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5 Techniques for Enhancing Contrast in Digital Photos



This post on enhancing contrast in digital photos was submitted by Leeroy Gribbon whose photoblog (www.decoy.co.nz) we recently featured here at DPS as Photoblog of the Week.

I'm a sucker for good contrast in a photo. Since I mainly like to dabble in monochrome work, contrast for me is the gravy train - second only to composition. Regardless of whether you take black and white photographs or colour ones, take them of your cat or of war zones, I feel a little bit of

contrast goes a long way to making a photo come alive. So, let's investigate together just what contrast is, and how we can bring it out in our work.

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What is Contrast?

Contrast is simply the amount of difference between tones in an image. To see this concept in action for yourself, fire up Photoshop and open an image. Open the 'Channels' palette (View -> Channels) and click on the Red, Green or Blue Channel. You will now see a black and white representation of your image. Open Levels, and pull the black slider to the right a little, and the white slider to the left a little. The image will change in tone. Effectively, what your levels adjustment has just done is push dark grey pixels towards black, and light grey pixels toward white, i.e., the difference (or gap) between the tone of a dark grey pixel and a light grey pixel has increased - Congratulations, you've just increased the contrast....

As you pull the black slider more and more to the right, and the white slider to the left, you will notice that more of the light tones will get blown to pure white, and the darker tones to pure black - shadow and highlight detail in your images begins to be sacrificed in favor increasing contrast. The 'ideal' balance between contrast and detail depends on the type of subject photographed, the lighting used, and also the mood and feeling you wish to convey in your image: What might be a good application of contrast to one image, may be disastrous for another. A creative eye and experience are necessary for deciding this, and the best way to gain these is to practice!

It is not the aim of this article to help you with this subjective part of the process. Rather, I would like to present several methods and techniques for enhancing contrast that I personally use on a regular basis.

Before we begin, a caveat:

First Things First

As wonderful as Photoshop or any image editing software is, the output you get is only as good as the input you give it. It may make an ugly photo look better, but it'll never make it look good. This is as true for contrast as for any other aspect of a photo. You should view post-processing as bringing out the goodness already inherent in your captured images - much like polishing enhances the latent beauty of a diamond. Take special care to try and get everything right in-camera, and your processed images will be that much more impressive, I guarantee!

And one last thing, ensure you are editing all your images in 16-bit color depth.

1. Curves and Masks are Your Best Friends

Curves are perhaps the most powerful and useful image editing tool we have at our disposal. When you combine curves with masks, it's like mixing peanut butter and honey together on toast - you get some sort of crazy super goodness greater than the sum of it's parts. If you master only two aspects of image editing, it should be curves and masking. I do not want to go into how curves and masks work, as there are hundreds of articles on the net that explain them much better than I ever could. So, if you have yet to come to grips with curves and masks do yourself a favour and hole up with your good friend Google for a few hours. Or, if you're feeling lazy, check these links I found for you:

Curves: <http://www.cambridgeincolour.com/tutorials/photoshop-curves.htm>

Masks: <http://www.lunacore.com/photoshop/tutorials/tut003.htm>

Once you know how to make a mean curve and paint a righteous mask, how do you bring the two concepts together? Let's look at an example:



The first image (above) shows a basic B&W conversion of a photo I took.



The second image (above) shows the effect of applying a single curve to the image.

I've tried my best to accommodate all the tones present, but because the sky is so light and the water much darker, even with the separating power of curves if I try to push for a darker sky, I end up making the water too murky and dark, and the sky not as dark as I'd like it. The shore also leaves a little to be desired.

The solution is to make one curve for the sky, another for the water, and maybe another for the shore, then mask them in appropriately.

Although this sounds complicated and laborious, it usually only takes me about two minutes. The gradient tool certainly comes in handy for masking skies, and If you have a pen tablet masking becomes almost pleasant.



You can see the results of curves and masking together in the third image (above).

To my eye, this is much better than the second: The clouds have become more pronounced and dramatic, yet the water retains its texture and you can see the differentiation in the shore between the lighter sand and the darker pebbles.

You can see the finished image [here](#).

This is a very powerful method, and may be all you ever need to make your contrast adjustments. It may take you a little while to get comfortable with the process, but putting the time in to learn the ropes will pay dividends on your images.

