

Varis PhotoMedia Tutorials

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Welcome

This tutorial has been prepared for the photographer who is striving to learn digital imaging. I make an effort to supply current information about digital imaging techniques and general information about computer technology that is pertinent for today's professional photographer. This information is based on my personal experience down in the trenches at the front lines of the digital revolution that is sweeping the photographic industry.

One thing is certain: all of the information contained herein will be obsolete in a fairly short time - how short, I can't say. Be forewarned that things are changing very rapidly and the only way to stay competitive is to keep learning. I devote a good percentage of my time learning new things and I am attempting to share what I learn with you but this information will go out of date so you should be flexible and not take this tutorial to be the ultimate statement on the subject.

I consider the knowledge contained in any of my tutorials to be public domain but the form in which this knowledge is presented is copyrighted as are all the photographic images used as examples. Unless otherwise noted all imagery is copyrighted by Lee Varis and any use of these images without permission is forbidden. You are permitted to use this tutorial for your personal education - you are not permitted to sell or otherwise distribute this material. Please contact me for any other use.

I maintain a web site where I post additional information, examples and tutorials. You are invited to browse various portfolios as well as download free material and purchase additional tutorials at:

<http://www.varis.com>

I hope you find the information contained in this tutorial helpful. Please let me know if you find any errors or omissions - I'm always trying to improve these materials! You may contact me via email at:

varis@varis.com

best regards, Lee Varis 2002

Luminance Blending

value control in color images

One of the most compelling things about good B+W imagery is the way the tonal structure of the image is simplified by eliminating the influence of color. Light and shadow provides most of the visual impact in a photograph, even an extremely colorful one. The viewer can tolerate color deviations quite well but if an image lacks tonal interest they will complain bitterly. It is easier to visualize differences in value and therefore control them in B+W. This is perhaps one of the reasons Ansel Adams was never that fond of color photography – those darn colors keep getting in the way.

The key problem in color correction of photographic imagery is maintaining control over tonal shape – the value structure underlying the colors in the image. Color and contrast seem to be inextricably mixed in the image and normal contrast enhancing moves tend to have serious impact on hue and saturation. We will have an easier time of this if we can separate the color from the tonal values and deal with each separately. Fortunately Photoshop provides us with some very powerful tools to achieve this.

The following tutorial outlines a method of color “tonal” control that has been pioneered by Dan Margulis. I have attempted to simplify some of his more complex ideas into simpler strategies for manipulating color tonalities with grayscale channels. These techniques represent only the tip of the iceberg as far as the range of controls possible with more elaborate methods utilizing LAB and convoluted Apply Image and Channel Calculations commands but they should help get you started.

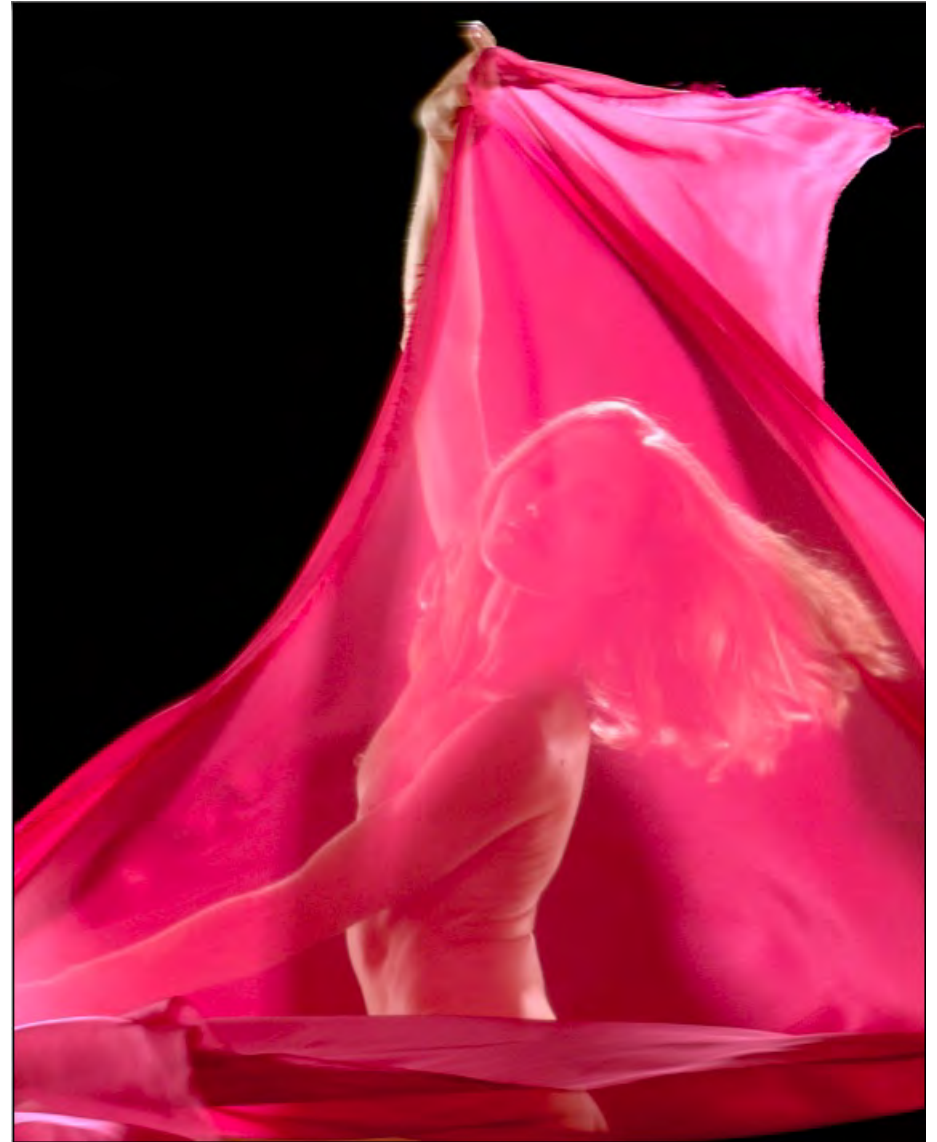
When Color Overwhelms

Look at the Channels

Here we have a problem image. Our dancer has been caught behind this sheer veil and we'd like to be able to see more of her face. The red veil is very saturated but the face behind it has very little contrast. It will be impossible to apply a steep enough curve adjustment that would bring out the detail we're looking for.

