

Only web colors



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VOLUME 2

MASTERING PHOTOSHOP FOR WEB DESIGNERS



Layer 3

Layer 2

Layer 1

Background

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04



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Imprint

Published in April 2011

Smashing Media GmbH, Freiburg, Germany

Cover Design: Ricardo Gimenes

Editing: Thomas Burkert

Proofreading: Brian Goessling

Concept: Sven Lennartz, Vitaly Friedman

Founded in September 2006, [Smashing Magazine](#) delivers useful and innovative information to Web designers and developers. Smashing Magazine is a well-respected international online publication for professional Web designers and developers. Our main goal is to support the Web design community with useful and valuable articles and resources, written and created by experienced designers and developers.

ISBN: 978-3-943075-12-0

Version: May 23, 2011

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Preface

When it comes to designing in Photoshop, there is a myriad of ways one could use to achieve a certain result. Designers use techniques they are most confident as well as comfortable with, which is great because it's always useful to peek into the workflow of our colleagues and learn new design approaches. Creating great artwork without intimately knowing your tools is certainly possible, but the more you know, the more likely you are to work faster and with greater confidence.

This eBook contains 11 articles that cover useful techniques and tricks from experts such as retouching, cloning, compositing, obscure Photoshop time-savers and designing for iPhone. You may know some of them, but hopefully not all of them.

The articles have been published on Smashing Magazine in 2010 and 2011 and they have been carefully edited and prepared for this eBook.

We hope that you will find this eBook useful and valuable. We are looking forward to your feedback on Twitter and via email.

— Thomas Burkert, Smashing eBook Editor

Mastering Photoshop: Noise, Textures, Gradients and Rounded Rectangles

Marc Edwards

Often, it's the little details that turn a good layout into a great design; details such as subtle textures, shading and smooth shapes. Photoshop contains a vast array of tools for embellishing a design, but choosing the right one isn't always easy. Being the obsessive-compulsives that we are, we've conducted a huge range of experiments to determine the benefits and disadvantages of each technique. Here, then, is an obsessive-compulsive's guide to some frequently used tools and techniques for Web and UI design in Photoshop.

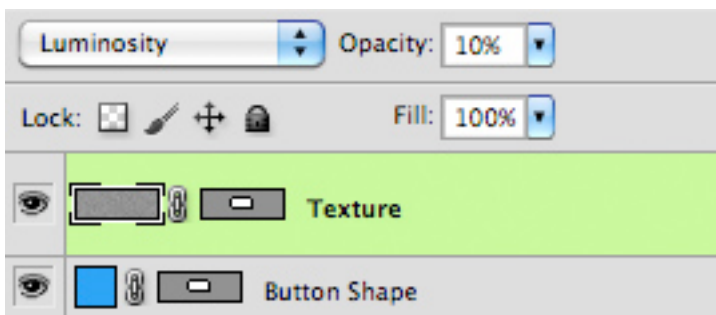
Noise and Textures

Subtle noise or texture on UI elements can look great, but what's the best way to add it? Our goal is to find the best method that maintains quality when scaled but that is also easy to implement and edit. To find out which is best, we'll judge each method using the following criteria:

- Number of layers used: fewer is better.
- Ability to scale: if the document is resized, will the effect maintain its quality?
- Can the noise be on top of the Color and Gradient layer styles?
- Can the method be used with any texture, not just noise?



1. Bitmap Layer With Noise

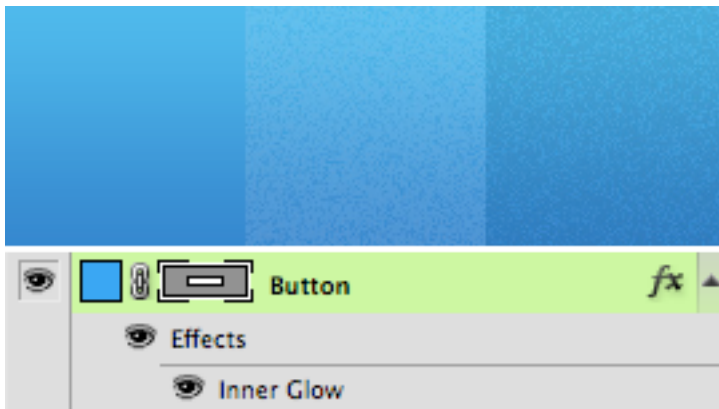


Probably the most obvious method for adding texture to a shape is to create a normal bitmap layer, fill it with a color, select **Filter** → **Noise** → **Add Noise**, then apply a mask or Vector Mask to match the element you're adding noise to.

Using a high amount of noise, setting the layer blending mode to Luminosity and reducing the opacity will yield the most control over the noise with the least disturbance to the underlying layers. A noise setting of 48% gives a high dynamic range without clipping the noise. (Clipping results in higher contrast, which might not be desirable.)

-
- Layers: 2
 - Scales: No, texture will have to be recreated if the document is scaled
 - Works with Color and Gradient layer styles: Yes
 - Works with any texture: Yes

2. Inner Glow Layer Style



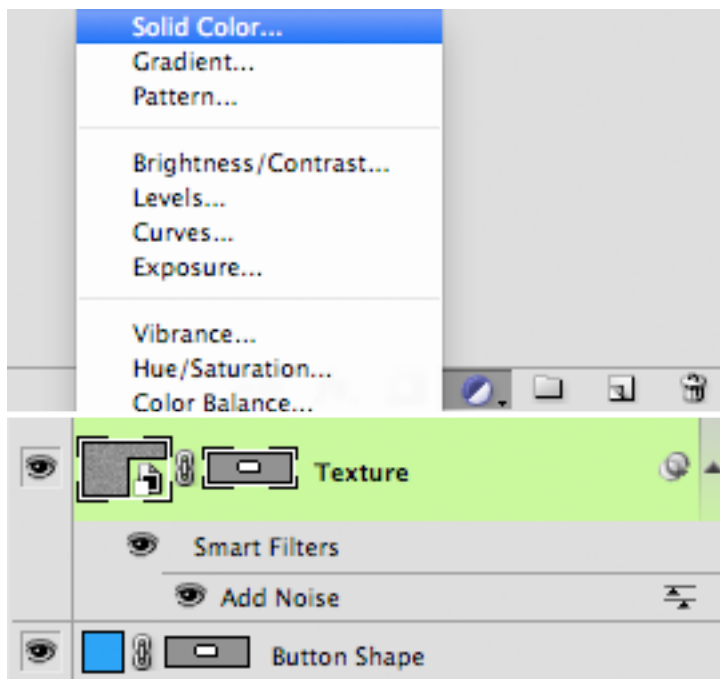
Adding an Inner Glow layer style with the source set to center and the size to 0 will let you use the noise slider to add texture to any layer. It's a good solution, provided you're not already using the Glow layer style for something else. The noise is added above the Color, Gradient and Pattern layer styles, which is great.

Unfortunately, the noise can only lighten or darken the underlying elements. The previous bitmap layer method can add highlights and shade at once while maintaining the average luminosity, and it looks far better in my opinion.

- Layers: 1
- Scales: Yes, texture will be remade automatically
- Works with Color and Gradient layer styles: Yes

- Works with any texture: *No*

3. Smart Object with Filter

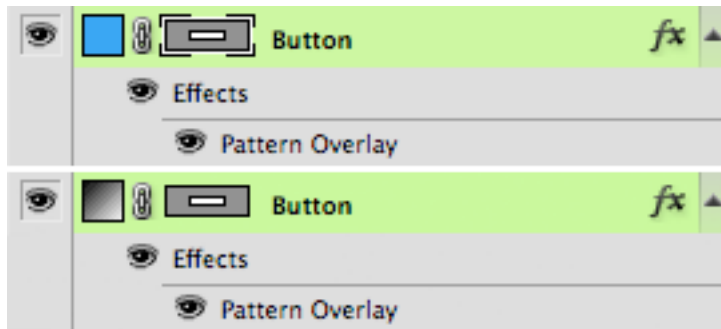


Create a Solid Color layer, convert it to a Smart Object, select **Filter** → **Noise** → **Add Noise**, apply a Vector Mask to match your element, set the layer blending mode to *Luminosity* and reduce the layer's opacity.

It's a fairly involved process, but it can accommodate a combination of effects that can be remade if the document gets scaled.

- Layers: 2
- Scales: Yes, texture will be remade automatically
- Works with Color and Gradient layer styles: *Yes*
- Works with any texture: *No*

4. Pattern Overlay Layer Style



Start by creating a noise or repeating pattern in a new document, then choose `Edit → Define Pattern`. Once you've defined the pattern, it will be available in the Pattern Overlay layer style options. As with previous methods, using *Luminosity* as a blending mode and reducing the opacity to suit it yield great results.

The Pattern layer style is composited below the Color and Gradient styles, ruining an otherwise perfect noise and texture method. However, you can create a second layer that just holds the texture if you need to, or start with a Gradient Fill layer, sidestepping the limitation.

- Layers: *1*
- Scales: Yes, but you'll need to change the Layer style scale to 100% after scaling
- Works with Color and Gradient layer styles: *No, the pattern appears underneath*
- Works with any texture: *Yes*

Which Method Is Best?

Although a little cumbersome, creating a Gradient Fill layer, adding a Pattern layer style, then creating a Vector Mask seems to be the best method possible. This can be used to create flexible, scalable and editable single-layer UI elements with texture. As a bonus, Gradient Fill layers can be dithered and so also produce the highest quality results (Gradient layer styles cannot be dithered).

We've created some examples below and included the source document so that you can see how they were built.



[Download the PSD \(.zip\)](#)

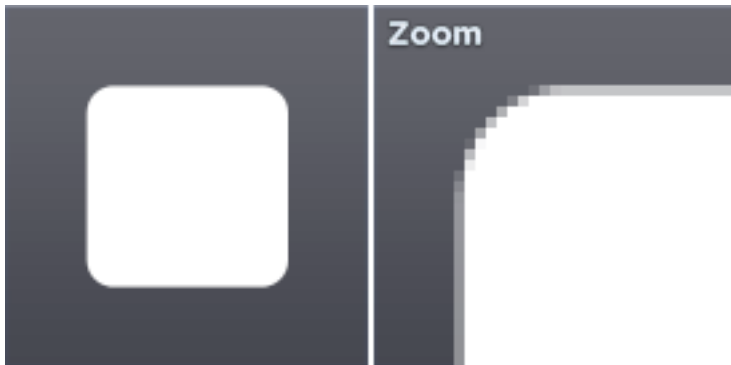
Rounded Rectangles

Rounded rectangles, or “roundrects” as [QuickDraw](#) so fondly calls them, are standard fare on a Web and interface designer’s utility belt. They’re so common that it’s rare for Web pages or apps to *not* contain a roundrect or two. Unfortunately, pixel-locked rounded rectangles can actually be fairly difficult to draw in Photoshop. (By pixel-locked, I mean that every edge falls on an exact pixel boundary, creating the sharpest object possible.)