2. Dodging and Burning Like a Fox

Dodging and burning is a technique carried over from darkroom days. Unlike its darkroom counterpart, digital dodging and burning is a less frustrating and more accommodating process. You may have read about the technique before, but for completeness sake I will reiterate:

1. Hold Alt and click the 'New Layer' button on the Layers palette.
2. Change the blending mode to 'Overlay' and click the box 'Fill with Overlay-neutral color'.
3. Duplicate this layer, and name one of them 'Burn' and the other 'Dodge'.

Using a low opacity brush (5-15%) paint with black onto the 'Burn' layer to darken things, and with white on the 'Dodge layer' to lighten things - effectively increasing contrast. As we're painting on layers, this effect is non-destructive to the original image. If you make a mistake, you can use 50% grey to paint out your error.

The above may be old news to you, but here is the key point: Dodging and burning will only help to exaggerate tonal differences already present in the image, it can't make something out of nothing. I.e., You can't dodge a black cat white, and you can't burn the sun black. The trick is to examine your image, identify the lighter and darker part of your image and where they meet, then dodge and burn intelligently to bring these differences out.

Let's look at another example.



The first image has some basic adjustments made to it, but I really want to bring out the play of light on those rocks. I make my dodge/burn layers, then using a soft 10% opacity brush, I paint black onto the dark crevices and nooks of the rocks, and white onto the peaks and edges exposed to the light. I want quite an exaggerated effect, so I give it maybe five or six passes with the brush.





The second image shows the dodging and the third the burning.

The fourth (below) shows the two together. You can see a marked difference in contrast compared to



the first image.

You can see the finished image [here](#).

3. Unsharp That Contrast

The following method has been around for a long time, and you'll hear it being called various names like haze cutting, HIRALOAM, or local contrast enhancement. This technique involves using the Unsharp Mask filter at a low amount and high radius to increase tonal transitions between adjacent pixels. Here is my preferred way of doing it:

1. Merge all your visible layers into a new layer (Mac: Shift-Alt-Apple-E, PC: Ctrl-Shift-Alt-E (I think))
2. Select the new layer and open the Unsharp Mask filter.
3. Set the Amount to 20, the Radius to 50 and the Threshold to 0.
4. Change the layer style to "Luminosity" to prevent any colour shifts.
5. Pull the layer opacity down to suit and/or add a mask to localise the effect.

You can experiment with the filter settings if you like, but I find it much easier to leave them as is and change the strength by layer opacity and/or masking. Make sure you view the changes at 25%, 50% or 100% magnification. At odd percentages like 33% or 66%, Photoshop applies weird interpolation that will hide distort the effect.

Be sure to use this technique sparingly, as it's strength makes it easy to create an overly dramatic look. Also, because we are using the Unsharp Mask, watch out for haloing on 'sharp' transition edges, e.g., from a dark mountain to a bright sky.

It's also an excellent technique to use on portraits for bringing out 'snap' in eyes and facial features. Just make to use a mask as otherwise it will exaggerate wrinkles and other imperfections. You can see the difference this technique makes by comparing the two images below. The first is the original, and the second has the above settings applied. I would later mask this effect to keep it isolated to the face and hands of the subject.



You can see the finished image [here](#).

4. Applying Apply Image

'Apply Image' is a little known but powerful function that we can use to adjust contrast. Basically, Apply Image will take a layer or layers, and apply it back onto the main image with your choice of

blending mode. It's worth experimenting with. One of my favourite ways of using it is:

1. Flatten your image.
2. Go to Edit → Convert to Profile → LAB color.
3. Duplicate the background layer.
4. Go to Image → Apply Image.
5. Select the Lightness Channel, Soft Light, 100% Opacity, and leave the two checkboxes alone. You'll get a funky pink and blue like image.
6. Change the layer's blending mode to Luminosity to remove these wacky colors but preserve the tonal changes.
7. Adjust the layer opacity to taste and/or use a mask to localise effect.
8. Don't forget to convert back to RGB colour when you're done.

You can also use this method to enhance color, by following the steps above but replacing the 'Lightness' channel with either the a or b LAB colour channel. The default setting will give rather garish results, so be sure to tone down the opacity.