This is something we see all the time when dealing with highly saturated colors. The bright red sports car often doesn't have enough definition in the body shape because the saturation overpowers the tonal values. Bright oranges don't seem round enough or textured enough because the color is often "out-of-gamut" and ends up "clipping" into a flattened saturated version. Everyone says they want bright saturated colors but this often comes with a price.

The solution is to forget about the color, for a moment, and concentrate on B+W. We begin by looking at the grayscale "channels" that make up the full color image. In this case, those channels are RGB - ideal candidates for a B+W conversion of this image. So let's bring up the channels palette and examine the individual channels...



**toggle to
next**

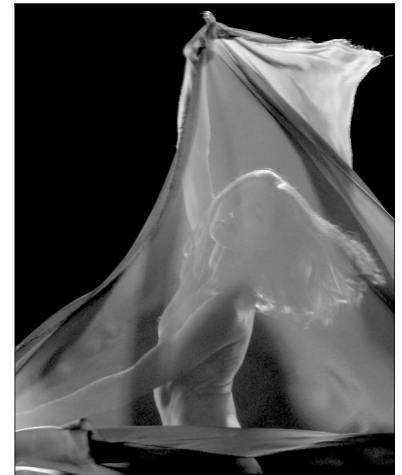
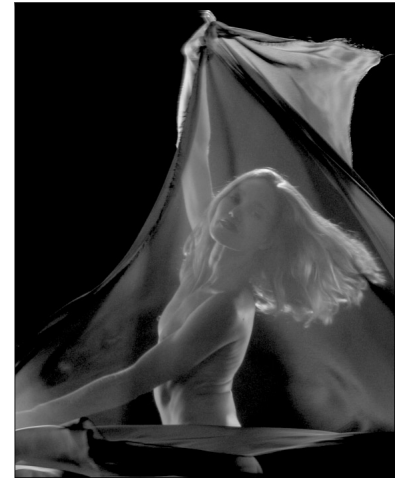
**toggle to
final**

3 Grayscale Channels- RGB

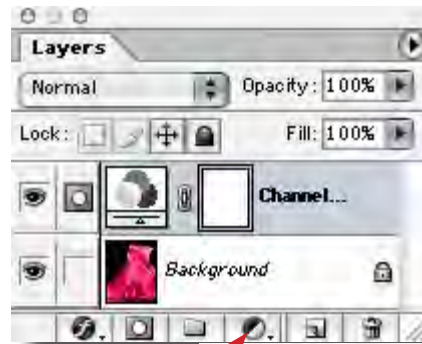
hidden tonal values in the color image

Look at the individual channels by clicking on them in the “Channels” palette. We can easily see that the red channel has no information in the face - its completely white. The blue channel is better but the green channel is clearly the best in terms of contrast. Though it is a little dark overall there is plenty of tonal shape and her face is clearly visible.

This is the kind of detail we’d like to have in the color image. Fortunately, Photoshop offers us the ability to apply the tonal separation and contrast of a grayscale image to a color image. In the next few steps we will extract the green channel luminosity and apply it to the color image. Our main tool to accomplish this will be the “Channel Mixer”...



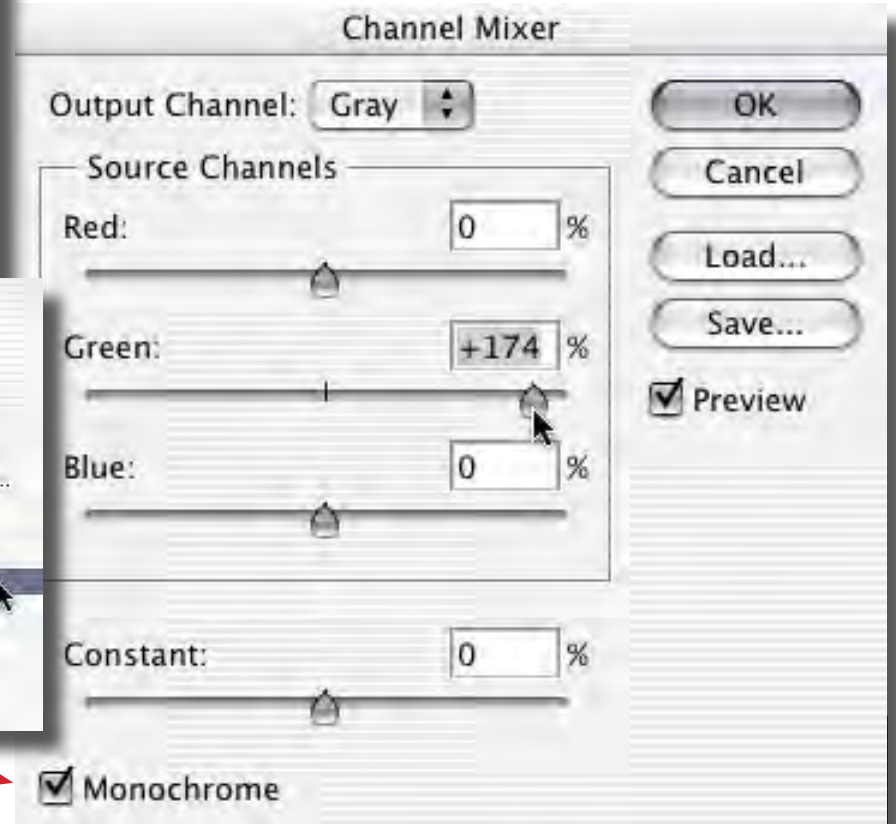
Channel Mixer



Make a Channel Mixer adjustment layer by clicking on the adjustment layer icon. Select "Channel Mixer" from the resulting drop down.

The Channel Mixer dialog will come up - check the "monochrome" checkbox at the lower left corner of the dialog.

This will change the Output Channel to gray and turn the image into grayscale. Set the "Red" slider to zero and adjust the green slider up past 100% until the image looks bright enough. The Channel Mixer is an excellent tool for doing grayscale conversions because it allows us a lot of flexibility to adjust tonal values by adding or subtracting channels. In this case, we are adding additional green channel brightness on top of itself to come up with a good B+W version of our dancer.

