A lens with a view to please (the offset printers…)

"It was when I found out I could make mistakes that I knew I was on to something." – Ornette Coleman
All this light metering does have a purpose other than getting the right exposure….
For instance like contrast control in practice.
Commercial photographers (like me) give their clients transparencies or digital files that will be printed. The contrast range that paper can hold is lesser than the transparency (or digital file) can produce. Thus we have to reduce the contrast in our trannie so we can see in print a glossy almost white and a rich dark almost black area with discernable detail.
We do not want a reproduction of a trannie that holds all the glorious detail but when printed, it shows that all the dark colours have gone darker, or the brighter colours got bleached….
My exposure "working method" with reflected spot meter readings of a grey card has given some readers grave concerns that I modified Ansel Adams eleven zones into a simple seven…when I say a plus 3 stops reflected reading will give you white, and minus 3 stops reflected will turn it black. Well it boils down to this concept. (I use it commercially to achieve printable contrasts not for exposing fine art b/w film, and my previous articles had this in mind)

A greycard has a 18% reflectance value:

I may explain it like this: Establish with your spotlight meter the reflected grey card reading you want to use.
Use your spotlight meter in reflected mode to meter other areas of contrast, using your grey card to take those readings from.
Below is a greycard reflected spotmeter reading (F8 for instance), aperture on camera set as indicated by spotmeter.

Now I added one stop more light, but kept the aperture on camera the same F8.:
Plus one stop reflected light meter reading of grey card is 2 x 18% = 36% reflectance = one stop more exposure.= lighter grey

 = plus 1 stops

Plus two stops reflected light meter reading of grey card is 2(double) x 36% = 72% reflectance = very light grey, aperture on camera is still F8.

 = plus 2 stops

Plus 3 stops reflected light meter reading of grey card is 2 x 72% = 144% reflectance = quite white, you would think this is a light emitting greycard, 144% is impossible of course but in effect is not, it is white with perhaps the slightest possibility of detail visible. (A little bit like zone 9 in Ansels Adams zone system for a b/w photograph.)

 = plus 3 stops

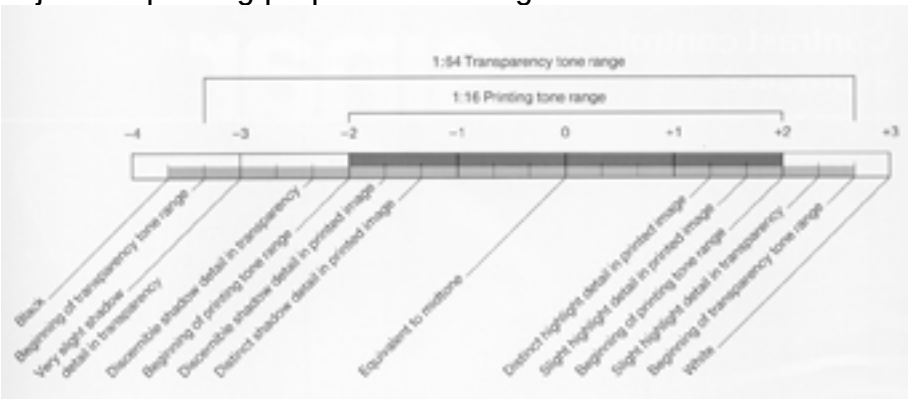
It works the other way around, one stop less grey reflectance is 9%, 2 stops les reflectance is 4.5% = very dark grey; and 3 stops less reflectance from a grey card is 2% reflectance = almost black. (like perhaps Ansels Adam's zone 2 in a b/w photograph)

When you use this metering method your contrast range is still quite high, but printable.

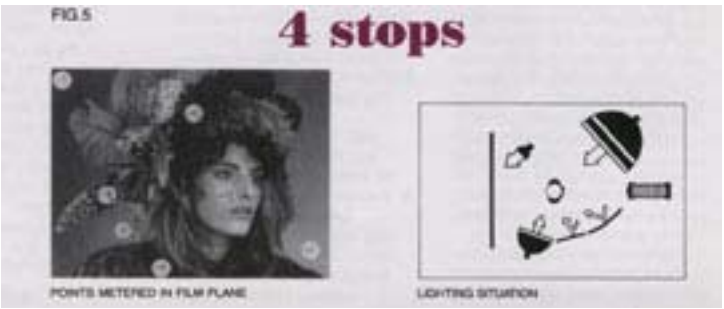
Ok, so what, what did printers need? My working method is based on conditions before the arrival of Photoshop and electronic imaging. In offset printing they liked a trannie within 4 stops of contrast to reproduce all zones without compressing the shadows into a murky black puddle without detail or blowing out the highlights. They liked a max printing density of of approx 1.8

1.8 refers to the density of black ink on paper measured with a densitometer – a solid black tone. Present techniques work with different measurements. White paper measures 0 density, no ink – no tone! How do F-stops compare to print densities? Each aperture stop equals to 0.3 density units. Thus 1.8 max density equals 6 aperture stops (6x 0.3 = 1.8).

Voila, in the printed-paper you may get a nice black and white (with discernable detail?) when you use the 6 stops contrast. A transparency can hold a maximum density in excess of what the printed paper can produce. The contrast range of a transparency is far greater, therefore we have to adjust for printing purposes. See diagram A.