The following two images show the result of using the Apply Image command with the LAB 'Lightness' channel:





You can see the finished image [here](#).

5. Selective Color is the Icing On the Cake

This last method is ideal for doing any last fine-tuning of contrast after any of the above methods have been applied. It's especially useful for black and white images, but don't be afraid to give it a try on your colour work too.

The instructions are simple:

1. Click the 'New Adjustment Layer' icon on the Layers palette.
2. Select 'Selective Color'.
3. In the Color drop-down box, select 'Whites'.
4. Move the black slider to suit.
5. Repeat with 'Neutrals' and 'Blacks'.

I'll often bump the 'Blacks' up +1-5% to get some punch in the shadows. The 'Neutrals' can be pushed +5-20% to get rid of any murky tones. The 'Whites' are useful for recovering small blown white areas such as sunlit sky, by pushing it +30-40%. Alternatively, you can push any off-white tones up by pulling the slider to -20-40%.

Additionally, it's possible to separate the 'Blacks', 'Neutrals' and 'Whites' into separate adjustment layers if you find them interfering with each other, i.e., have three 'Selective Color' adjustment layers stacked on top of each other.

That's All, Folks

I hope this article has provided you with some ideas on how to go about adjusting contrast for your own work. As a final word, perhaps some of these techniques do not provide results as dramatic as you would have hoped. Unfortunately, like most things in life there is no 'magic bullet' when it comes to contrast enhancement in post-processing. Rarely will I use only one of these methods - the beauty lies in their ability to be stacked one on top of another, building up contrast and 'snap' gradually.

Experiment with each of them, learn the advantages and limitations of each. and make them your own. Practice and experimentation are the best ways to learn any new skill.

If you have any questions about this article or anything photography related, please feel free to email me. You can find the contact email address at my site.

Lee Gribbon

<http://www.decoy.co.nz>



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27 Responses to “5 Techniques for Enhancing Contrast in Digital Photos”

- [Brian Auer Says:](#)

Wow, that's a pretty extensive article! I'm a big fan of the non-destructive burning and dodging. I like to get in there and add those artistic touches by hand — it makes me feel more connected to the finished photo.

- [Paul Says:](#)

Nice article.

- <http://www.photographyvoter.com>

- [Shafnitz Says:](#)

Excellent article. Thanks for the info. You mentioned at the beginning that it's obviously better to get things right when shooting as opposed to trying to fix it later in Photoshop. Do you have any suggestions for improving contrast when shooting?

- [Christopher Scholl Says:](#)

Very nicely done. I assume you are using Photoshop, right? I wonder whether you have

experimented at all with Adobe Lightroom (which doesn't offer levels). Any thoughts on software like that?

- Maffiou [Says:](#)

I wish I could spot the difference between each shot... Maybe I've got a vision defect, but the changes between the processed and non processed versions are too subtle for me to notice...

- [Andrew Ferguson](#) [Says:](#)

This was a really useful article.

I use one of the techniques described already and something similar to a second one, but there's a lot of new stuff in here for me to try out.

- mainfr4me [Says:](#)

A lot of this can also apply to Gimp, Paint.Net, etc. (I just don't feel like forking out tons of money to Adobe for products there are good alternatives out there for)

- [Sime](#) [Says:](#)

Very helpful, thanks... I am still getting the hang of PS... not used it till last week!... (Am a PaintShopPro user primarily)

- [tracy](#) [Says:](#)

great article, totally diggin it. thanks for the tips.

- Savvy [Says:](#)

re:I wish I could spot the difference between each shot...but the changes between the processed and non processed versions are too subtle for me to notice...

Yes, that's the idea you shouldn't be able to tell! But if you look at them closely you should be able to see the edits.

Do you know what "contrast" refers to?

Contrast is the difference in visual properties that makes an object (or its representation in an image) distinguishable from other objects and the background. In visual perception of the real world, contrast is determined by the difference in the color and brightness of the object and other objects within the same field of view. Because the human visual system is more sensitive to contrast than absolute luminance, we can perceive the world similarly regardless of the huge changes in illumination over the day or from place to place.