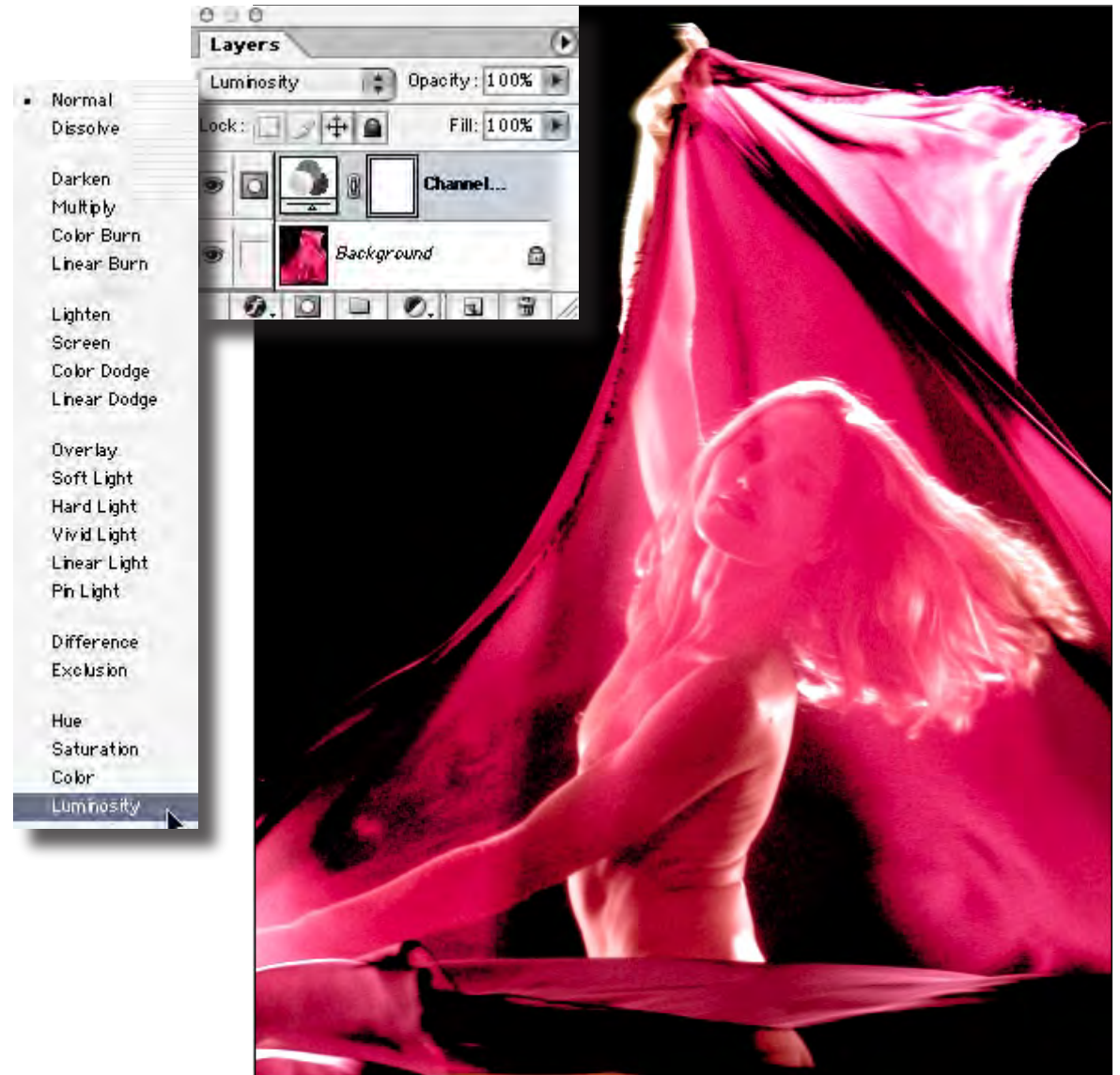


Luminosity Apply

Now for the magic... change the layer apply mode by clicking the drop down just under the "Layers" tab - select "Luminosity" and the color image will suddenly assume the detail and contrast of the "Channel Mixer" layer. This maneuver takes the luminosity- the value and contrast- of the grayscale result from the "Channel Mixer" and applies it to the underlying color image.

We still have some work to do but this version is much better than our original. We can use an adjustment layer on top of this to further tweak the image but we are going to something else instead. The main problem we have now is the contrast from the green channel has turned parts of the veil black - its just too harsh for the mood of our image.

This calls for another magic trick...



