cabbagetown photographers guild

exposing film
using the zone system

While this article deals with Black & White negative film, the following method may be applied to all films.

A properly printed Gray Card lying on the ground will reflect 18% of the light falling on it. Light meters calculate exposure combinations to render the image of the card as middle gray or Zone 5 (see the zone chart below).

Replacing the Gray Card with a piece of white paper (zone 10) without changing the lighting conditions, will cause a TTL (through the lens) or a hand held Spot meter to adjust for less exposure, thereby reducing the *Zone Value* of the white paper to middle gray. If you photograph the white paper using the same exposure settings as for the gray card, then the two negatives will exhibit an obvious difference. Both should retain correct respective values and print accordingly.

A spot meter will evaluate the light reflected from precise areas of a scene that includes bright, dark, and middle gray values. The meter can provide different exposure recommendations for each of the these areas. If you meter the bright area, the meter will suggest exposure combinations which will *lower the value* of this area closer to middle gray, also lowering the middle gray value of the scene to a value darker than it appeared, forcing the shadow areas of the scene to block up and lose all detail.

If you meter the dark area of this scene, the meter will suggest exposure combinations which will *raise the value* of the dark area closer to middle gray, causing overexposure of the highlight values. Only by metering the middle gray area of this scene will both the highlight and shadow values be more correctly rendered.

Attempting a head shot of a person in a situation that features strong backlight, and using the exposure suggestions from an averaging or center weighted meter, could result in a silhouette set against a dull background. Filling the frame with the persons face first and then using the resulting exposure reading before stepping back to include the brighter background, will provide facial details. An incident meter may also be used.

I do not wish to discuss the relative merits of different types of light meters in this space. They are simply a means to an end. When properly calibrated and used with care, most will produce good results. I prefer the Spot Meter for its degree of precision.

With practice one learns to proceed using exposure readings from middle gray areas of the scene, trusting that detail and correct exposure will be better preserved in all areas of the scene. If you are not sure, carry a gray card. With more experience, the photographer learns to *place* subjects in a particular zone in order to render or *reveal* the subject in a deliberate way.

Gray Card or middle gray (18% reflectance) is represented by Zone 5.

Since the light meter calculates exposure settings necessary to render subjects at zone 5, any subjects that fall outside of zone 5 (lighter or darker than your gray card) will require an adjustment (exposure compensation) to render them as desired.

Therefore, if you are metering a rock with negative film and you wish to render it as zone 4, simply take a manual reading with your meter and *increase* your exposure by one *f* stop (from *f* 11 to *f* 8) or halve the shutter speed (from 250 to 125). If you wish to lower the rock's value to zone 3, then apply two *f* stops of exposure compensation. The resulting lighter looking rock (when viewing your negative) will now print darker.

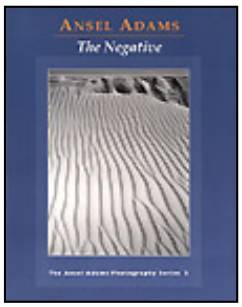
Photographing areas with negative film which include bright snow may require you to apply 2 to 3 stops of reduced exposure compensation.

If you are using slide film and you wish to render the aforementioned rock's value to zone 4 then the reverse is true. In other words if your meter suggests *f*8 at 125, then you reduce exposure by shifting the aperture to *f*11 or the shutter speed to 250.

Understanding this simple method provides the control required to visualize the final print. In other words , you are much closer to creating the print you *imagined* before releasing the shutter, because you have created a negative that more closely reveals the scene as you had intended.

One final point: Bracketing. If the situation permits, make additional exposures at plus or minus one or two stops to improve your chances of getting the correct exposure.

For those interested, the following two books by Ansel Adams (1902-1984) are among the best available on this subject and will provide much more information than this space allows;



The Negative is the 2nd volume in The Ansel Adams Photography Series.

Anchored by a detailed discussion of Adams' Zone System and his seminal concept of visualization.

The Print is the 3rd volume in The Ansel Adams Photography Series.

From designing and furnishing a darkroom and making your first print to mastering advanced techniques, such as developer modifications, toning & bleaching, and burning & dodging, The Print belongs on every photographer's shelf.

Anyone wishing to process their black & white film with PMK Pyro may find that its benefits cannot be overstated. Tips on it's use, including developing times for many different types of film are available at the **PMK Pyro Film Development Chart.**

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