Experienced Photoshop users will probably already know one or two ways to draw a roundrect. Hopefully, after reading this article, they’ll also know a couple more, as well as which methods produce pixel-perfect results.

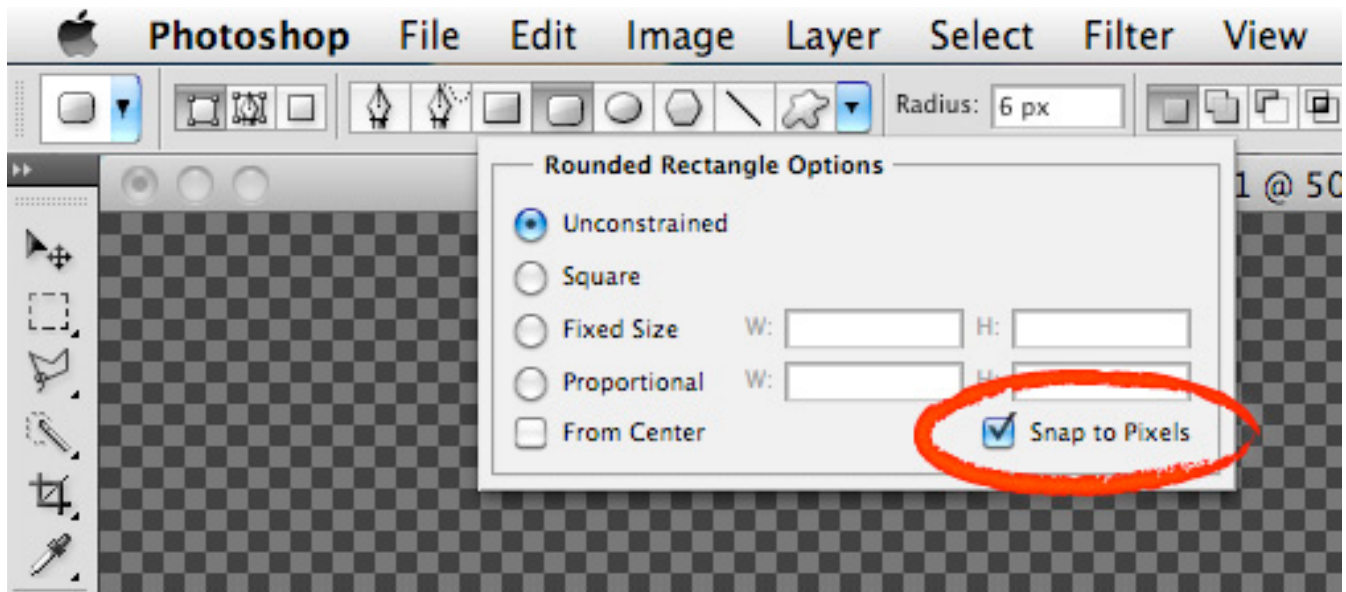
1. Rounded Rectangle Vector Tool

Photoshop's Rounded Rectangle vector tool appears like the ideal candidate for the task, until you realize that the edges it creates are blurry and inconsistent.



Fortunately, there is a fairly well-hidden option that locks the Rounded Rectangle vector tool's output to the pixel grid. Excellent.

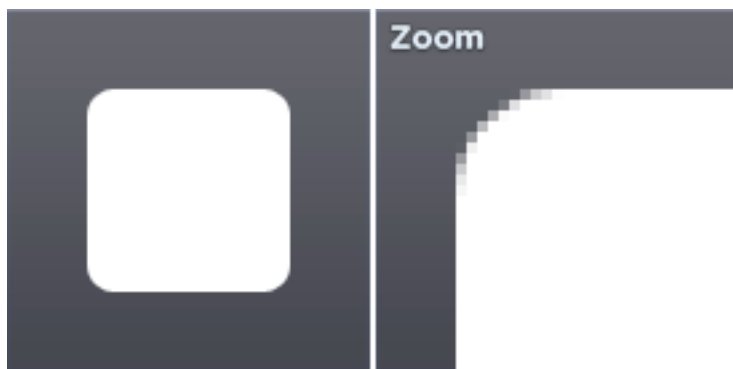
To enable pixel-locked drawing for the Rounded Rectangle vector tool, check the "Snap to Pixels" option in the Options bar. If you have "Snap to Pixels" turned off, drawing at 100% zoom achieves the same result.



The result is perfect roundrects, every time. The only downside is that the corner radius can't be altered during or after drawing the shape. If you need a different radius, you're forced to draw it again. It's a shame the roundrect tool isn't like Illustrator in this regard, where the up and down arrow keys increase and decrease the corner radius while drawing.

On the positive side, keeping your objects as vectors means that you'll be able to resize the document and the corners will take full advantage of any extra resolution. There is one small caveat though: if you resize, you'll have to do it as an exact multiple, or risk fuzzy non-pixel-locked edges.

If you're being pedantic about the results, you may notice that the antialiasing on the first half of each corner doesn't match the second half — you'll have to look carefully to notice, though. For example, looking at the zoomed corner below, the start of the corner to the apex isn't identical to the apex to the end of the corner (starting from either side). In practice, that probably won't create any issues.



2. Blur

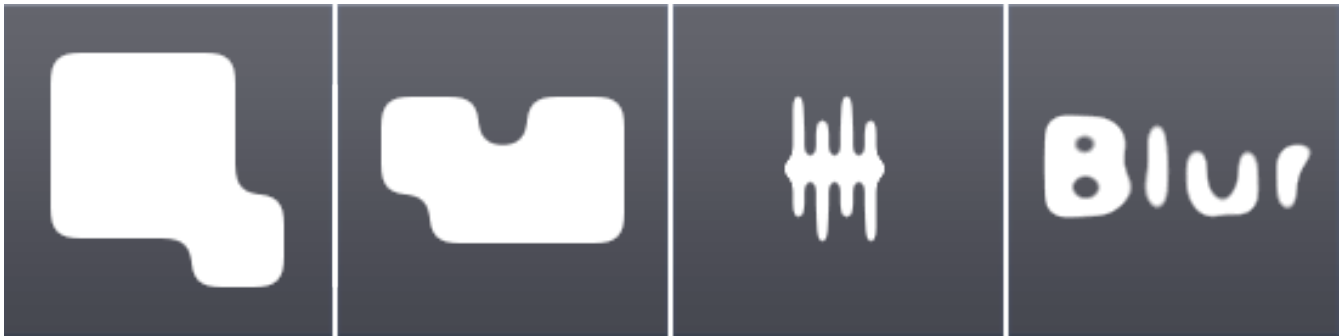
The blur method is a bit of a hack that involves creating a selection, blurring it, then increasing the contrast so that you're left with a sharp mask that's antialiased nicely.

It's seven steps in total and is prone to being inaccurate; plus, the radius of the corners can't be changed on the fly. Applying levels can also be a bit fiddly. One advantage is that different levels settings can be used to obtain different degrees of antialiasing, from incredibly soft to completely aliased.

1. Create a new layer
2. Draw a rectangular selection
3. Enter quick mask (Q)
4. Gaussian blur by half the radius that you'd like for the rounded corners. (For example, a 10-pixel radius would need a 5-pixel blur.)
5. Apply Levels (Command + L), and use about 118 for the black point and 137 for the white point on the input levels
6. Exit quick mask (Q)
7. Fill selection



On the positive side, this blur method can be used to quickly create some interesting and organic shapes that would be difficult to draw by hand.

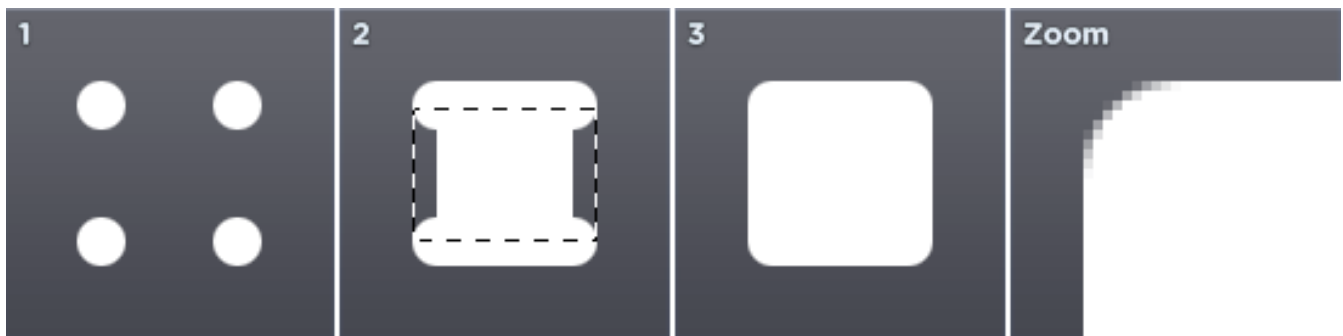


3. Circles

The circles method is very accurate and easily reproducible, but has a whopping 13 steps. That's a lot of clicking for just a single roundrect.

1. Create a new layer
2. Make a circular selection that is twice as large as the radius you would like (for example, a 10-pixel radius would require a 20×20-pixel circle)
3. Fill the selection
4. Move the selection right. This can be done quickly by holding down Shift and pressing the right-arrow key a few times
5. Fill the selection
6. Move the selection down
7. Fill the selection
8. Move the selection left
9. Fill the selection

-
10. Make a rectangular selection that covers the entire vertical span of the roundrect but that starts and ends halfway through the circles at the ends
 11. Fill the selection
 12. Make a rectangular selection that covers the entire horizontal span of the roundrect but that starts and ends halfway through the circles at the ends
 13. Fill the selection



4. Stroke

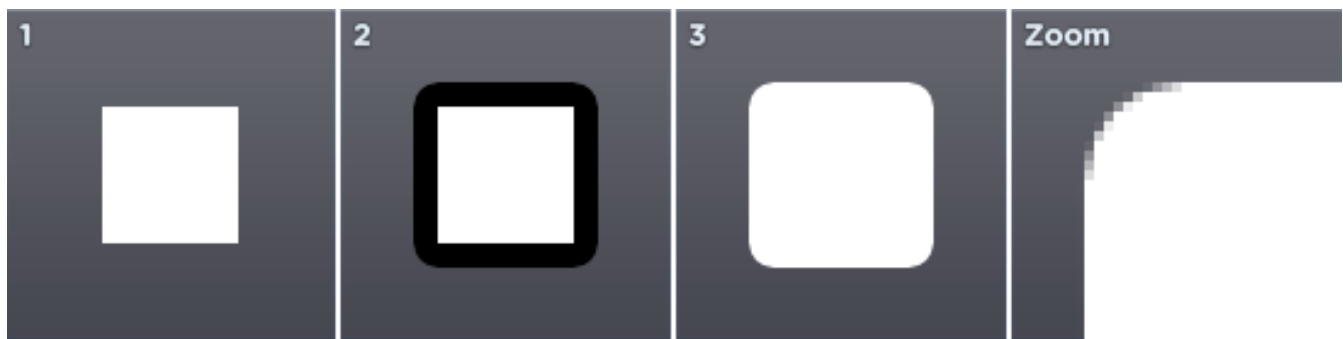
The stroke method is very accurate, easily reproducible and has only about four steps, depending on the result you're after. The corners are a bit sharper than those of the circle method, though. That may be a good thing or a bad thing, depending on your preference.