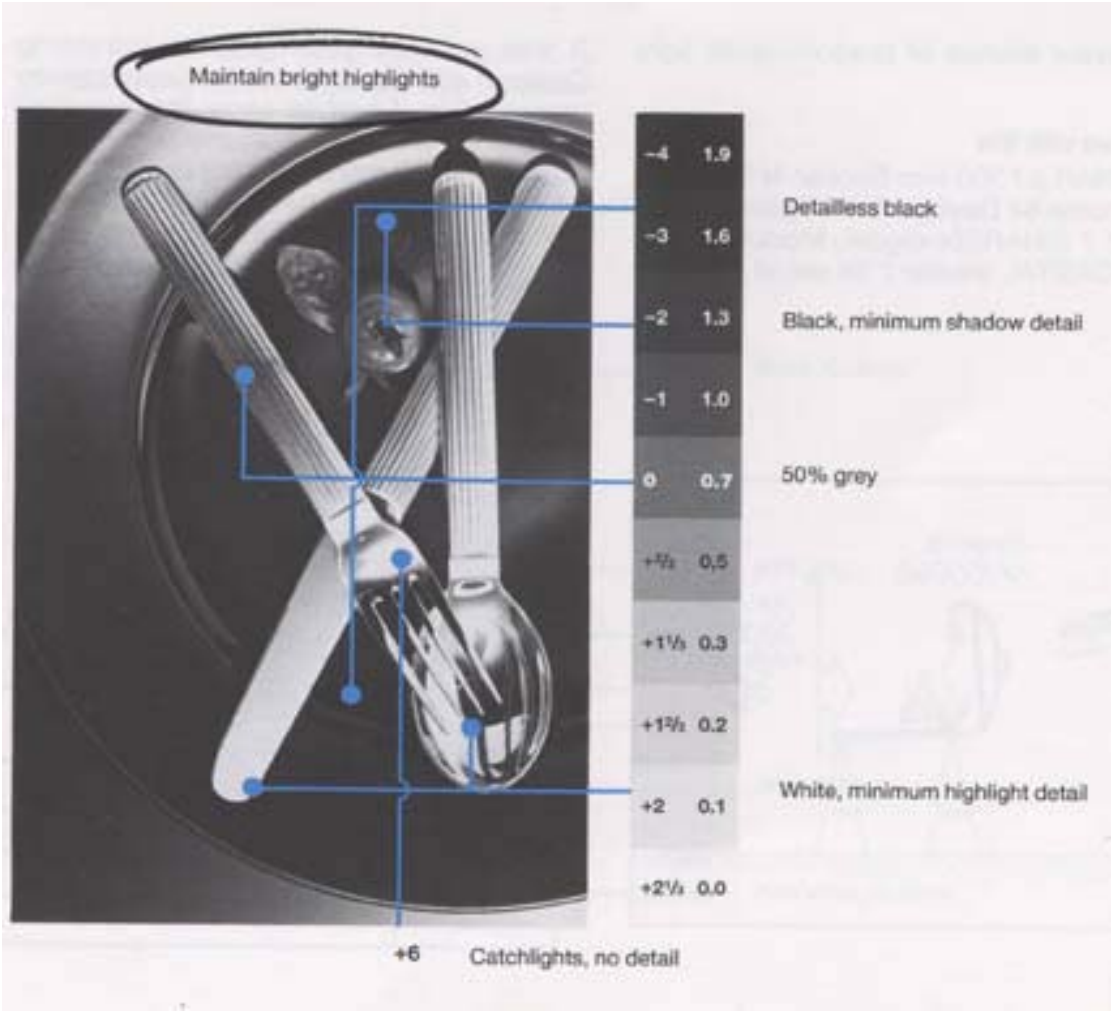
A 4 stops contrast range in web offset print offers even more possibilities to keep all original tones for reproduction.
This contrast range is easy to produce in the studio, see the diagram B.



Here is a small comparison, hope it still shows:

Explaining the diagram: On the left the line is the wall. A light on the wall – see light area on rhs of models face, then model, then umbrella light and on far right the view camera in diagram.
Reflectors will help to lower the contrast, additional lights will produce even less contrast. Fashions change, high contrasts are more fashionable at present. This is how I meter light in order to achieve at a reproducible printed web offset contrast. At present the electronic imaging holds and offers far greater and different control to produce an accurate tonal range of your original. A range of 6 contrasts stops difference is likely to be an acceptable standard now. However, why not test it out, one day give your client a 4 stop trannie, and a 6 stop trannie and ask for feedback from the printer.....

I enclose another image, image 3, that graphically illustrates my working method. Although it shows a 10 steps zone wedge, in print it shows white (+3) to black (-3). The numbers in the step wedge denote on the left aperture stops, on the right the equivalent printers densities in 0.3 steps.



Diagrams and Photo courtesy of Sinar AG and Black Box Corp, Image © Dennis Savini.

Viewing you with measured respect, while listening to the song " A whiter shade of pale" to relax with after this laborious exposay. Feedback, positive (+3) or negative (-3), - mail me at hotshot@ihug.co.nz