

How to Control Tone and Contrast in BW Conversion

This article explains how to select and manipulate *tone and contrast compositions* in conversion of a color image into a black and white image, and how to add some effects and finally present it. The process may appear to be complex and cumbersome, but it provides a lot of possibilities to *control the contrast and tones* using a mix of channels and variations of blending modes. This article is somewhat based (expands) the one about Calculations. Well, let's stop talking and do something.

- Original vs. Final
- Select Tone Elements
- Put it all together
- Add Color Cast
- Draw the eye into the image

Original vs. Final

Where we start and where we arrive

I will start with the image on the left and as the result it will be converted to the one on the right:



Select Tone Elements

Creating layers of different tones

Before we start with actual conversion, I'd advise you to create several layers of *various tonal ranges and contrast*, which would make the best BW conversion. If you know, there are several somewhat basic resources with black and white representation of the image:

- Channels in RGB mode (each channel is a BW image)
- Grayscale (unsaturated image)
- Luminosity (a channel in Lab mode)
- Channels in CMYK mode

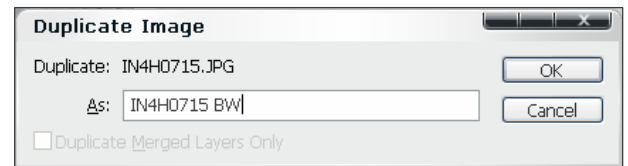
Of course you can throw here some of the modified ones - such as Channel Mixer. But those don't have a predefined/default state. Though if you have time and like some of those tonal representations - you are more than welcome. It's your image and your imagination.

At this point we decided what tones we want to use in the process. Let's place them all together into a **single document**:

STEP 1

Create placeholder for the tone layers

Create a **copy of the document** with your image - Select in menu Image, Duplicate and type a new name. It will be our collection for the all the tonal compositions we are going to create.



STEP 2

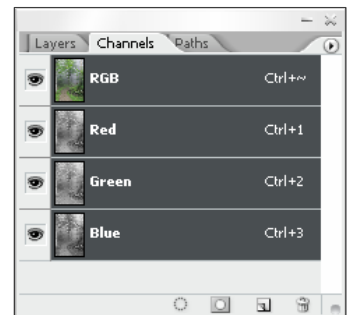
First layer - Grayscale

Make the first tonal composition - convert the file into **Grayscale mode**. Select in menu Image, Mode, Grayscale.

STEP 3

Channels Panel

Return to our color image and go to **Channels panel** where we can see all the color channels that form the image. For RGB image mode there are three channels: Red, Green and Blue (as shown on the figure to your right).



STEP 4

Channels to Layers

Drag and drop each channel to the Grayscale image (the separate document) and give the channels the same names (optional) to easier distinguish them.

STEP 5

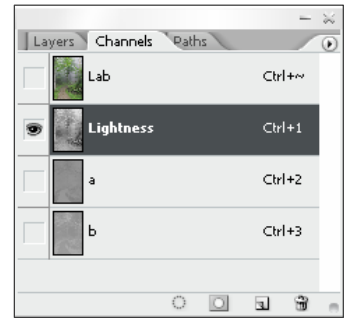
Lab Mode

Don't leave the color image yet - convert it into **Lab mode** by selecting in menu Image, Mode, Lab

STEP 6

Luminosity Channel

In the Channel Panel we have the Luminosity channel - image to the right



STEP 7

Channels to Layers

Do the same with the *Luminosity Channel* - drag and drop it into our pot.

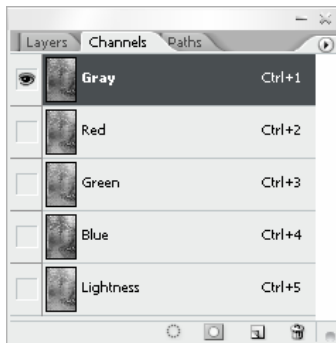
STEP 8

Additional Tone Layers

At this point you can do any other kind of *BW conversion* that you have in you arsenal (such as CMYK mode and its channels) and add more ingredients into the pot - just follow the steps described above.

CONCLUSION

Ready to create black and white image



After all these steps we have a stack of layers in the Layer Palette, and each layer represents some *tonal composition* of the image. In my case I have *Red, Green, Blue and Lightness*.