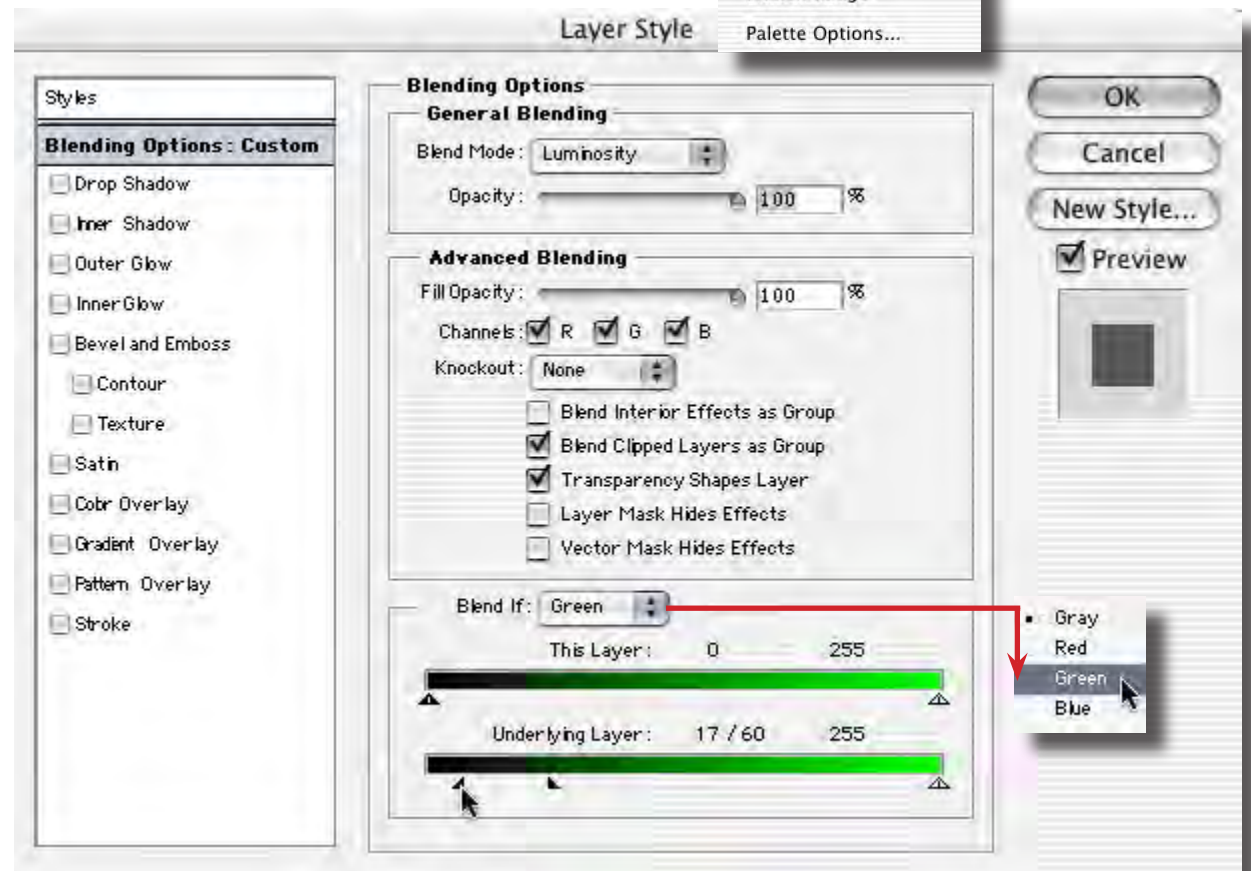
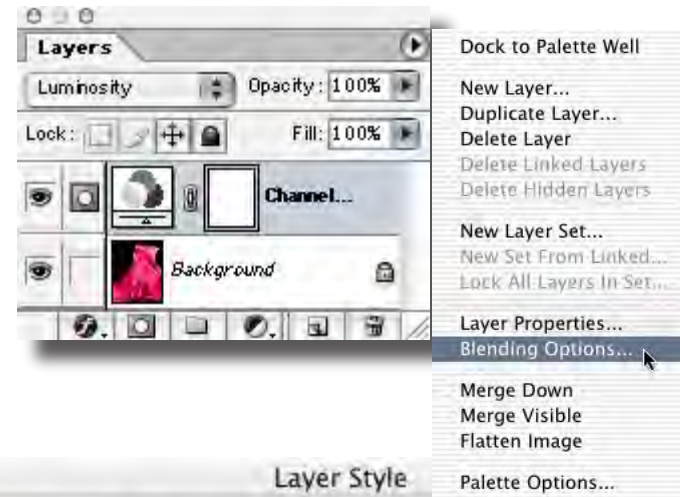
**toggle to
original**

**toggle to
final**

Blending Options

Besides the layer apply modes there is an additional set of controls for layer interaction. This is found under “Blending Options” which is actually part of the “Layer Style” dialog. Click on the triangle at the upper right corner of the “Layers” palette and select “Blending Options” from the resulting drop down.

The “Layer Style” dialog comes up. We are going to use the “Blend If” sliders to control where the green channel luminance blends back into the original image in the underlying layer. The idea here is to bring back the tone and color of the original image in the areas that have turned black after the luminosity apply. Since the green channel has the most contrast we will use that channel as our source for a special luminosity mask. Change the “Blend If” drop down to “Green” to select the green channel.



Split Sliders



Drag the black triangle on the “Underlying Layer” slider to the right until the black parts of the image regain their original tone. We can then “feather” the transition by holding down the “option/Alt” key and splitting the triangle into two halves - drag the right half further to the right until the tones smooth out.

The “Blend If” sliders are an extremely powerful tool for seamlessly blending layers based on the channel luminosity in each layer. Very complex blends can be achieved by combining different channel slider positions in the top and bottom sliders.

This example shows the power of applying grayscale channel luminosity back into the color image in the special case of overpowering color and saturation in an area where we are looking for detail. Next we will look at a fairly typical image that can almost always benefit by the application of one of the grayscale channels luminosity.



**toggle
back**

**toggle to
original**

Blending for Portraits

channel luminosity brings out shape
and texture

Here we have a portrait that at first glance doesn't seem too bad. Skin color looks good as well as overall contrast. My feeling is that Nathan here looks a little pasty – I'd like to give him a bit more of a tan without darkening down the blue Karate Gi. I could use a curve adjustment but that would darken everything, including the Gi and it would increase the contrast and saturation in his face.

The solution again is a luminosity blend with one of the RGB channels. 9 times out of 10 the green channel has the best tonal shape for any portrait. In this case I'm going to go for a more dramatic tanned look! The Blue channel is the clear winner as far as tans go plus it has the added benefit of making the blue Gi lighter.

