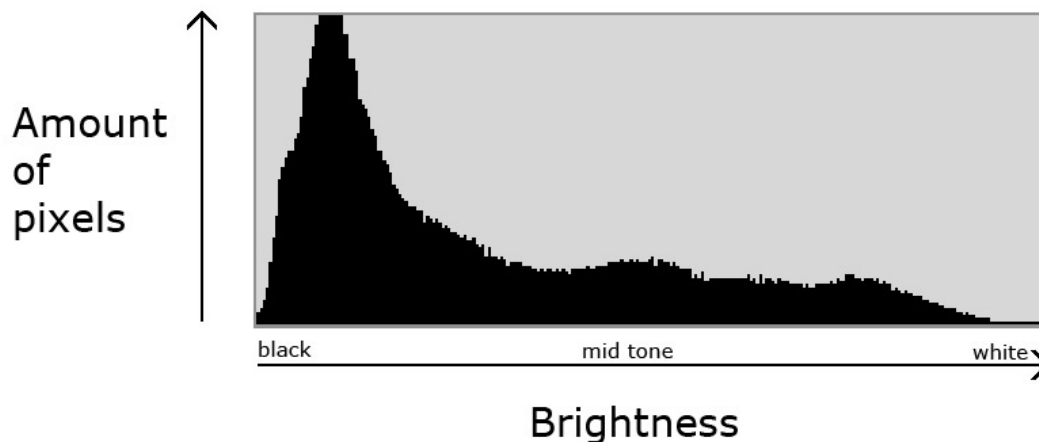


BETTER QUERY SAUL: WHAT IS DYNAMIC RANGE AND WHY SHOULD I CARE?

DYNAMIC RANGE IS THE DIFFERENCE BETWEEN THE BRIGHTEST ELEMENTS AND DARKEST ELEMENTS OF YOUR PHOTO. THE EASIEST WAY TO EXAMINE THE DYNAMIC RANGE OF YOUR PHOTO IS TO LOOK AT THE HISTOGRAM. A HISTOGRAM IS A GRAPHICAL REPRESENTATION OF ALL THE TONES/SHADES/LIGHT VALUES IN A PHOTOGRAPH.



THE LEFT SIDE REPRESENTS BLACK AND THE RIGHT SIDE WHITE WITH ALL OF THE SHADES OF GRAY (MID TONES) ARRAYED ALONG THE HORIZONTAL.

EACH TIME A PIXEL ON YOUR SENSOR REGISTERS ONE OF THE MANY SHADES OF GRAY, IT IS RECORDED ON THE HISTOGRAM. THE VERTICAL AXIS SHOWS HOW MANY TIMES A PARTICULAR SHADE OF GRAY WAS RECORDED.

THERE ARE REALLY TWO DYNAMIC RANGES – THE DYNAMIC RANGE OF THE SCENE OR SUBJECT YOU ARE PHOTOGRAPHING AND THE DYNAMIC RANGE OF YOUR CAMERA. THE DYNAMIC RANGE OF YOUR CAMERA IS SHOWN BY THE HORIZONTAL ON THE HISTOGRAM AND IS A FUNCTION OF THE CAMERA’S SENSOR.

NO CAMERA SENSOR THAT I KNOW OF HAS A RANGE AS GREAT AS WHAT YOUR EYE CAN POSSIBLY SEE. IT IS ESTIMATED THAT THE DYNAMIC

RANGE OF A HUMAN EYE IS 24 F-STOPS, WHEREAS EVEN THE BEST DIGITAL CAMERAS HAVE A DYNAMIC RANGE OF 10-14 F-STOPS. THIS MEANS THAT SOME ALMOST BLACK TONES WILL BE RECORDED AS BLACK AND SOME, ALMOST WHITE TONES, WILL BE RECORDED AS WHITE BY YOUR SENSOR.

WHY DOES DYNAMIC RANGE MATTER? IN GENERAL, YOU WOULD LIKE TO RECORD THE ACTUAL DYNAMIC RANGE OF A SCENE. IF THE DYNAMIC RANGE OF THE SCENE EXCEEDS THE DYNAMIC RANGE OF YOUR CAMERA'S SENSOR, YOU WILL HAVE DARK GRAY SHADOWS APPEARING AS BLACK OR HIGHLIGHTS THAT ARE 'BLOWN OUT,' LOSE ALL THEIR DETAIL AND APPEAR AS WHITE, OR BOTH. YOUR HISTOGRAM WILL HAVE SPIKES ON ONE OR BOTH ENDS OF THE HISTOGRAM. VALUES ON THE RIGHT TAIL ARE 'OVEREXPOSED'; VALUES ON THE LEFT TAIL 'UNDEREXPOSED.'

AND ALL DETAIL IN THOSE PIXELS HAVE BEEN LOST. SEE DIAGRAM BELOW.

IF THE DYNAMIC RANGE OF THE SCENE IS LESS THAN THAT OF YOUR CAMERA'S SENSOR, ALL OF THE DETAIL IN THE SCENE WILL BE CAPTURED.

Normal



Overexposed



Underexposed



**CAN I DO ANYTHING TO EXTEND MY CAMERA'S DYNAMIC RANGE?
YES. SHOOT IN RAW. SET ISO TO 100. TRY HDR (MORE ON HDR
NEXT MONTH!)**