1. Create a new layer
2. Draw a rectangular selection that is smaller than the area you require (smaller by double the radius, if you want to be exact)
3. Fill the selection

-
4. Add a stroke as a layer style that is as thick as the corner radius you would like

If you'd like to flatten the object to remove the stroke, keep following the steps below.

1. Create a new layer
2. In the Layers palette, select the new layer and the previous layer
3. Merge layers (Command + E)



It's possible to automate the flattening with a Photoshop Action. This can also be set up as a function key to speed things up further.

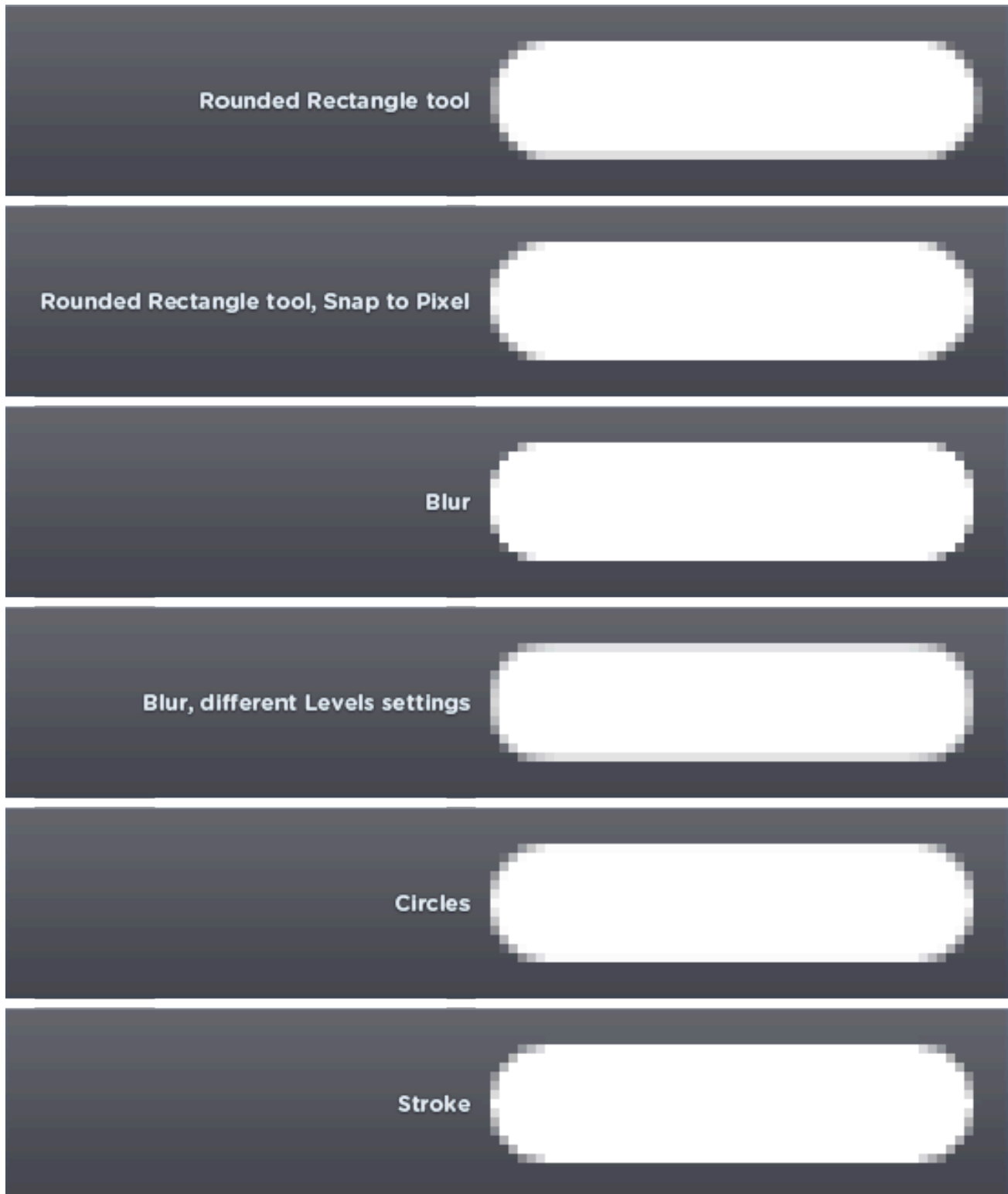
A huge advantage of the stroke method is that it's dynamic, so the radius can be edited in real time. It can also be used to easily create other rounded shapes, as seen below.



Which Method Is Best?

In most cases, using the Rounded Rectangle tool with “Snap to Pixel” turned on will give great results and be the quickest method. If you’d like the ability to change the corner radius without redrawing, then the stroke method is the one to use.

However, as seen below, each method yields different results. So, depending on what you’re after, you may need to use a combination of methods.



All tests were completed using Photoshop CS4 and CS5 on a Mac. Behavior for both versions was consistent.

Gradients

Gradients are a great way to add life-like lighting and shading to surfaces. When built with gradient layers and layer styles, they also ensure that UI elements can be scaled and reused easily.

Linear Gradients

Linear gradients are gradients in their most basic form — a gradual blend of colors and following a straight line. I'm sure you knew that, so onto the more interesting stuff.



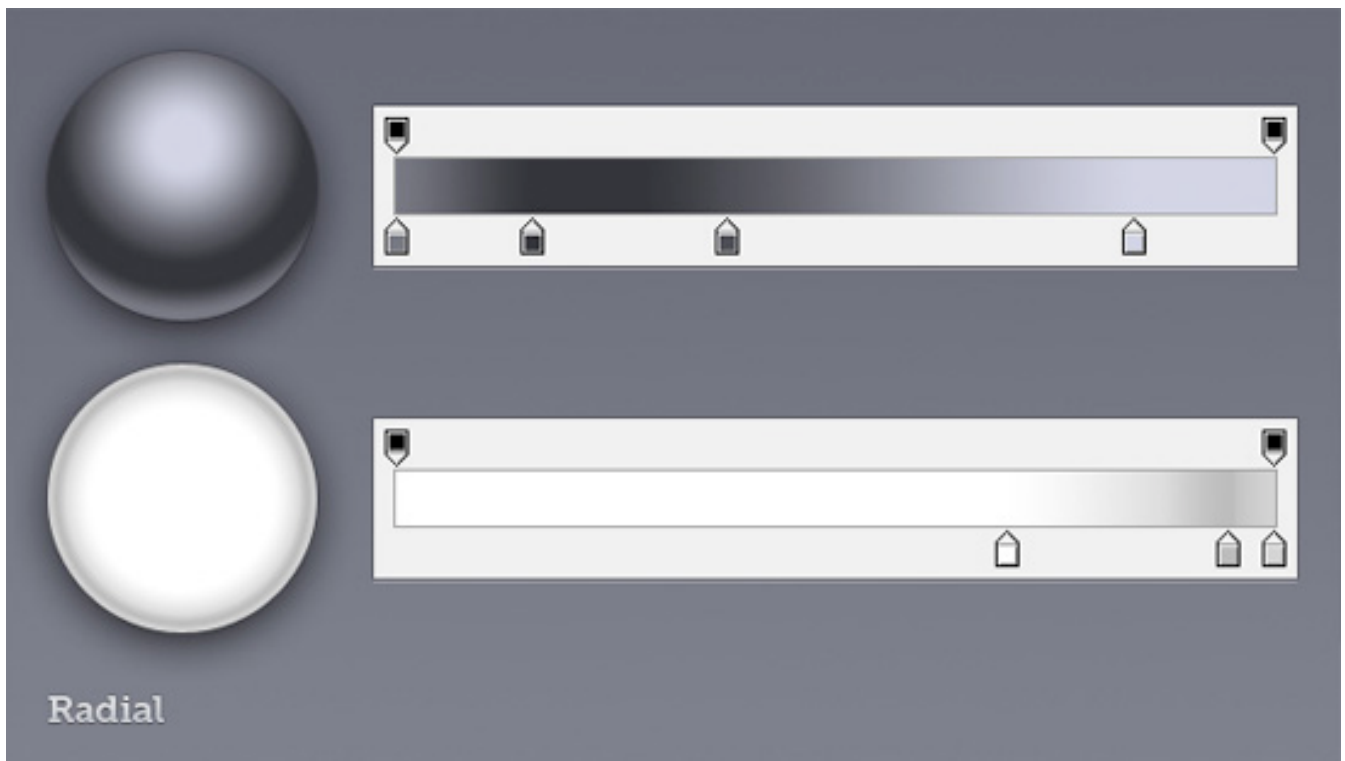
Reflected Gradients

Reflected gradients are like their linear friends, but they repeat the gradient twice, with the second repeat mirrored. This makes editing a little less tedious, provided it fits the result you're after.