If you walk through each of those layers, you will see how the look of the image changes. These changes are somewhat subtle for a human eye, though if you look closely at the trail and the grass at the bottom of the image, you may notice those subtle changes:



Order of the images above:
a. Grayscale

- b. Red
- c. Green
- d. Blue
- e. Lightness

If you reached this point with you image, I congratulate you. We have a set of various tonal compositions. Next we will use them to create black and white photograph.

Put It All Together

Choosing the right combination

The idea for this section is to finally use the tone compositions we prepared by now and **mix the tone values** in order to create a **better black and white photograph**. We are going to use one of the most undocumented features Photoshop - Calculations Dialog. As I understand this function allows the user to mix several channels and layers and apply a blending mode. And the result of the function is a new channel or a document. This channel could be easily used **to create a selection** or as in our case it will be used to create a black and white image.

STEP 9

Dialog "Calculations"

To choose **the right combination of the tone elements** and to apply blending modes for the best result we will use the **Calculations** - Select in menu Image, Calculations. This step is pure creativity and I can just give you some directions to explore, but don't limit yourself and try new things - play with the tool:

STEP 10

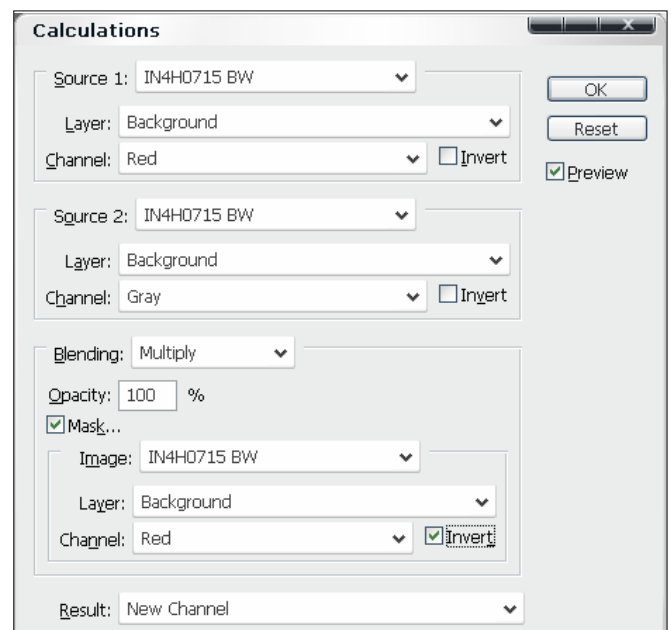
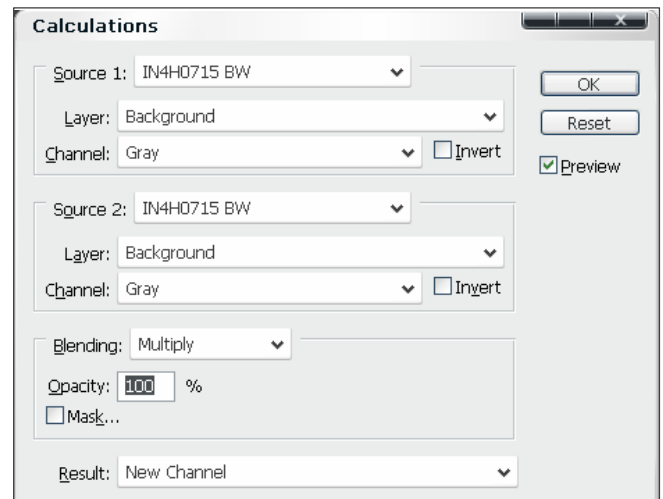
Tuning Up

The **very basic combination** that produces OK results in most of the cases is explained in the following steps. If it is your first time with Calculations Dialog, I recommend starting with it and adjusting later:

- In "Source 1" I pick the Red channel
- In "Source 2" I leave the Gray one
- What about the "**Blending**"? Let's leave it **Multiply** (it's set by default) for now.