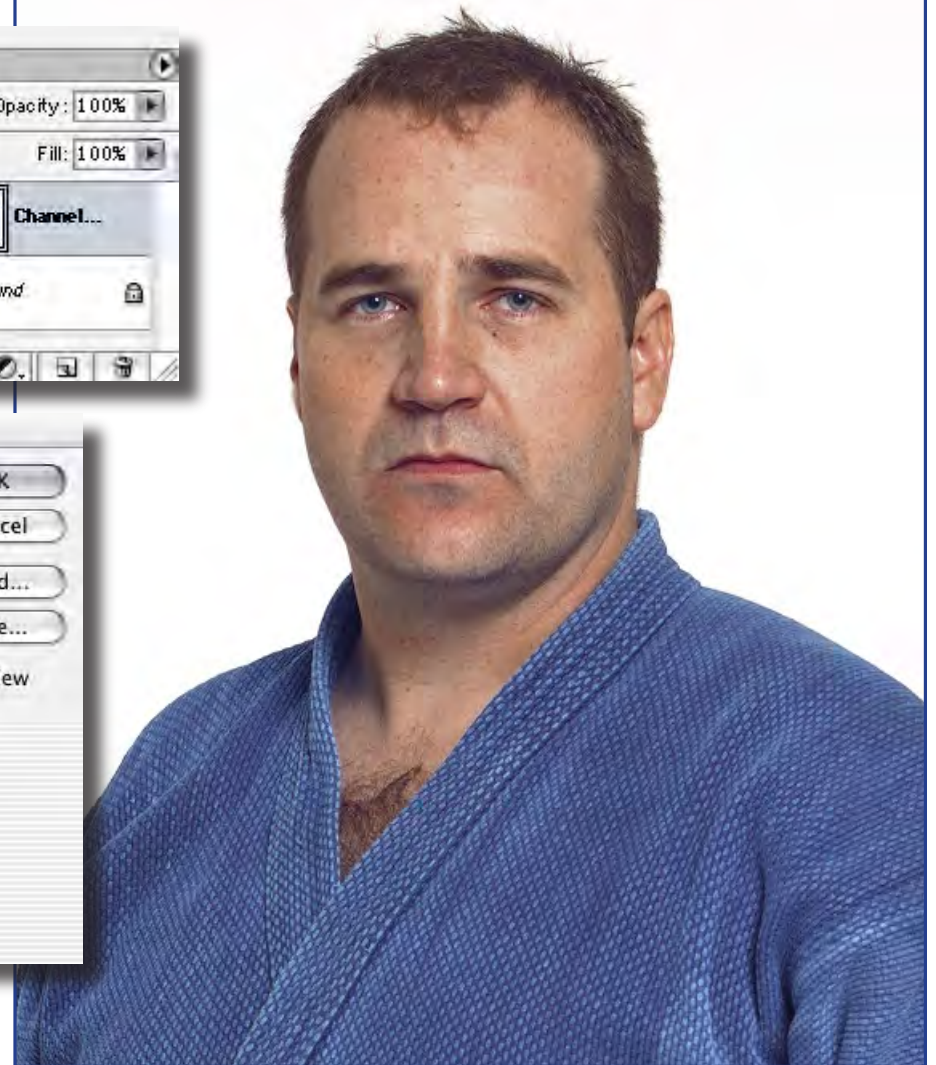
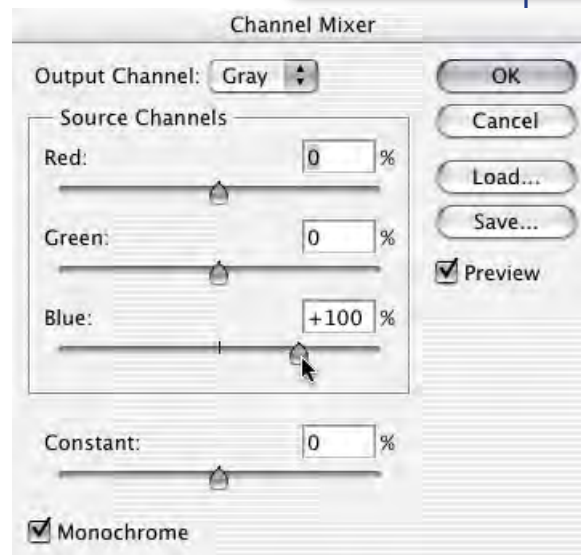
We'll start with another Channel Mixer adjustment layer...



**toggle to
Final**

Blue Channel Blend

Check the “Monochrome” check box as before but this time set the Red slider to “0” and the Blue slider to “100” - change the layer apply mode to “Luminosity” and there you have it!



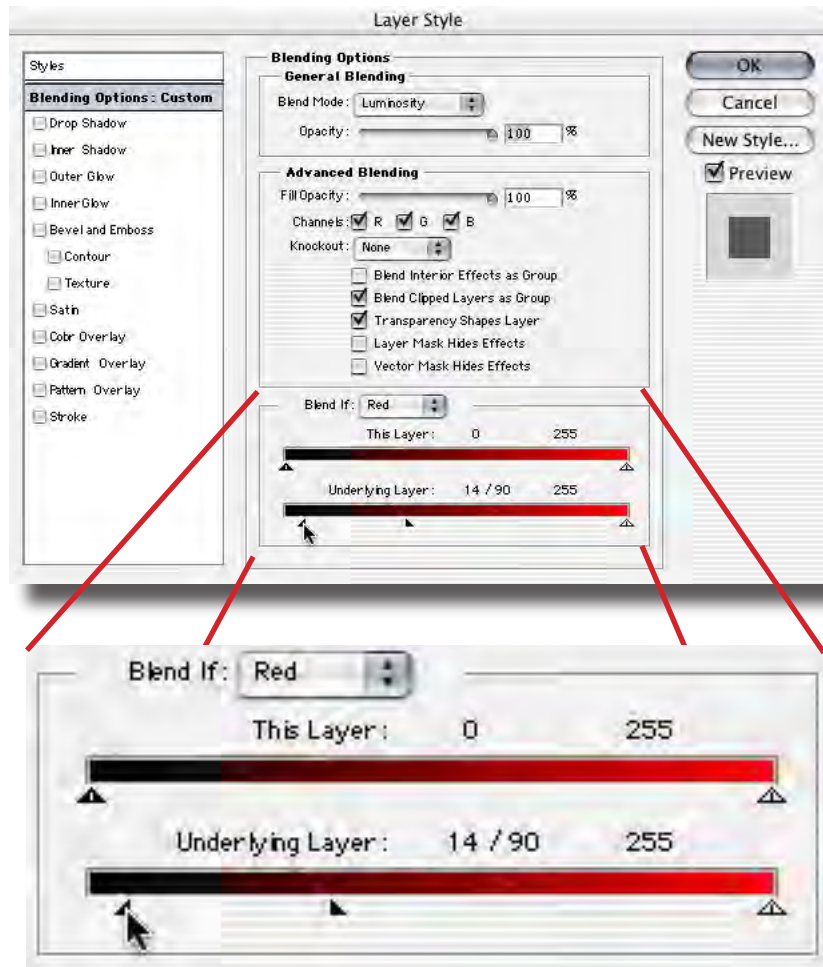
Now that's a tan... His face has some tone but his beard hasn't gotten darker so its minimized somewhat. This trick is good for that “swarthy” look, OK for some men but you probably wouldn't go this far with a woman.

This move has also lightened the Gi as well as the blue of his eyes. But what if we don't want the blue to get lighter?

**toggle to
original**

**toggle to
Final**

Blending Options for Control



We again use the “Blending Options” from the Layers palette to control how our luminosity blend occurs. Use the Red “Blend If” sliders to blend back to the original luminosity in the areas that are black in the red channel, split the slider as before to feather the transition – if you do it right you can preserve a bit more texture in the blue Gi.

**toggle to
original**

Improving on Nature

You can never have too much of the right kind of contrast!



Here's another shot that's not too bad - but why stop at good enough when we can have spectacular!

Again, we look at the individual channels for a source for luminosity blends. In this case there is no clear winner. The red channel has good contrast in the sky but nothing in the red rock. The Blue channel has most of the contrast in the rock but nothing in the sky. The green channel is the grayest but it might be helpful as well. What we need is some way of using just the parts that we need from each channel avoiding the parts that are not useful.