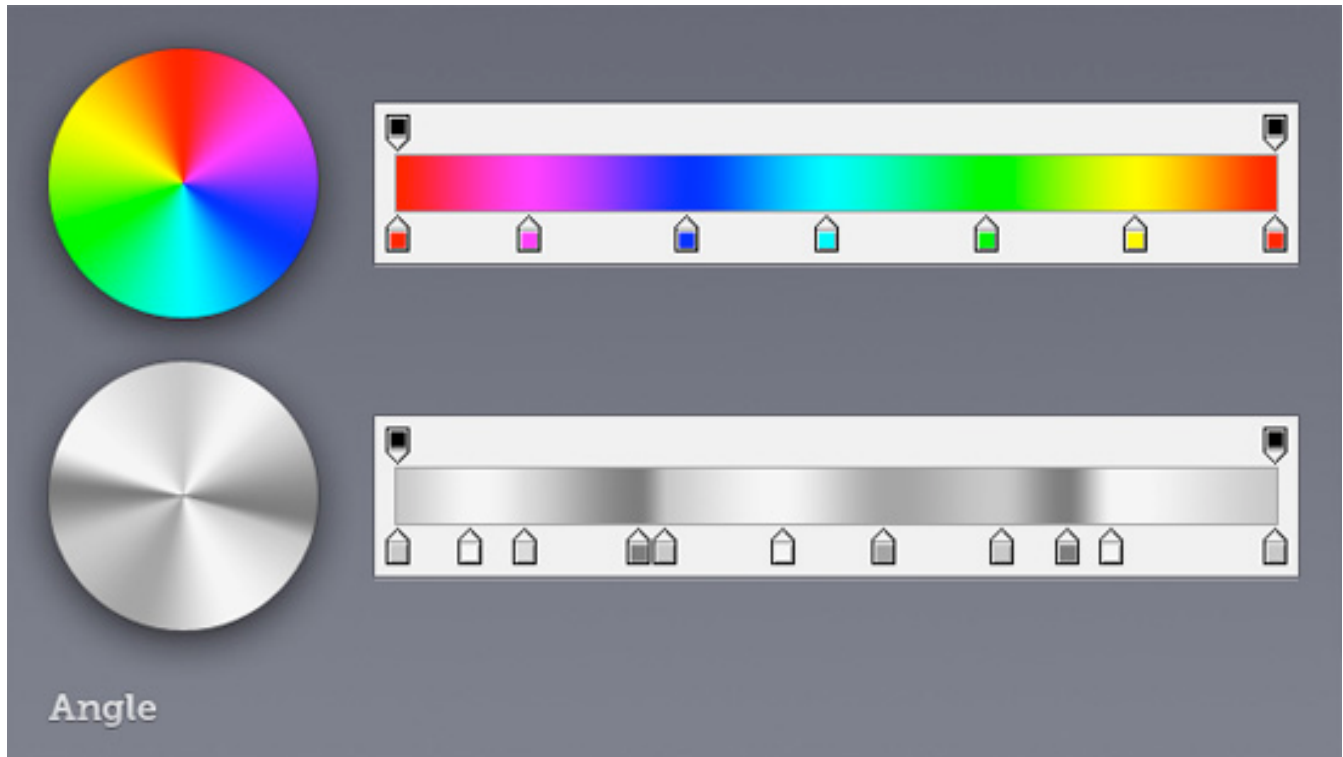
Radial Gradients

Radial gradients start from the center (or any chosen point) and grow outward in a circular pattern. They're handy for creating spheres and applying effects to the edge of circular elements. The center point of the gradient can be moved by clicking and dragging on the canvas while the gradient window or layer styles window is open.



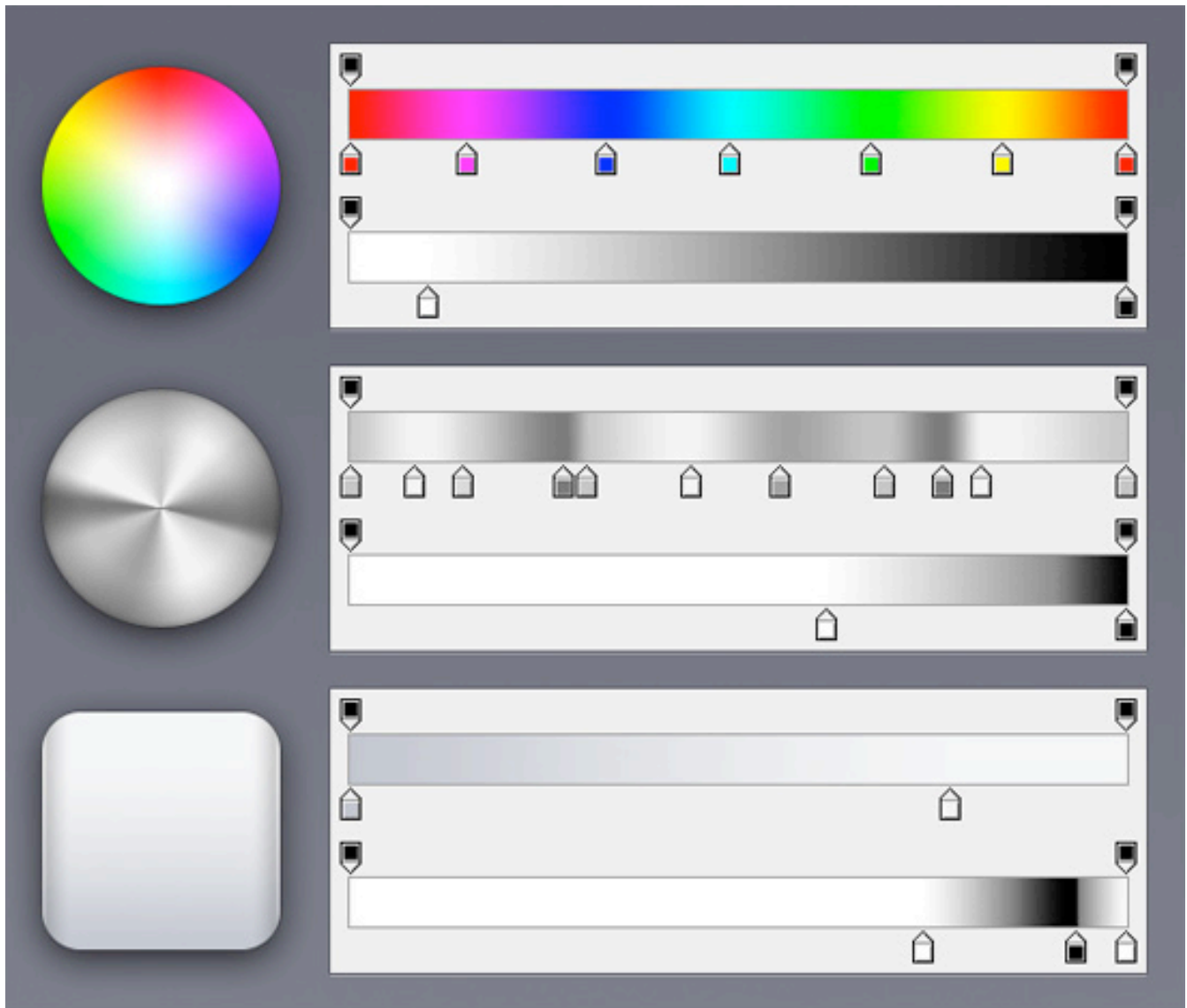
Angle Gradients

Angle gradients can be a great way to mimic environmental reflections found on highly polished metallic objects. The center point of the gradient can be moved by clicking and dragging on the canvas while the gradient window or layer styles window is open.



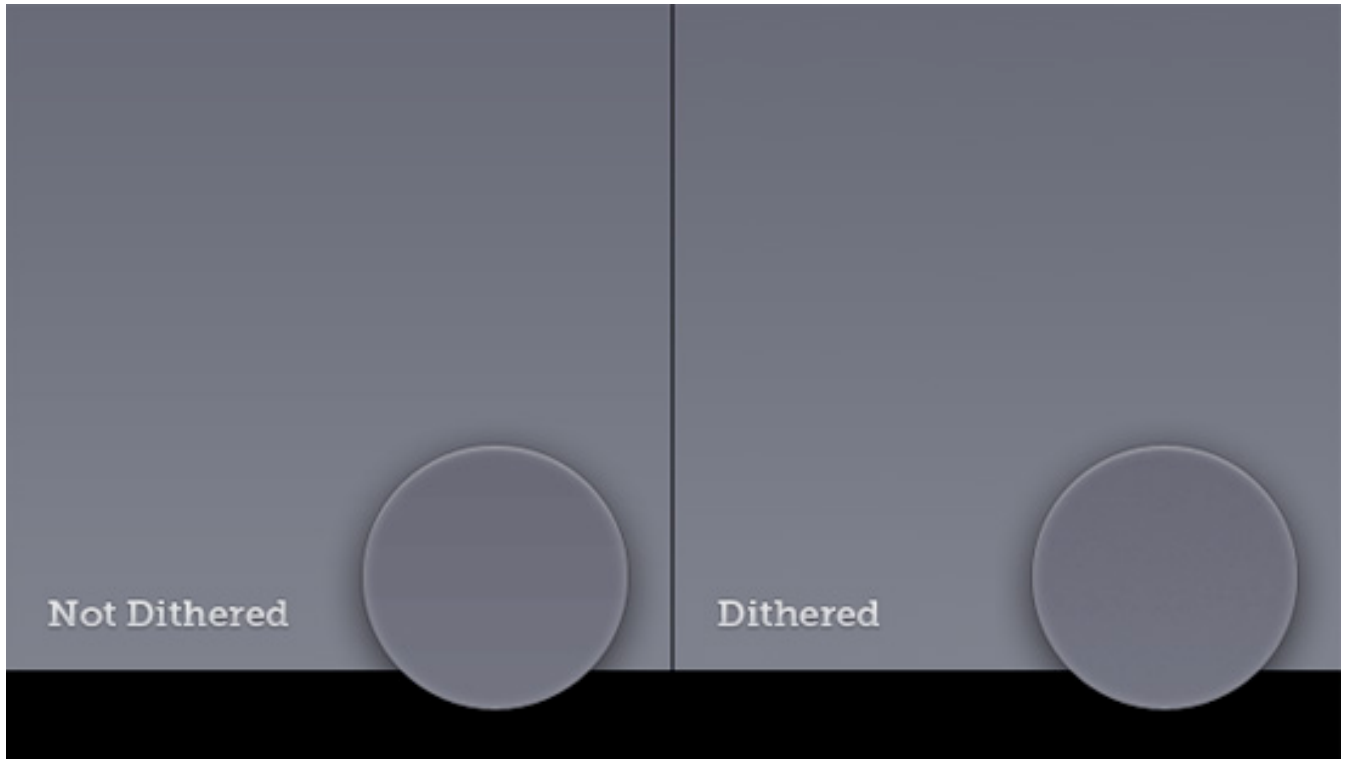
Gradients on Gradients

Anything worth doing is worth overdoing, right? Combining a gradient layer with a gradient layer style lets you overlay two different gradients, giving more complex and — here's the good part — completely dynamic results. To combine the gradients, you'll need to set a blending mode for the gradient layer style. For the examples below, I've used either Screen (good for lightening) or Multiply (good for darkening).

