

Improving Image Quality: Using Levels & Histograms

Adobe Photoshop



Before



After

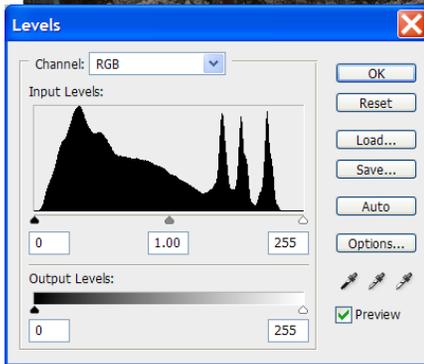
Bates College
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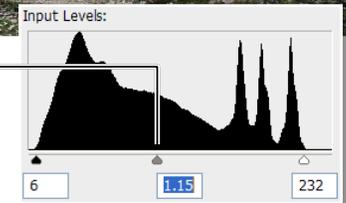
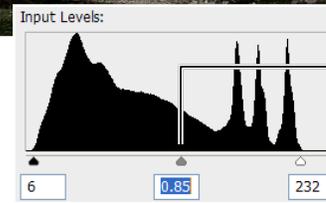
Darker



Lighter



Levels is an easy tool to correct contrast and brightness in an image. To open the Levels dialog box, go to the Image menu > Adjustment > Levels. The histogram in the dialog box shows the luminance distribution of the pixels from black to white. Clicking the Preview check box applies any changes to the image.

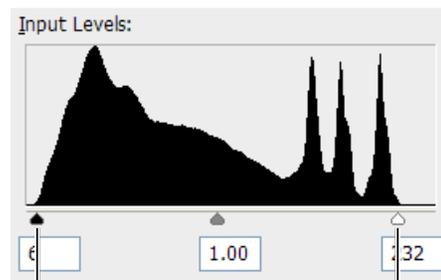


Gamma

The gray Gamma slider at the center of the histogram controls the overall brightness of the image. Shifting the Gamma to the right darkens the image; shifting the Gamma to the left lightens it. A Gamma value of 1.00 is normal.

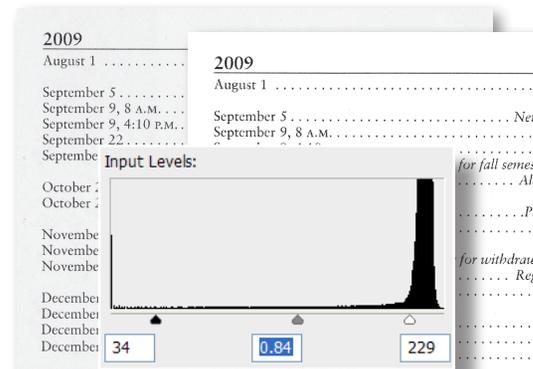
A black-point and white-point slider define the highlights and shadows of the image. By simply moving the two points to where the pixels begin and end in the histogram, the luminance values are redistributed and result in a higher contrast image.

Note: do not adjust an image solely based on the histogram. Confirm the change with the image. Old photographs rarely have a pure black or white and matching the black and white points to the histogram will be too harsh.



Black Point

White Point



The histogram can be used to eliminate backgrounds. The large spike at the right of the histogram represents the paper of the scanned document. By moving the white-point slider to the left of that information, the paper background is turned to white removing the detail. The black-point and gamma slider can be used to darken the black text.