Note: So far I like the following modes: Multiply, Soft Light, Overlay, and Hard Mix. Try all of the modes and for each of them don't forget to change the sources and the mask (see below)

- Leave the "**Opacity**" for the last . Opacity will allow to adjust the strength of the effect/blending.
- Check "**Mask**" on - you will see an expansion of the dialog
- The Red channel is good so far for the mask, but I would check the "**Invert**" box - it would more punch (contrast) to the image
- And now you can play with the Opacity



CONCLUSION

Current Status and Possible Options

My image now looks as shown below:

I would say, it's already has a **stronger impact** than any of the tone compositions we prepared till now. And you can play with all of those parameters and options to achieve the result you actually want. The parameters and options are:

- Source 1: All the tone elements (layers)
- Source 2: The same as above - all the tone elements (layers)
- Source 1 check box "Invert"

Note: It works better if the first source is a color channel (Red, Green, Blue), but not the Gray one

- Source 2 check box "Invert"
- Blending: All available blending modes (i.e. Multiply, Soft Light, Overlay, Hard Mix, etc)

Note: With Multiply mode I like values from 70 to 90 percent. But the image should be of light tones, otherwise the result could be too dark.

- Opacity: 1 through 100%
- Check box "Mask"

Note: It is almost always checked in my process - kind of adds the impact (such as contrast)

- Mask Channel: All the ingredients
- Mask check box "Invert"

Note: Increases the contrast sometimes.



What should you do next? Well, you can create a channel out of the mix and use it as another tonal composition for **another iteration** (just follow the same steps, which are described in this section). If you noticed, at the bottom of the dialog there is "Result" dropdown list with default setting **New Channel**.

Add Color Cast

Colorizing the image to enhance the mood

In previous chapters we created a black and white image of almost desirable qualities, such as tone and contrast. You may tune it up a bit with Levels (Ctrl/Command-L) or: Curves (Ctrl/Command-M), though it's not the objective of this article. My image is shown to the right:

This image is not what I actually want, but many of you may stop here and have a **great black and white image**. I would prefer some toning - a slight cast of color, to give the viewer some theme. If you agree with me, then let's continue. In this example, I want to see a bit of **green cast**, because the forest is usually green and the fog creates somewhat mystic mood, which could be enhanced by the adding the green tone. That's what I am going to do in this section.

There are several ways to add color to a BW photograph:
Colorize in Hue/Saturation dialog

- Duotone
- Curves or Levels
- Color Balance
- Gradient Mask

And you could probably add a few more. Not so long ago my choice was **Duotones**. It works only when the image is in Grayscale mode and you have plenty predefined colors to choose from, such as warm gray or cool gray. Duotones allow to control curves for those color and consequently the contrast. You can find them in main menu Image, Mode, Duotones. But almost every time the lightness of the image suffered and the photograph became darker.

That's why I now use **Color Balance**. It allows adding color cast separately for shadows, midtones and highlights preserving the lightness of the image.

And here are the steps that we are going to complete:

STEP 11

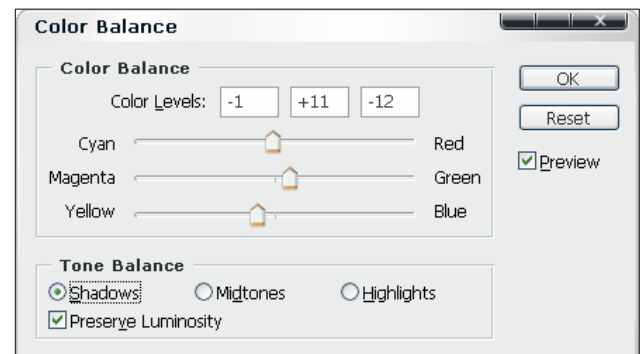
Color Balance Dialog

Switch the mode to RGB by selecting in menu Image, Mode, RGB. And then click Ctrl-B or select in menu Image, Adjustments, **Color Balance**.

STEP 12

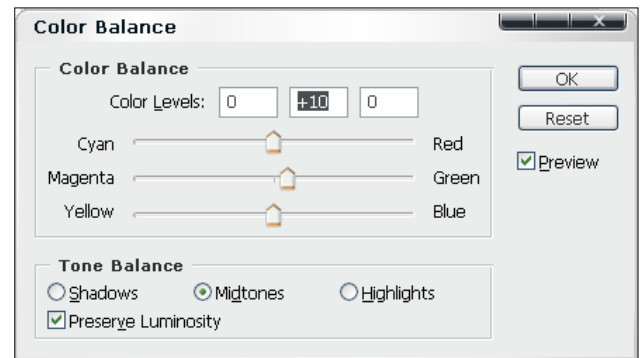
Color for Shadows

To adjust shadows using the Color Balance dialog you have to switch to the **Shadows** in Tone Balance section (at the bottom). For this picture I decided to add green and blue color cast - green for the forest and blue for the darker and a cooler mood.