We will use a different strategy with this image- instead of using the Channel Mixer we are going to use the "channels" directly. In order to do that we will need to duplicate the document first...



**instructions
for next step**

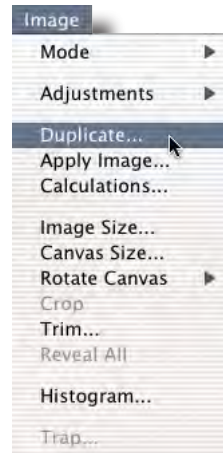
**next
image**

**toggle to
final**

Select: Image-> Duplicate and you'll get a new copy of the image. With this copy active click on the triangle in the upper right of the "Channels" palette and select "Split Channels" from the resulting drop down menu. The RGB color image will break apart into 3 separate grayscale documents labeled "Red", "Green" and "Blue".

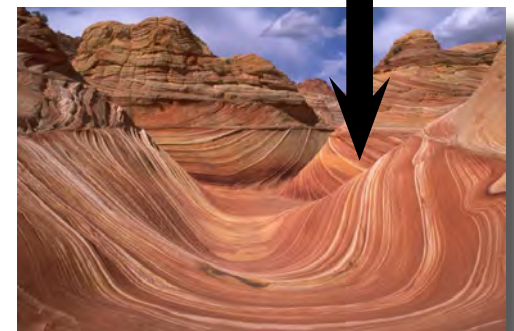
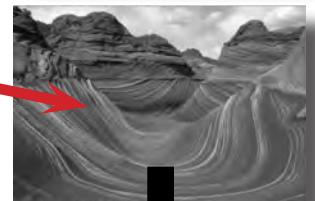
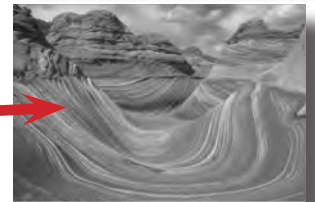
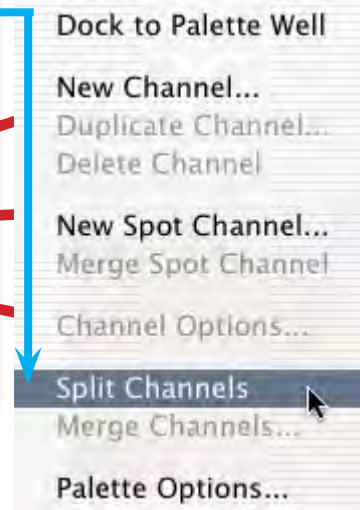
We will drag these documents onto the original color document as "layers". Photoshop will automatically convert them into monochromatic RGB layers that can be used for our luminosity blending.

Start with the "Blue" document. Using the move tool, hold down the "shift" key, click in the "Blue" document window and drag the document onto the original color document. The "shift" key causes the document to register with the underlying image so that they match up.



Duplicate & Split Channels

The different channels have completely different tonal renditions of the scene – similar to the effect of photographing the original scene with B+W film through different colored filters



Luminosity Apply Mode



After the "Blue" layer is positioned change the layer apply mode to "Luminosity". The red rocks get darker making the light striations stand out more. The sky gets lighter though, so we will have to fix that later. For now, let's see if we can force more contrast into the rocks...

**back
one**

**next
image**

Overlay Apply Mode

Everywhere that the Overlay layer is lighter than 50% gray it will lighten the underlying image. Areas that are darker will darken the image.



Very often, when you have a predominantly gray channel, it can be used to enhance detail and texture by using it as an Overlay layer.



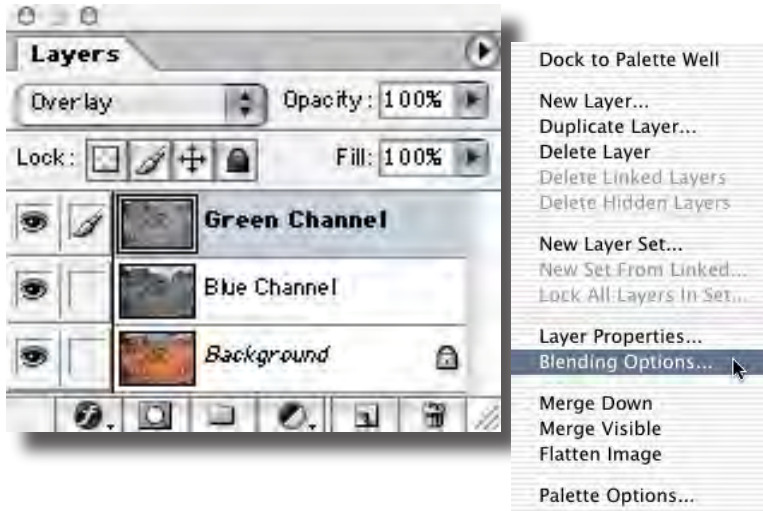
Place the “Green” document on top as before – this time change the apply mode to “Overlay”. The textures in the rock are really coming out now but the deepest shadows are plugging up. We can remove some of the Overlay effect from the shadows using “Blending Options”...

**back
one**

**next
image**

Blending Options

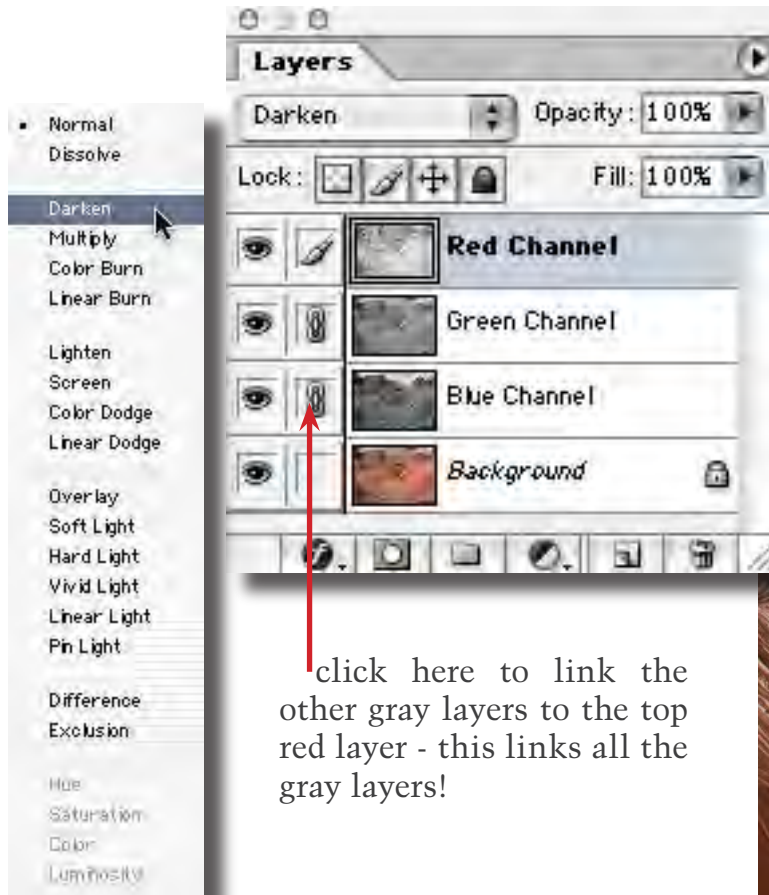
Blending Options provide an additional level of control over where the overlying layer will affect the underlying image.