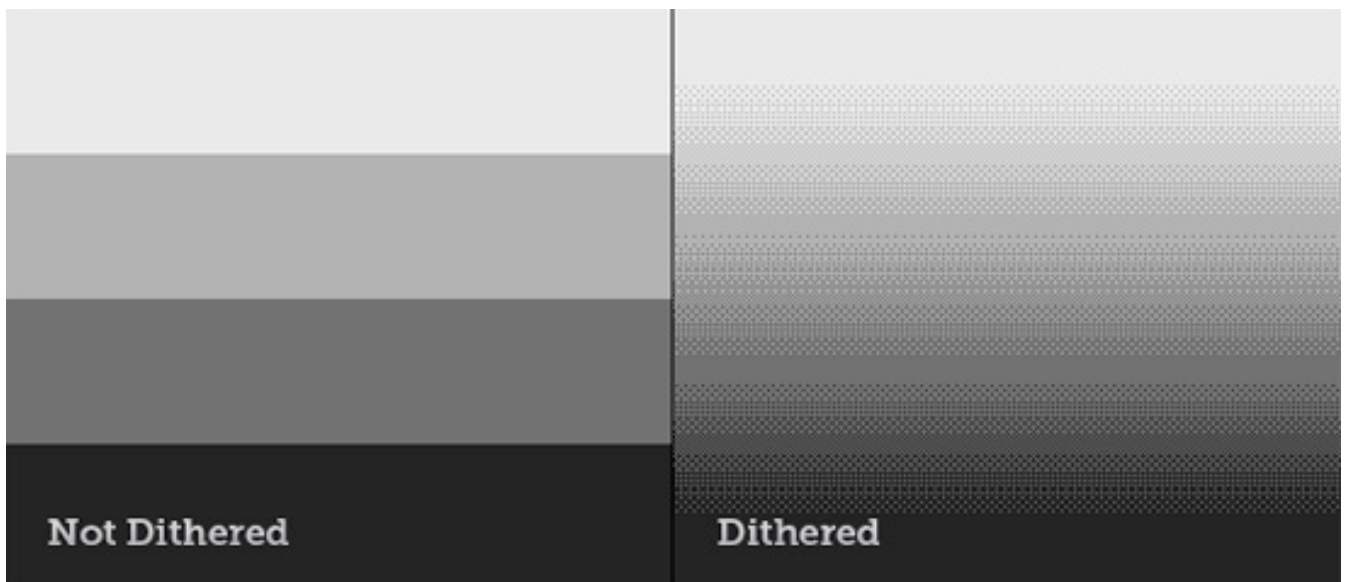


Dithering Is Everything

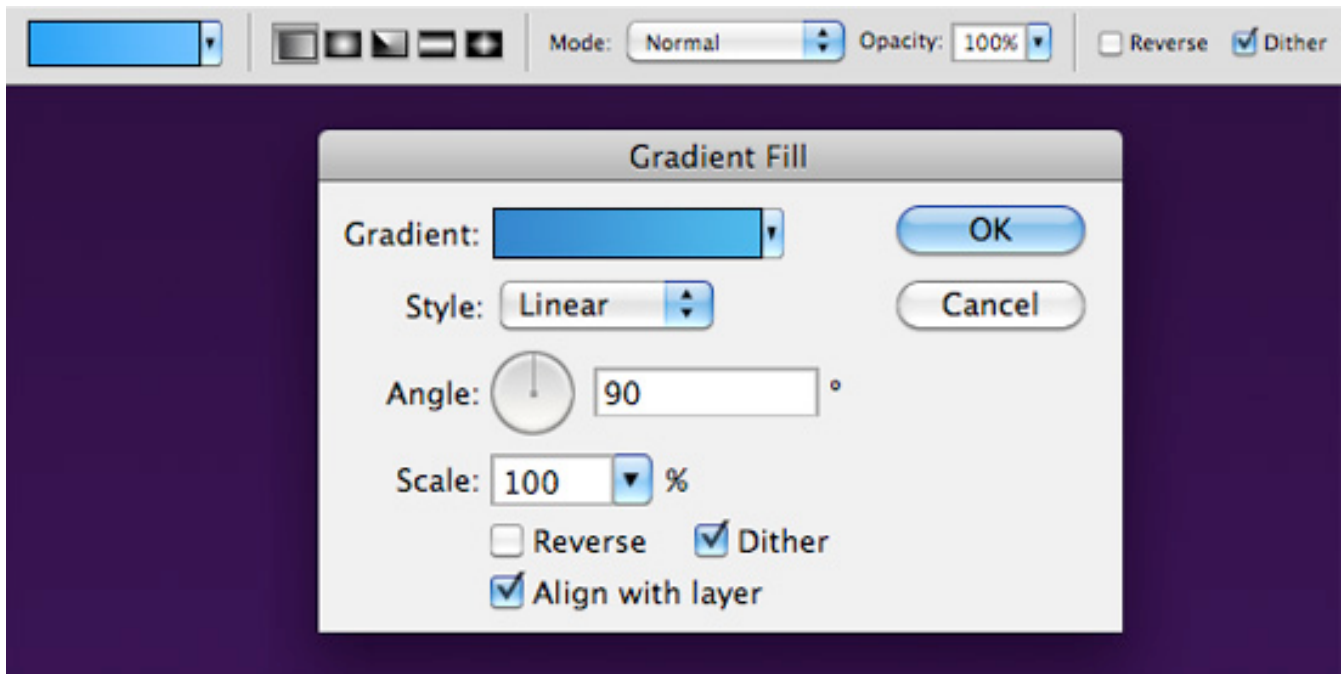
Adding dithering to a gradient produces smoother results. Non-dithered gradients often contain visible banding. Dithering is even more important if your artwork is being viewed on cheaper 6-bit per channel [TN LCDs](#) and [certain display types](#) that tend to amplify [posterization](#) problems.



If you're not seeing the difference, here's an extreme and completely unrealistic example of gradient dithering in action:

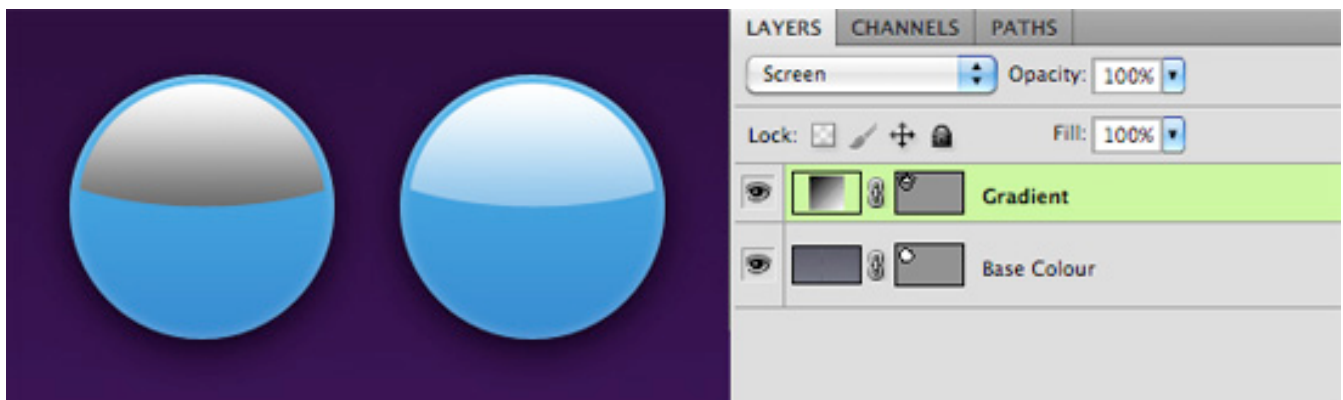


Ensuring that your gradients are dithered is easy: just check the appropriate box in Photoshop.

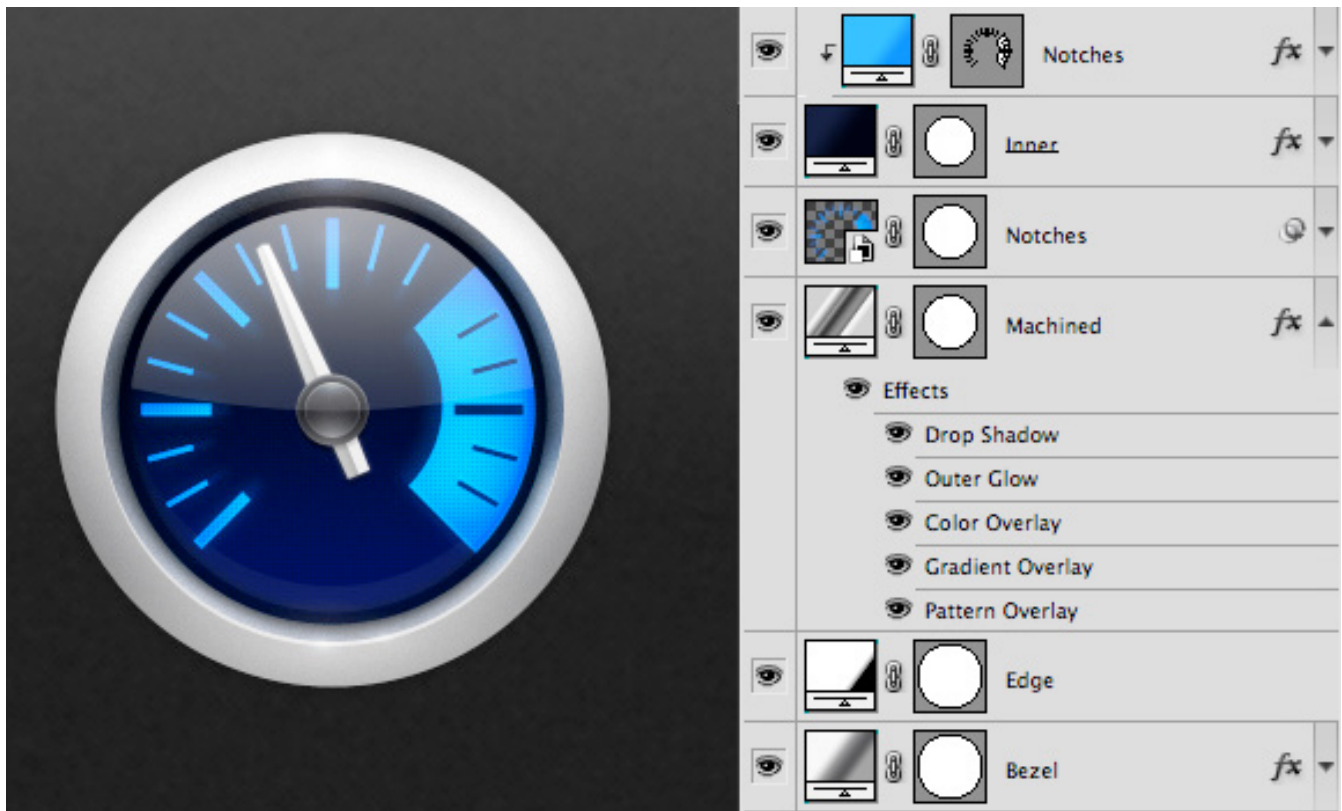


Note that gradient layer styles can't be dithered, and gradients in placed objects (such as stuff you've pasted from Illustrator) aren't dithered.