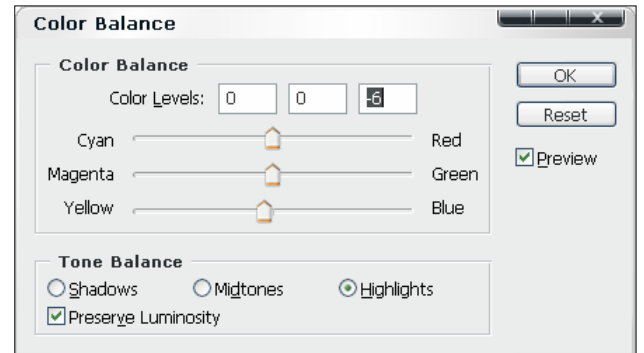


STEP 13**Color for Midtones**

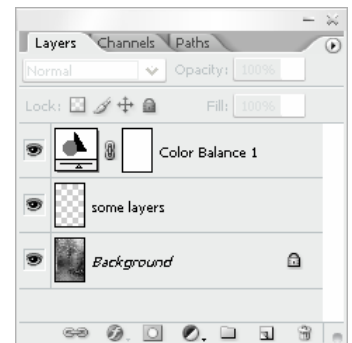
When the shadows look like you want them to, it's turn for **Midtones**. Perform similar manipulations to the midtones to achieve the desired result. My desire was to accentuate the green nature of the forest; therefore I increased the amount of green color.

**STEP 14****Color for Highlights**

And finally, you can adjust the **highlights** via the Color Balance dialog. Here I added a bit warmer greens (a bit of red), which would provide a better color contrast with shadows.

**CONCLUSION****We have completed the toning of the image**

Well that's it - not a big deal. Though if you have several layers that form the image, you would benefit from creating an **adjustment layer** "Color Balance" it would apply to all layer beneath it and you could easily modify it. To do so, in menu select Layer, New Adjustment Layer, Color Balance. Here is an example how it would look in the Layer Palette - to your right.



Many of you can easily stop here and have a perfect image. But I like to add one more step - imprison the eye within the image. What's that about? See in the next section.

Draw the eye into the image**Further Enhancements and Effects**

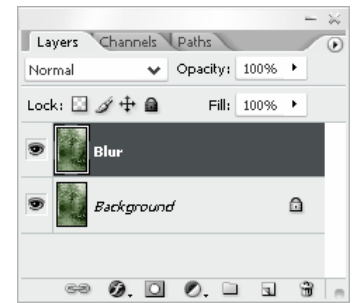
Almost any image that is presented to the viewer should have one important quality - it should **capture the eye** and hold for as long as possible. This quality in bulk part depends on the content of the photograph, but there is one simple trick, which makes it easier not to let the eye go - **Vignetting**.

So, vignetting helps imprison the eye within the image borders. The main point here is to make the borders of the image less attractive (almost boring) in comparison with the rest (center) of the image. It could be achieved by either putting the **borders out of focus** (as with the depth of field) or making it **darker/lighter and somewhat bleaker**. I like to use both means, so the combination of those would be less pronounced but still as effective. You may consider such border as a slippery and steep sidewalk, where the eye would loose the traction and slide back to the center of the image. And here are a few simple steps that may help you to achieve the desired results.

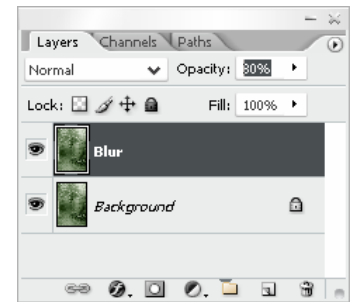
First I will create a blurry border around the center of the image:

STEP 15Copy of the Background Layer

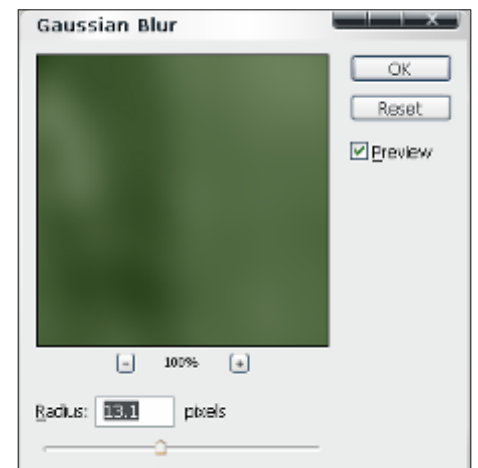
Create a ***duplicate of the image layer*** (and place it atop) - click Ctrl-J or select in menu Layer, Duplicate Layer. It will allow us to do all necessary changes without damaging the image, so if we screw up we can easily return to the previous state.

**STEP 16**Reduce Opacity

Set the ***opacity*** of the layer around 30%. We don't want such a strong effect that will distract from the image itself.

**STEP 16**Apply Gaussian Blur

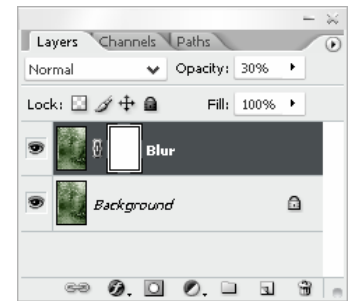
Use Gaussian Blur filter (menu Filters, Blur, Gaussian) to add some blur (soft focus actually) to the image. This blur will look like an ***out of focus image*** and won't let the eye leave the center of the image.



STEP 17

Create Layer Mask

Create a **layer mask** by clicking on "□" at the bottom of the Layer Pannel. The layer mask will allow us to hide unwanted areas of this layer. In this instance, there is only one area - the center of the image, which should be left sharp.

**STEP 18**

Select the untouched area

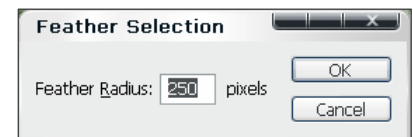
Use the Elliptical Marquee Tool to select the area that should be **transparent** and allow the sharp image to shine through.

Note: *Actually we select what border area should be blurry, because the area we select in this step will be "removed" from the layer by the layer mask.*

**STEP 19**

Blur the selection edges

Click Ctrl-Alt-D (or menu Select, Feather) to **blur/feather the edges** of the selection (make it softer):

**STEP 20**

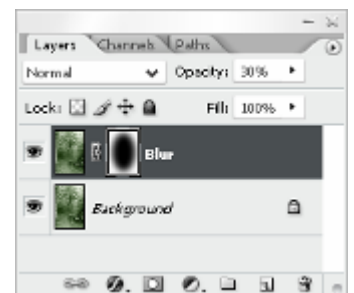
Use black color

We are going to fill the selection on the layer mask with **black color**. The black color will allow us to hide the layer pixels that correspond to black pixels on the layer mask. Therefore set the foreground color to black.

**STEP 21**

Fill the selection

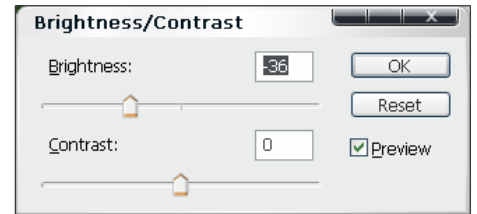
Fill the selected area on the layer mask with the foreground (black) color by clicking Alt-Backspace (menu Edit, Fill):



STEP 22

Deselect

Remove the selection by clicking Ctrl-D (menu Select, Deselect)

**CONCLUSION**

Additional Vignetting

At this point we have a blurry border, which you can make **more or less intense** by changing the opacity of this layer.

Next I will make the actual vignette - make the **border darker**: The following steps are similar to ones above, so it will be shorter to save you some time.

- Make sure that the top layer in the layer palette is selected
- Click on "⦿" to select the adjustment layer - "Brightness/Contrast"



- I've set some value around 30 - depends on the picture and the strength of the vignette
- Then we have to repeat almost the same steps with the layer mask and selection as above.
- Or you can simply holding Ctrl click on the layer mask of the Blur layer - the same selection will appear.
- Then invert the selection - Ctrl-Shift-I or menu Select, Invert
- And finally fill it with the same black color - Alt-Backspace (menu Edit, Fill)
- Don't forget to remove the selection - Ctrl-D (menu Select, Deselect)