Select "Blending Options" from the layer options drop down menu. Use the "Blend If" gray sliders to blend back into the underlying shadow detail. Split the sliders to feather the transition. You can also use this to lighten the darker rock a bit. Now we have to do something about the sky...

**back
one**

**next
image**



click here to link the other gray layers to the top red layer - this links all the gray layers!

Now we'll fix the sky – drag the “Red” document on top and change the apply mode to darken. Hmm... the sky is darker but now it is gray because “Darken” apply mode “replaces” the underlying image with the darker gray layer. We have to get the darker gray sky “luminance” into the color image. The solution is to place all the “gray” layers into a layer set. First, link the gray layers by clicking into the “well” next to the “eye” icon.

Darken Apply Mode

Darken apply mode replaces the lighter areas of the underlying image with the darker areas of the overlying image. The rock in the “Red” layer is much lighter than the underlying image - only the sky is darker so only the sky is applied.



**instructions
for next step**

**back
one**

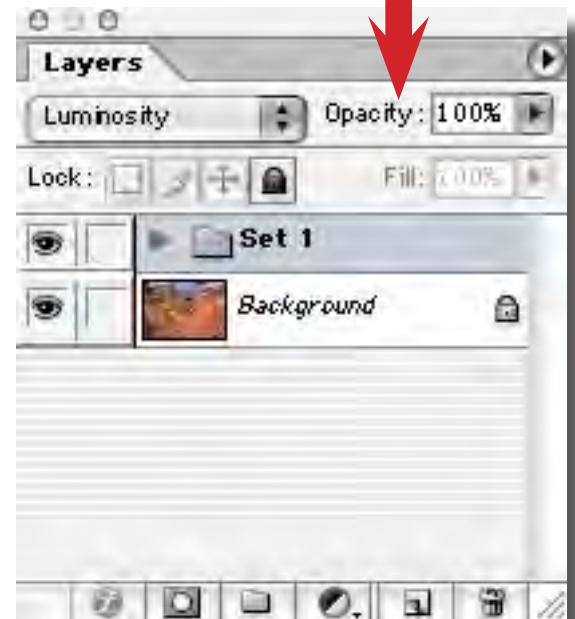
**next
image**

Making a Layer Set

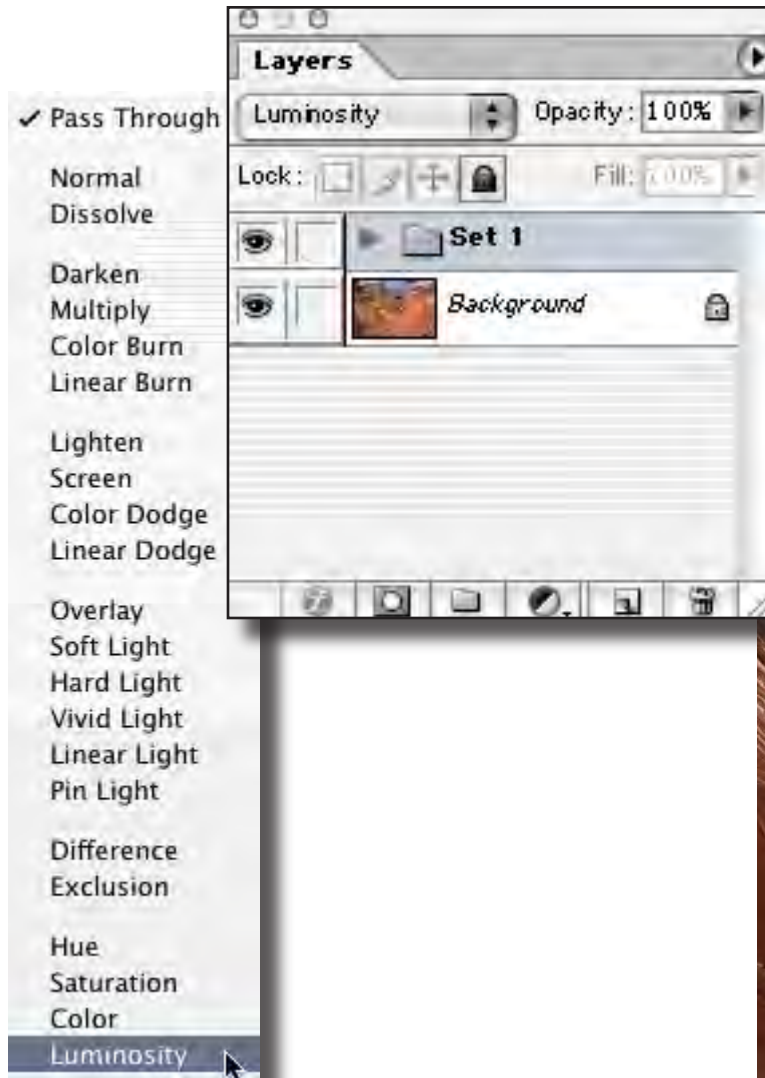


Layer sets can be useful for quite a few things. We place layers into a “Set” that acts like a container - this allows us to treat the “Set” as one unit. We can give this unit an overall apply mode. The individual layers in the set can all have their own apply modes (as long as the bottom layer in the Set is “Normal”) and the result of their interactions can then be applied to the image under the “Set” using any of the available layer apply modes.

For our purposes, first select the “Blue Channel” layer and change its apply mode to “Normal”. Then select “New Set From Linked” – all the linked gray layers now collapse into a “Set” with a default name of “Set 1”. The default apply mode is “Pass Through” – this is the same as having the individual layers interacting as usual with the underlying image – there is no apply mode associated with the set. Next we will change the apply mode for the “Set” to “Luminosity”...



