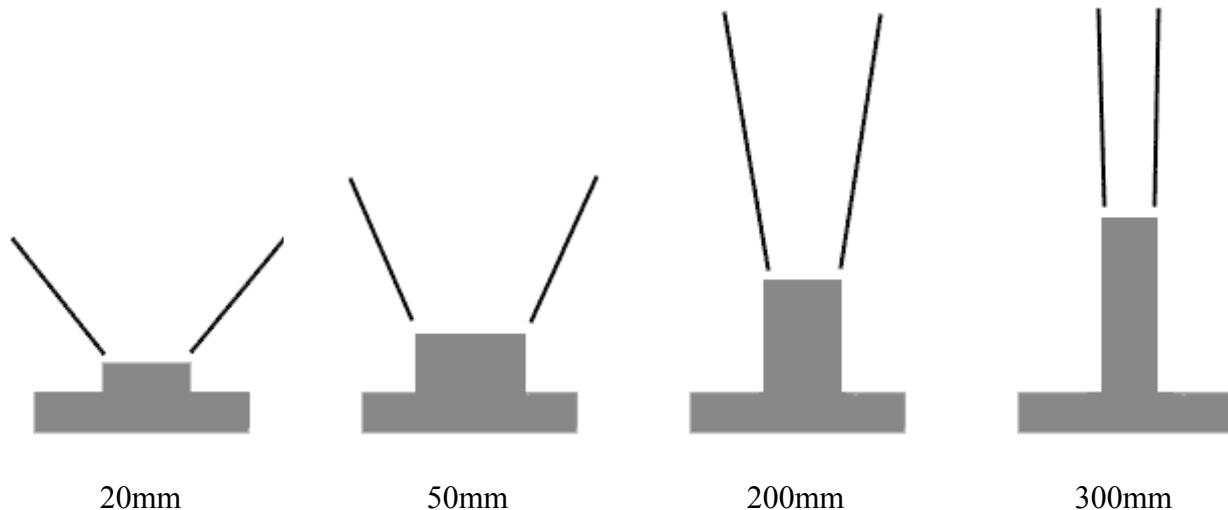
This is how the shutter and the aperture work together to

correctly expose film. However, the aperture does much more. It's one of your most important creative controls and the reason that many photographers shoot on the Aperture Priority setting (see article 1).

### ***Lenses***

To understand how the aperture works as a creative control, you need to understand more about focus and how your lens affects your final image. Let's talk about lenses first. Lenses come in a variety of focal lengths. We talk about and can purchase fixed-focal length lenses such as wide-angle lenses, normal lenses, telephoto lenses or zoom lenses that can encompass a range of these options.

A 50mm lens has always been considered to be a "normal lens," because most people believe that's about the same range your eye sees. (Actually, a 35mm lens is probably closer to real eye-view than a 50mm is). A wide-angle lens would be considered to be one in the 20-35mm range, and a "short telephoto," one in the 80-200mm range. Long telephotos are ones whose range is 200mm and longer. Currently, a 300mm is a very popular long telephoto.



Each of these lenses has different characteristics. A wide angle has just what it says--a wide angle of view. This means that you can see an entire mountain vista. At the opposite end of the spectrum, a long telephoto has a very narrow range of view. It'll bring distant objects closer. In other words, you won't see the vista, but you may see one pine tree on the mountain. The tree will appear greatly enlarged and fill the entire frame. Another point to consider about various lenses is the compression factor from front to back. This means that with a wide-angle lens, the distance between the fence, barn, and mountain will be elongated. With the telephoto, they'll be compressed (i.e., the fence, barn and mountain will look very close together).

When you make a creative decision about how you want to focus your camera, keep in mind that you can choose to focus the camera in the foreground, the middle ground, or the background. If you're using a wide-angle lens, you probably won't notice too much difference, but if you're using a telephoto, you'll see lots of differences. You'll immediately see why it's important for you to understand the mechanics of how tools like lenses work. They can make a major difference in your creative control of your image.

## ***Depth of Field***

Another creative tool at your disposal is depth of field. Depth of field is the distance that will be sharp from foreground to background in your photograph. Your aperture setting controls depth of field. Remember; the larger the opening or aperture, the less depth of field your picture will have; and the smaller the opening or aperture, the greater the depth of field.

In the first article of this series, you made a number of photographs using the variety of aperture settings on your camera, keeping the focus in the same spot each time. You should have discovered that the aperture setting made a difference in the amount of foreground, background, and middle ground that was in focus. If you think of that in-focus area as a band of focus that has various widths or depths (front to back), then you understand depth of field.

Aperture, or the size of the hole in the lens, controls what is in focus (foreground to background). You'll notice a lack of depth of field when you use long lenses--because of the compression factor that we just discussed. When you use wide-angle lenses, the depth isn't readily apparent, because the band of focus tends to be wide--even at F4 or F5.6 (large holes). If you don't focus on the subject precisely, you may have some leeway, because the depth of field is more forgiving. With a long telephoto, the band of focus tends to be compressed and narrow (foreground to background). At F11 or even F16, the band of focus isn't that wide, and you need to be sure your focus is precisely where you want it to be. You won't have much room for error. With my beginning students, I like to use a couple of simple phrases that sometimes help them remember their depth of field options: "*fat*" (large aperture) and "*fuzzy*" (background goes fuzzy) and "*fast*" (large opening needs a fast shutter speed to balance the exposure); "*skinny*" (small aperture) and "*sharp*" (background stays sharp) and "*slow*" (small opening needs a slower shutter speed to balance the exposure)."

As a simple exercise, go to the library or bookstore and look at some photography books. Can you guess what the photographer's choice was for the depth of field in each photograph? Now, take the next step and see how what you've learned about apertures and lenses can help you creatively. As an exercise, try using each of your lenses and all of your aperture settings. Find a flower field or a scenic and then try photographing a single flower. What difference does depth of field make in your image? What do you prefer? What lens did you like working with? Did you try a variety of aperture settings? Did you remember to balance the aperture and shutter

speed to get the proper exposure? Are you making your depth of field or aperture decisions in a variety of ways to reflect what you want to show us? If you're photographing a single flower, did you try using your long telephoto lens at a F4 or F5.6? If you focused on the flower, what happened to the background? The foreground?

Continue photographing various subjects in a variety of ways to show how much control you have over your depth of field and focus. Be sure to take notes as we suggested in the first lesson, because it's important to write down your ideas and what you were trying to do and then how you did it.

[See photographic examples of the concepts discussed in this article](#)

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