If you use transparency in a gradient, that won't be dithered either, which can be a huge issue at times. There is a solution for some specific cases: if you're using a gradient with transparency to lighten an area with white, then using a non-transparent gradient with a Screen Layer blending mode will let you dither it. The same technique can be used for darkening with the Multiply blending mode.



A combination of the gradient techniques described above were used to create the Mac app icon below.



Gradient Maps

Quite different to other types of gradients, gradient maps can be a great way to add color treatment, allowing for very precise control. Gradient maps use the brightness of each pixel to map to a corresponding color in a gradient.

If the gradient starts at red and ends at blue, then everything white in the image will turn red, and everything black will turn blue. Everything in the middle tonally will map to the gradient, depending on how bright it is.

The image below was used in a poster for Kingswim, a swimming school:



With a gradient map.

Without the gradient map, things look quite different. It's a composite of about seven photos; the boy and background were shot on black and white

film with intentionally low contrast so that the grain would be more prominent when the contrast was pushed by the gradient map. The gradient map also hides the color mismatches in the compositing.



Gradient map off.

A Little Obsessed?

Absolutely. I conducted all of the tests above to learn more about some common techniques that I already use: that is, to reassess and fine tune, with the aim of improving my designs. Creating great artwork without intimately knowing your tools is certainly possible, but the more you know, the more likely you are to work faster and with greater confidence.

Useful Photoshop Tips And Tricks for Photo Retouching

Dirk Metzmacher

When it comes to designing in Photoshop, there is a myriad of ways one could use to achieve a certain result, especially when it comes to photo retouching. Designers use technique they are most confident as well as comfortable with, which is great because it's always useful to peek into the workflow of our colleagues and learn new design approaches.

I'll be covering some of the useful techniques and tricks which I've learned from my experience. You may know some of them, but hopefully not all of them. All images used in this article were purchased and are used according to their licenses.

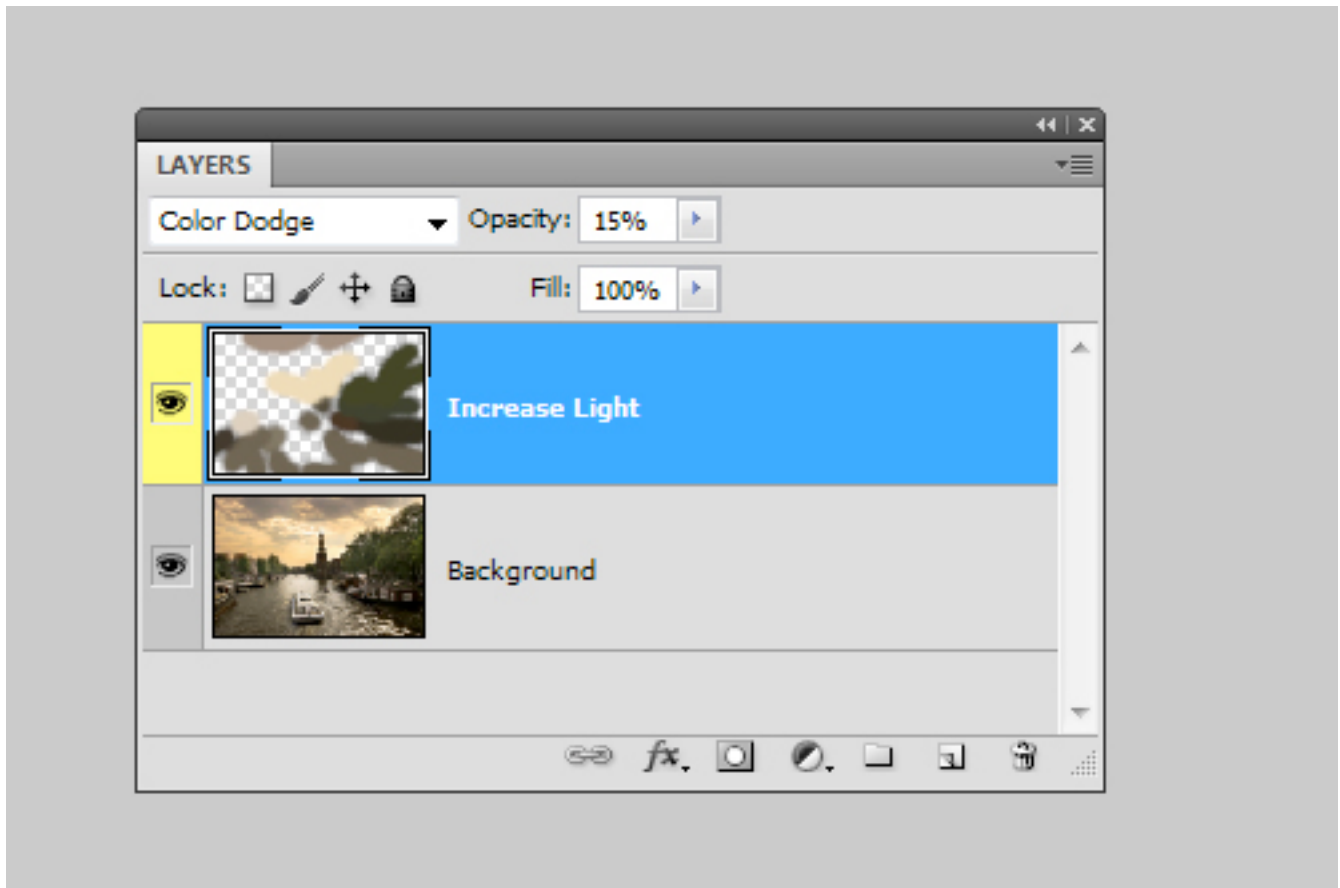
Here is a short overview of the techniques we'll be covering:

- Naturally Increased Light
- Simulating Infrared Images
- Levels
- Color Look With An Adjustment Layer
- Controlling Mid-Tone Contrasts
- Sunset
- Creating Smiles
- Colorful Water Drops

-
- Skin Color
 - Matching Skin Tones
 - Reducing Noise
 - Retro Look With Curves
 - Identifying Layers
 - Conserving Resources
 - Classy Sepia Look
 - Precise Positioning
 - Applying Layer Styles Multiple Times

Naturally Increased Light

The light of the sun creates texture. There are shadowy areas and spots where the sunlight can shine without interference. To control the intensity, you can draw more light onto a separate layer or increase already existing light. Create a new layer by going to Layer → New → Layer, or by pressing `Shift + Control + N` on Windows or `Shift + Command + N` on a Mac. Set the blending mode to “Color Dodge” and the opacity to about 15%.



Increase light on a separate layer.

Then use the brush tool with a soft brush, and hold the **Alt/Option** key to pick up colors from the area that you want to brighten. Continue to brush in some light, picking up appropriate colors if the background changes. This way, you increase not only the light, but the saturation, which makes for more realistic results.



The blending mode "Color Dodge" creates realistic results.

Simulate Infrared Images

Open a photo in Camera Raw; you can do this either in Bridge, using the right mouse key and clicking "Open in Camera Raw," or directly in Photoshop, by selecting File → Open as Smart Object. Apply basic adjustments to optimize your image (for example, with the "Recovery" and "Fill Light" slides), then switch to the "HSL/Grayscale" tab. Check "Convert to Grayscale," and set the Blues down to around -85. Set the Greens to +90 and the Yellows to +20.

Trees and bushes should now shine in the typical white, and the sky should appear almost black. If you want to go on and simulate some grain, switch

to the “Effects” tab, and enter 15 for the amount, 20 for size and 80 for roughness. You could also apply a “Vignette.” Here I used -30 for the amount, 40 for the midpoint and -35 for roundness.



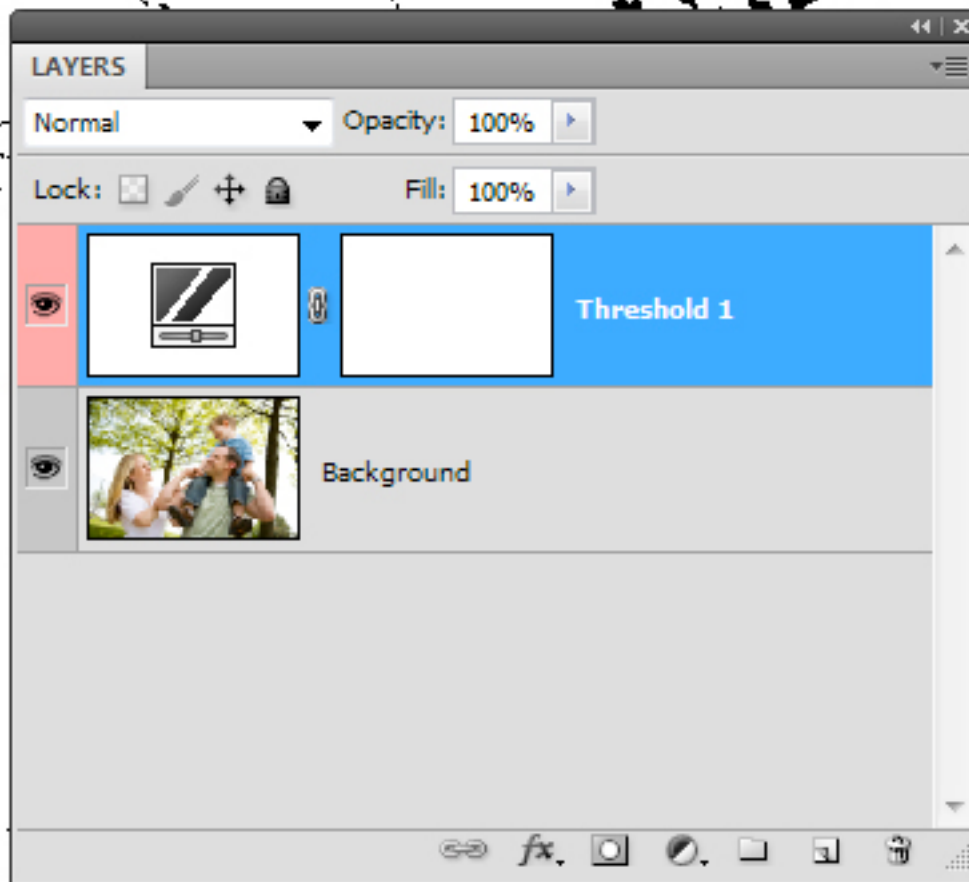
It's almost like an infrared image.

Levels

When applying a “Levels adjustment,” you can set black and white points in order to decrease color tints, but where are the darkest and brightest spots in the image? Go to New Adjustment Layer → Threshold to find those areas. This function is available under the “Layer” menu.