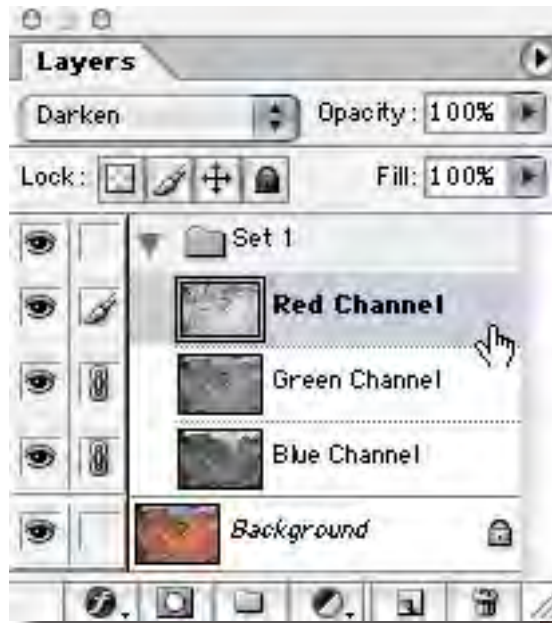
Layer Set to Luminosity



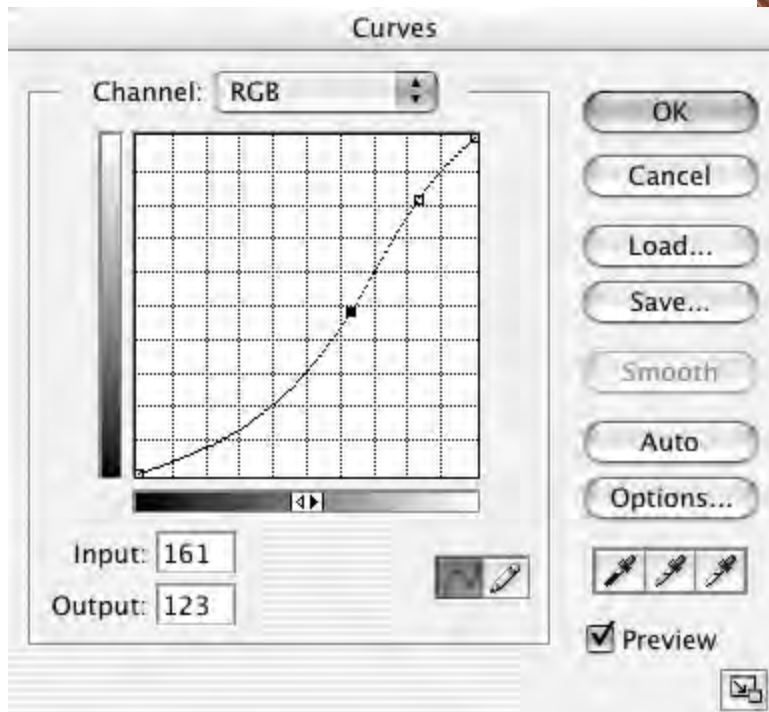
Change the layer apply mode for "Set 1" from "Pass Through" to "Luminosity" by selecting it from the drop down menu just beneath the "Layers" tab. Now we have the darker sky but this time the color is back. We can make the sky darker still...

**back
one**

**next
image**



Open the layer set by clicking on the triangle just to the left of the “folder” icon. The contents of “Set 1” appear. Click on the “Red Channel” layer and select: Image-> Adjustments-> Curves to bring up the “Curves” dialog. Here we can build a contrast enhancing curve for the sky without affecting the other part of the image.



**back
one**

**next
image**

Hue/Saturation for Color

Once the tonal values are where we want them a simple Hue/Saturation move can wake up the colors to complete the image.



**back
one**

**toggle to
original**

The final step is a Hue/Saturation move to bring out some more color in the rocks and sky. Make a Hue/Saturation adjustment layer and edit "Blues" and "Yellows". Adding saturation to the yellow in the rocks brings out some more color variation and enhances the detail. A little more saturation in the blue sky can't hurt!

Congratulations

Now that you've completed this tutorial you've learned about some of the more advanced tone and contrast controls in Photoshop including:

- Use of the Channel Mixer to isolate grayscale channels
- Applying grayscale luminosity using layer apply mode
- Using Blending Options to control layer interaction
- Breaking a color image into separate grayscale documents using the "Split Channels" command
- Using Overlay and Darken layer apply modes
- Making layer "Sets" to apply more complex luminosity from multiple layers

I hope you've enjoyed this tutorial. Don't worry too much if everything seems a little confusing. Give your self some time to absorb these concepts, take a break and return to this tutorial later. After a while things will start to gel. Once you get comfortable with the application of grayscale luminosity to color images you will discover many new uses for these techniques in your own work.

Best regards,

Lee Varis

Varis PhotoMedia Tutorials

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Thank you

I hope you enjoyed this tutorial. The techniques outlined here represent just the tip of the iceberg. Photoshop is a very deep application - a person could spend years studying it and there will always be more to learn. If all this seems a little overwhelming, take a break, do what you feel comfortable doing in Photoshop and return to this tutorial again later on. Often, it takes several weeks for a particular technique to sink in so give it time.

I have other tutorials available online (navigate to the methods section), some are free and some are available for a modest charge. See tutorials and some examples of my work at:

<http://www.varis.com>

There are many learning resources available on the web - here are a few other sites with good information:

<http://www.russellbrown.com>

<http://www.creativepro.com>

<http://luminous-landscape.com/>

<http://www.imaging-resource.com/HOWTO.HTM>

<http://www.photoworkshop.com/>

<http://www.adobe.com/misc/training.html>

<http://studio.adobe.com/expertcenter/photoshop/main.html>

<http://www.ledet.com/margulis/articles.html>

<http://www.steves-digicams.com/>

<http://www.photoshopuser.com/>

<http://www.handson.nu/>

<http://photoshopgurus.info/>

Thes last two links are typical of the majority of Photoshop tutorial sites - they are focused on cool graphics effects not photography. You might want to look over this material anyway - sometimes you can learn alot about basic functions in Photoshop.

I'm always trying to improve these materials and I'm always open to your feedback. You may contact me via email at:

varis@varis.com

best regards, Lee Varis 2002