- [The Pandora Effect](#) [Says:](#)

i thought that the "burning" technique part was REALLY good. =] photoshop does it all IF just you know how.. haha.

Pandora E.

- Bob Wallace [Says:](#)

“I wish I could spot the difference between each shot... Maybe I’ve got a vision defect, but the changes between the processed and non processed versions are too subtle for me to notice...”

This would be an excellent place to use flash(?) that allows the image to toggle between states when the cursor is run over it. (Sorry, I don’t know the web tool used to create the effect.)

- [Ian Butterworth](#) [Says:](#)

PhotoKit creative sharpner also has some good tools to enhance contrast. And there is a free PDF on John Paul Caponigro’s site about high pass contrast. Though his technique leaves some halos in my experience. Your last one, the selective color was surprisingly effective particularly with the whites and neutrals. I had some photos with greenery that was coming out yellowish and weak and moving the neutrals up made a huge difference! Good post.

- Maffiou [Says:](#)

Re: Savvy...

Yeah, No, I think I’m just lacking the sensitivity to perceive this... Maybe it comes with experience or some people never get it...

- [cobalt123](#) [Says:](#)

Excellent tutorial! I found this on digg and I’ve saved it as a Favorite/Bookmark for when I can come back to it and try every technique shown here. I already use curves and contrast, but have only barely tried working with masks and layers. This information helps me greatly! Thank you for posting it and also to the person who added this to digg to begin with.

- [Bob Scoverski](#) [Says:](#)

Nicely done. There are some techniques in there that I did not know about. Well written tutorial, these techniques were so easy to understand and execute on!

- [NaturesPixel](#) [Says:](#)

Excellent article!!!! thank you for sharing

- Arnar [Says:](#)

One technique I learend from “How To WOW - Photoshop for Photographers” is to merge your layers to a new one, place it on top of all other layers and set it’s blending mode to soft light (or overlay or hard light). Then apply the high-pass filter on that layer (try it).

You can use the radius of the high pass together with the layers’ opacity to find the perfect look.

Now this may be more of a sharpening tool than to enhance visual contrast - but in reality that’s all it does, enhances contrast.

- [shroticg Says:](#)

the 5 steps are nicely elaborated. many a photographers are of the view that first shoot the image in low contrast and then enhance the contrast as per your choice on the computer. but sometimes it becomes necessary to keep the contrast level at normal or high on the camera itself evaluating the situation. congrats.

- Duntuk [Says:](#)

#3 is my favorite... use it all the time, but slightly different settings...

#1 forget about it... the difference is so small that you'll get the same effect by viewing the photos from different monitors (i.e. it's unnoticeable to almost everyone but the person who worked on the photo)

- [designbymichael Says:](#)

Interesting, but I'd really like to see a tutorial on how to maximize your contrast values *before* you even hit post-production. It seems so easy to rely so heavily on Photoshop to do all the work for us. What about good photography technique?

- Dave [Says:](#)

Add another? Often done on the a curves tool, but can be down with other tools: set the black point and white point to use more of or use the full range of tonal vales.

Just making the very darkest bits of an image totally black and the lightest bits pure white can improve contrast with very little effort and time invested (no mid-tone curve tuning)

- [Butch Curry Says:](#)

Great article! I've been looking for some quality tips on correcting my photos, and these will help a lot!

- Nino Xerri [Says:](#)

Great and helpful article. Will take my time to digest it all and apply the techniques. Totally agree with your comment with respect that and enhancement program will not make a bad image great. "Cannot make a silk purse out of a sow's ear"

- [Respiro the logo design guy Says:](#)

A high value article. Thank you for it!

- [Todd Jordan Says:](#)

Great article Leeroy. I'll definitely be bookmarking this and blogging about it. The depth and step by step through the process is helpful.

- Jennifer Mckay (uncontrolled) [Says:](#)

Great article, diggin it!! Some very useful hints and tips here.

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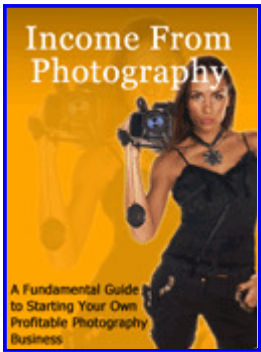
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