Move the slider so far to the right that only a few white spots remain in the document. Use the “Color Sampler tool” and set down a point there. Move the slider to the left until only a few black spots remain, and set a second point down there.

One could also find a neutral gray in the image by using a “Threshold adjustment layer.” Add a new blank layer between the original image and the threshold adjustment layer, and fill this layer with 50% gray. Go to Edit → Fill or press `Shift + F5`, then select “50% Gray” under “Contents” and click “OK.”



Here is the threshold adjustment layer at work.

Change the blending mode of this layer to "Difference." Select the "Threshold adjustment layer" again and move the slider all the way to the left. Slowly move the slider back to the right until black dots start to appear. These are the neutral gray areas in the image (if neutral grays are present). Add a "Color Sampler spot."

Now delete both the threshold adjustment layer and the 50% gray layer. Create a new adjustment layer, "Levels." Use the first Eyedropper tool to click on the darkest area, then use the third Eyedropper on the brightest area.

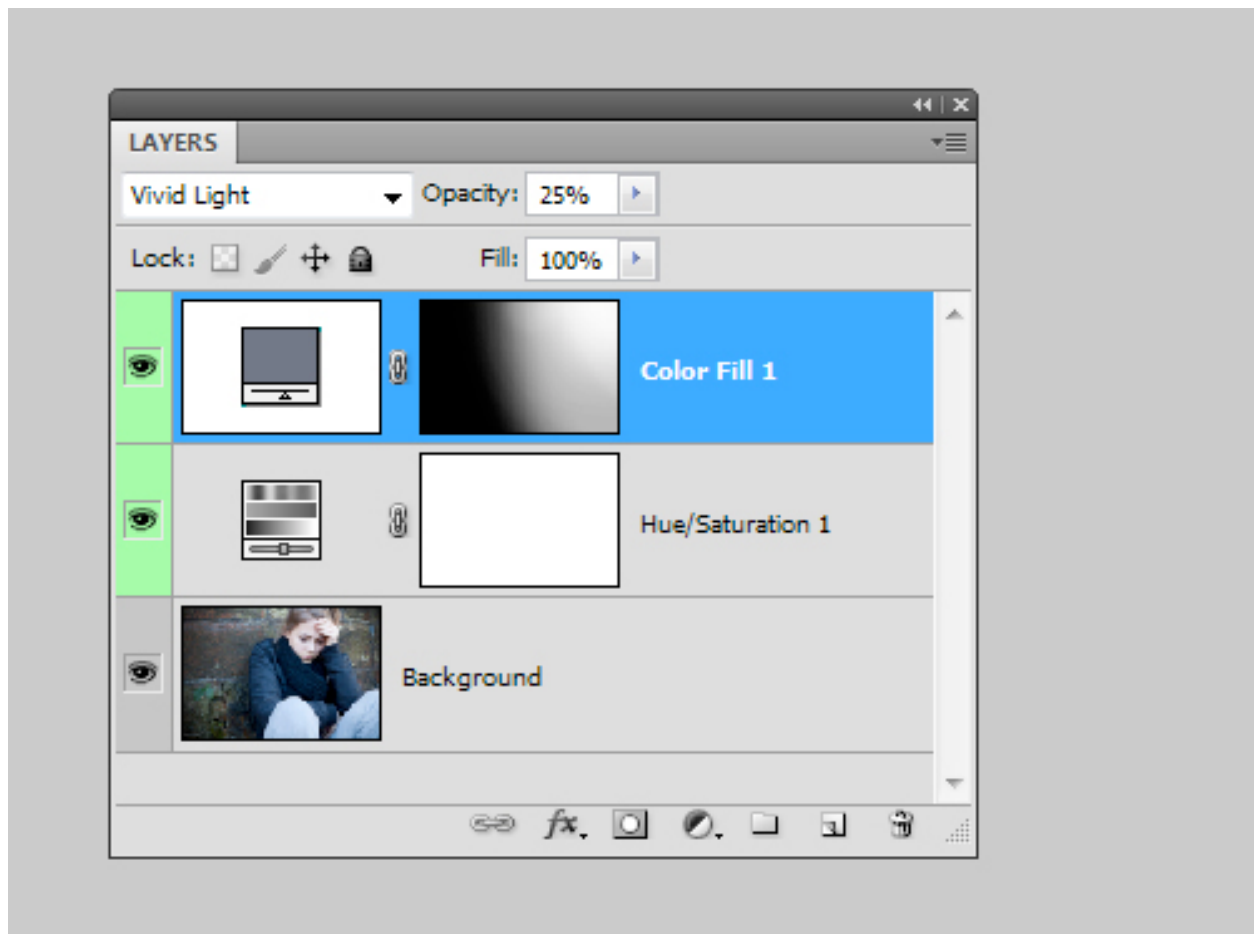


Here's a before-and-after comparison.

Now you can use the gray Eyedropper tool on the third Color Sampler spot. The color tint will be decreased. Color Sampler spots can be deleted by dragging them off the canvas with the Color Sampler tool.

Color Look With An Adjustment Layer

Go to the Layer menu, and then New Adjustment Layer → Hue/Saturation, and set the blending mode to “Soft Light” and check “Colorize.” Use the Hue, Saturation and Lightness sliders to control the color: for a cool look, for example, set the hue at 210, the saturation at 50 and the lightness at 10; for a warm look, set the hue at 30, the saturation at 30 and the lightness at 5.



Here is Hue/Saturation and Color Fill.

Alternatively, you could use several color layers. Create them from the layer palette with the “New Fill/Adjustment Layer” button. Choose a color, then set the blending mode to “Vivid Light.” Reduce the opacity to about 12%, and invert the layer mask with `Control/Command + I`. Paint in the colored light with a big brush and white color. This works especially well for the lighting in portraits that have a textured background.

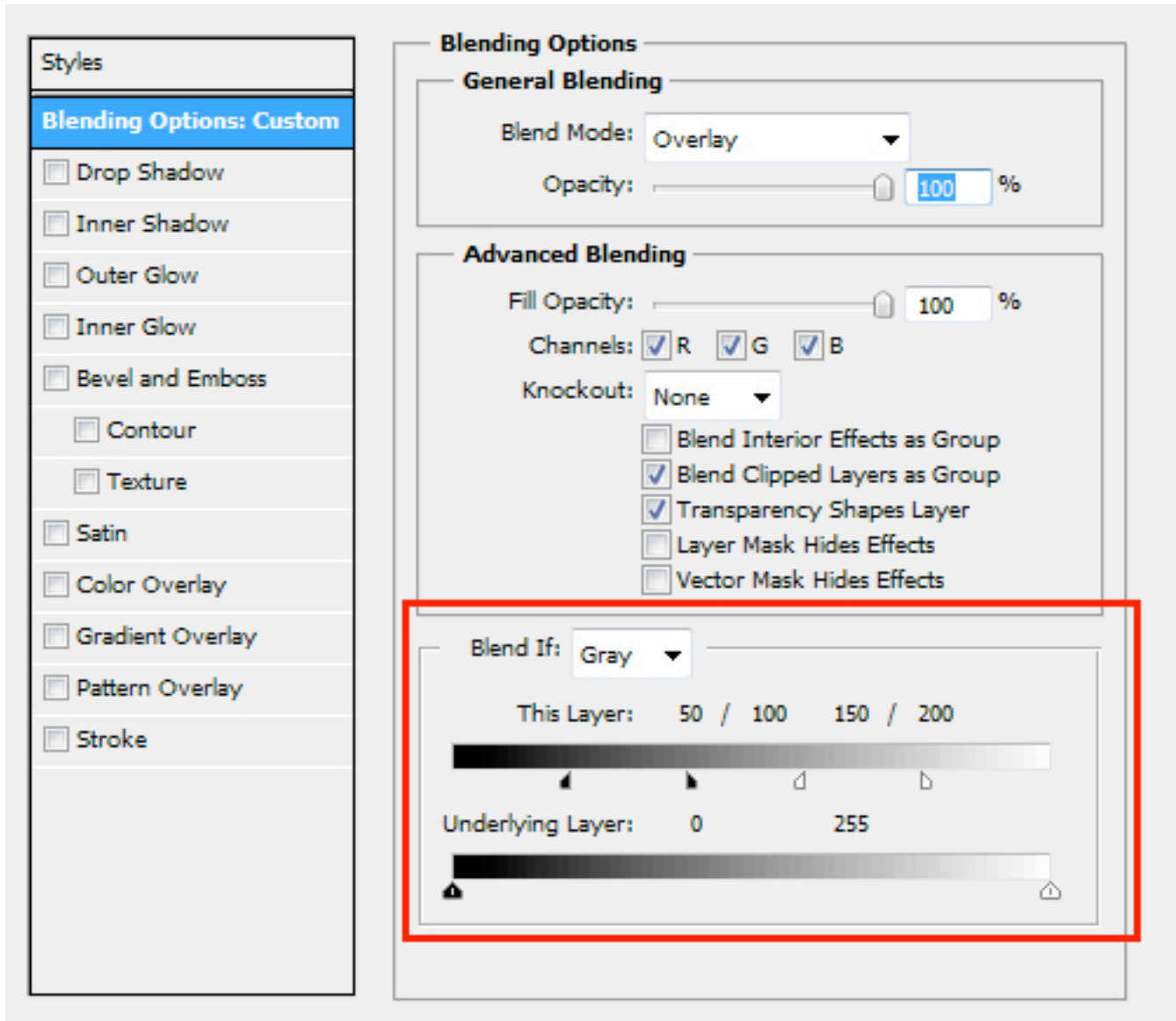


Here's the Color Look with an Adjustment Layer.

Controlling Mid-Tone Contrasts

To increase detail in landscape shots, boost the mid-tone contrast. Copy the background layer with `Control/Command + J`, and then click on `Filter → Convert for Smart Filters` in the menu. Then go to `Filter → Other → High`

Pass and enter a radius of 3 pixels. Change the blending mode to “Overlay” and double-click the layer next to its name to open the “Layer Style” window.



