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INTRODUCTION

Zones are levels of light and dark.

A Zone System is a system by which you understand and control every level of light and dark to your best advantage. It works in digital just as it does for sheet film. Having a system allows you to understand and be in control, instead of taking whatever you get. Ansel Adams was asked in the 1950s if he thought the Zone System was still relevant in that then-modern world. He replied "If you don't use the Zone System, then what system will you use to know what you've got as you photograph?"

There are many ways to evaluate what you'll get in your final print or display as you photograph. The Zone System is one way to get a handle on everything. When you know what you're going to get you can make changes as you're photographing to optimize your final prints.

The Zone System applies as much to color, digital and video as it does to black-and-white. Ansel Adams even shows us in The Negative how to use it with point and shoot cameras!

Ansel Adams chose to divide the range between white and black into about ten zones. Each is an f/stop apart. Color film and digital tend to have fewer zones, but that's not important. What's important is understanding how these zones relate to one another and how they change as they go through each step of any photographic process.

From the 1920 through the 1960s The Zone System usually required weird film developing, since people developed sheet film one shot at a time and printed on fixed-contrast papers. It was a pain.

In the 1970s through today the Zone System for film became more involved with printing as people tended to shoot rolls of film that are developed all at once and print on variable contrast paper.

With digital in the 2000s the Zone System focuses more on understanding how digital cameras respond to different levels of light and dark. The Zone System is the basis of understanding PhotoShop's Curves command. With digital cameras you set contrast in-camera, or do as I do and let the camera do this automatically.

The biggest advantage of understanding a Zone System is understanding what's

going on. You'll be able to concentrate on making great images instead of worrying about petty things like technique and exposure.

Digital cameras no longer require spot meters. Spot meters were used to evaluate subjects before they were photographed. It was the only way we had to predict exactly how to expose, develop and print before we made an exposure on film. Today we have histograms and LCDs instead. Today I use a digital camera instead of a spot meter to evaluate this better than a spot meter for my view camera!

That said, let me offer that the rest of this page was written in 1999 when I wrote it to apply to color slides.

The Zone System allows you to get the right exposure *every* time without guessing. It does not require you do any special film development and you never have to waste time with bracketing. Now aren't you interested?

The Zone System is very important to understand, especially for color slides.

Today the Zone System is the careful and analytical setting of exposure. Almost no one does special development for each negative any more.

I learned it all from Ansel Adams' book "The Negative." He covers the Zone System for use with color film and point-and-shoot cameras, too.

 Ansel Adams, "The Negative"

Ansel worked in the days when everyone shot sheet film developed individually by hand, and when the only decent papers were fixed contrast.

Therefore of course he suggested screwing with the development of each sheet to print on grade 2.

Today most people shoot color or roll film and variable contrast papers are among the best papers available. Therefore custom development of each image just isn't happening! **Today we usually use standard development and vary contrast in printing.**

Even Ilford recommends today what I do for color and B/W negatives: ensure you get enough exposure in your shadows, develop your film normally, and then use variable contrast paper for your prints if you need to.

For color one always uses standard development. The colors get very screwed up of you try to vary development times. I have tried with Velvia and guess what: the overall contrast remains almost unchanged with even a plus or minus two stop push or pull! The DMax and shadow level changed, but the contrast of the active image was about the same. Worse, the color balance goes a nasty cyan with a pull. Color takes on a nice warmth with a push, although I only push when I need speed.

Here are my quick suggestions:

METERS much more here

If you are shooting a modern SLR, use your built in meter in Matrix (Nikon) or evaluative (Canon) and forget about most of this. You will need to know when to compensate you meter a bit, but otherwise all Matrix and evaluative systems incorporate the Zone System automatically.

I have a page on how to use the Nikon built-in spot meters here.

If I am shooting a camera with no meter, I use the same meters Ansel did, and you can still buy them today. I use either the Pentax Spotmeter V (analog) or Pentax Digital spotmeters. The digital one is smaller and I use it today as Ansel did at the end. The analog model is more precise and easier to read and interpret, however it is bigger and more delicate. The Pentax meters are superior to the complex, confusing and more expensive Gossen and Sekonic models.

COLOR NEGATIVES

For the color negatives shot by most amateurs just set the camera on automatic and GO! The films today have so much latitude that you just can forget it. Honest, I have tried shooting the same scene at normal and FIVE STOPS overexposed on Fuji 800 and in my prints I can't tell which was which. Never underexpose, that will lead to murky dull shadows. Overexposure by a couple of stops may increase contrast and saturation a little. If color is as important to you as it is to me, unless you print your own work, shoot slides and not prints. See the film page for that info.

B/W NEGATIVES

The same applies as it does for color! Amateurs worry far too much about this. I suggest adding one more stop to your exposure and adding a yellow filter. Try this and be amazed! Details are on my film page starting here.

If you want to get deeper into it, I suggest using your spot meter and setting the darker part of the image to -1 or -2 stops exposure, which is the same as saying Zone IV or Zone III. See more at the bottom of this page, too.

COLOR SLIDES

For now, what you need to know is that if you use anything other than a modern SLR Matrix or evaluative meter, that you need to add or subtract exposure depending on how bright or dark the subject is. Use the spot or center weighted meter and add exposure for light subjects or areas, and subtract for dark ones. SIMPLE!

Here's how much to add or subtract with the center-weight or spot manual meters:

-3 stops (Zone II): Your slide film goes pretty black here. Don't do this unless you

want something pretty much completely black. Yes, you can see some detail on Velvia even at -4 stops (Zone I), but good luck trying to print it.

-2 Stops (Zone III): Normal shadows in landscapes are set here. You will use this a lot. This is about as much underexposure you can use and still have detail. For instance, make a spot reading of the shadow and set your camera to underexpose that shadow spot by two stops. If you are lucky everything else will fall into the proper exposure. You don't really need luck: use your spot meter to make sure that at the exposure you set that everything else falls where it ought to per this chart.

-1 Stop (Zone IV): Very few things are set here. This is a dark middle tone, like a red painted barn.

Normal exposure (Zone V): This is where you set middle tones or a gray card. Sometimes the north sky is set to normal (+-0). Oddly, in many scenes there is no middle tone, which is why spot meters usually cannot be used without knowing the zone system. Sometimes green grass falls here.

+1 Stop (Zone VI): Medium light parts of an image. Skin and granite rocks go here. For most landscape photos you'll set your light rocks here, and the shadows at -2 stops. Bright yellow is set at +2/3 stops.

+2 Stops (Zone VII): White things like snow and sheets of white Fome-cor are set here.

+2.7 Stops (Zone VIII): This is where slide film goes clear.

This is how the zones of the classic zone system correspond to the analog bar graph on your exposure meter:

Zone II = -3 stops
Zone III = -2 stops
Zone IV = -1 stop
Zone V = +- 0 stops
Zone VI = +1 stop
Zone VII = +2 stops
Zone VIII = +3 stops

If you are lucky, all the elements in your image will fall within -2 to +2. Usually they won't. Sorry.

If your spot meter tells you that the shadows are darker than -2 stops that simply means they will be fairly black, and if the whites get too much hotter than +2 that they will be completely white or clear.

Slide film usually goes clear at +2.5 stops. It usually starts getting pretty murky at below -2 stops, although you can still see things down to -4 stops on Velvia.

You need to think as a painter does and ask yourself at what level of tone you want each part of your image to render. You need to be in control, and the Zone System lets you be in control. Otherwise you'll simply be gambling that your images will

"turn out." With the Zone System you will know when you need to alter your lighting.

Problems

There will be plenty of occasions in nature where God is not putting the light range where you want it. The Zone System is useful here because it tells you before you waste a lot of film that you are probably going to get garbage and thus you can plan or change the light or filtration accordingly.

What do you do if the lightest and darkest parts of the scene are beyond the range of your film, typically +- 2 or 3 stops?

Simple: you have to change the lighting somehow. If you have a very high-contrast scene there is no correct exposure and you will never get what you want.

This is where many amateurs get lost: exposure cannot correct for bad light. OK, nothing can fix bad light. You have to wait for it. Photography takes patience. You can try a graduated Neutral Density filter which often helps bring down an overly bright sky or too dark foreground. Here's an example of one.

Some people try to tweak development to compensate for crummy light. It's much better to fix the light. Ignore the temptation to tweak development; this is why we in Hollywood pull up three trucks of lighting equipment to light a scene outdoors.

If you do your own developing the Zone System gets far more complex if you want to adjust the exposure and development to attempt to fit the range of the scene into the range of the film. This used to be popular in B/W before good variable contrast paper was available, as in Ansel's day. Today B/W shooters make sure that they expose enough for the shadows (make sure everything for which you need detail is exposed at not less than -2 stops) and then use a lower contrast setting for their paper.

If you're asking, no, I have no idea how Ansel got ten zones. Today we only get about seven. OK, actually I do know how he got ten zones: Ansel used less development and slower speeds for his negatives than the manufacturer's ratings. We can't do that with color today. You can do this in B/W, and you have to do a lot of custom testing and developing.

In Ansel's day everyone shot sheet film and used graded paper. Therefore it made sense to develop each sheet differently so it could print on grade 2 paper.

Today people shoot roll film (your Nikon or Mamiya) and need to develop the whole roll the same way. One uses VC (variable contrast) papers to control the contrast, not developing.

You always develop color the same way, unlike B/W. Changing developing times for color often messes up all the color balances.

I have pushed and pulled Velvia and saw little contrast change. The colors shift and the black level changes, but the contrast does not vary as does B/W film.

You have to change the light yourself or wait for God to do it. This is art. Only your heart can tell you what to do. You have to know at what level you want various light and dark areas to render, just as a painter has to decide what colors to take from her palette. There are no written formulae for good photos. Ansel covered this quite well in his books.

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