Layer Style window: This Layer

For the first gradient, “This Layer,” split the sliders by holding the **Alt**/**Option** key and trim the layer effect to the “50/100” and “150/200” ranges. As soon as you move the sliders, you’ll see where those numbers

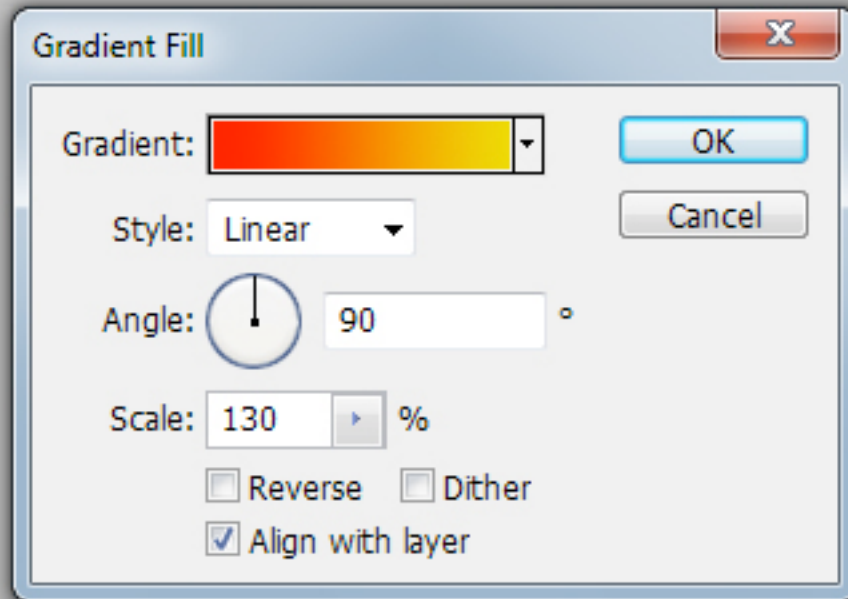
are. This increases contrast only for the mid-tones. Double-click the “High Pass” filter in the layer palette to bring the dialog box up again in order to adjust the radius to your liking.



Check out these mid-tone contrasts.

Sunset

A sunset, especially at sea, can be an amazing color spectacle. The hues will depend heavily on the weather, though — but you can push them a bit with a gradient map. Click on the “New Fill/Adjustment Layer” button in the Layer palette and select “Gradient Map” from the list. Click on the gradient to open the “Gradient Editor.”



Gradient Map

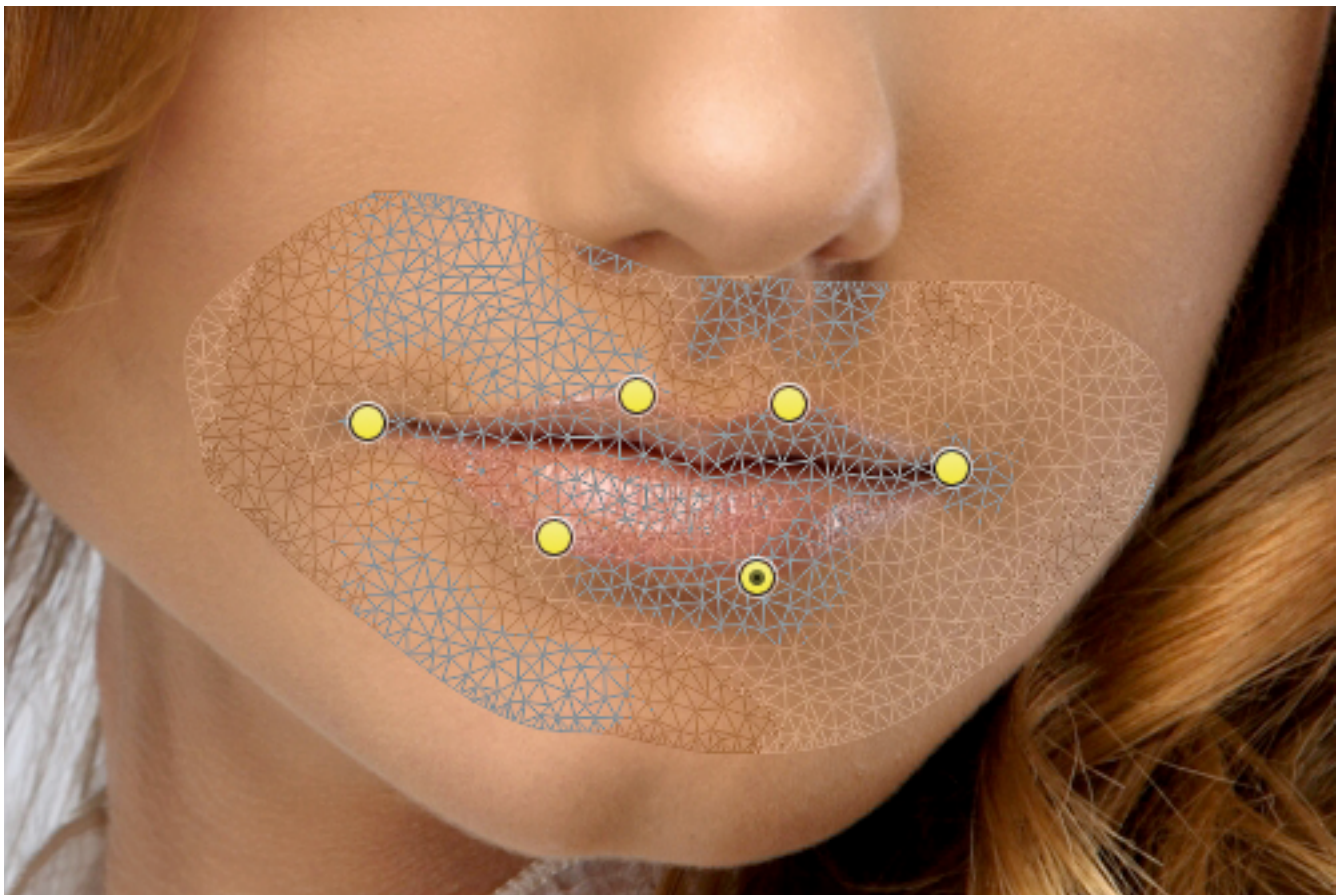
Click on the first color patch below the gradient, and change the color to red. Set the color patch on the opposite side to yellow, and click "OK." Set the blending mode to "Soft Light" and reduce the opacity to about 50%. This will create a warm, almost golden sunset.



Observe the movement from a blue to a golden sunset.

Creating Smiles

Roughly select the area around the mouth with the Polygon Lasso tool. Go to **Select** → **Modify** → **Feather**, and enter a radius of 10 pixels. Confirm, then click on **Layer** → **New** → **Layer via Copy** (or press **Control/Command + J**), then **Edit** → **Puppet Warp**. Photoshop will put a mesh over the entire layer in the shape of your previous selection.



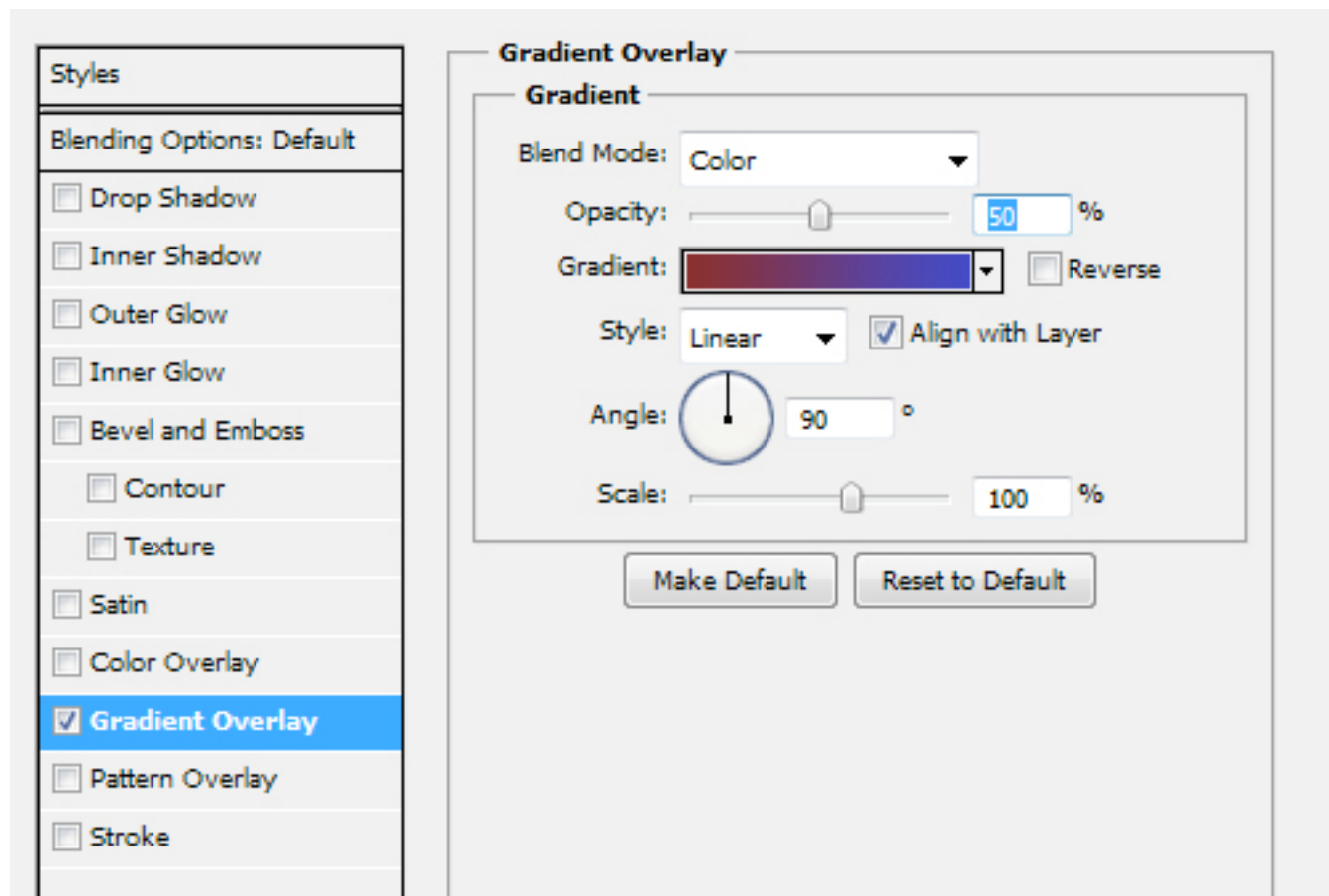
Here's the mesh over the layer.

You can control the size of the mesh with the "Expansion" value in the Options bar. Increase the density to "More Points" for increased precision. Press **Control/Command + H** to hide the mesh, then set the first pins to

the corners of the mouth. Add more pins to distinctive spots of the mouth. By clicking and dragging the mesh, you can shape a nice smile.

Colorful Water Drops

Macro shots of water drops are appealing, and shapes can be further accentuated with discreet coloring. You could treat the bland surface with a linear gradient from #772222 (RGB 119, 34, 34) to #3333bb (RGB 51, 51, 187). If the photo is on a layer of its own, click on Layer → Layer Style → Gradient Overlay or double-click the layer next to its name.



Layer Style: Gradient Overlay

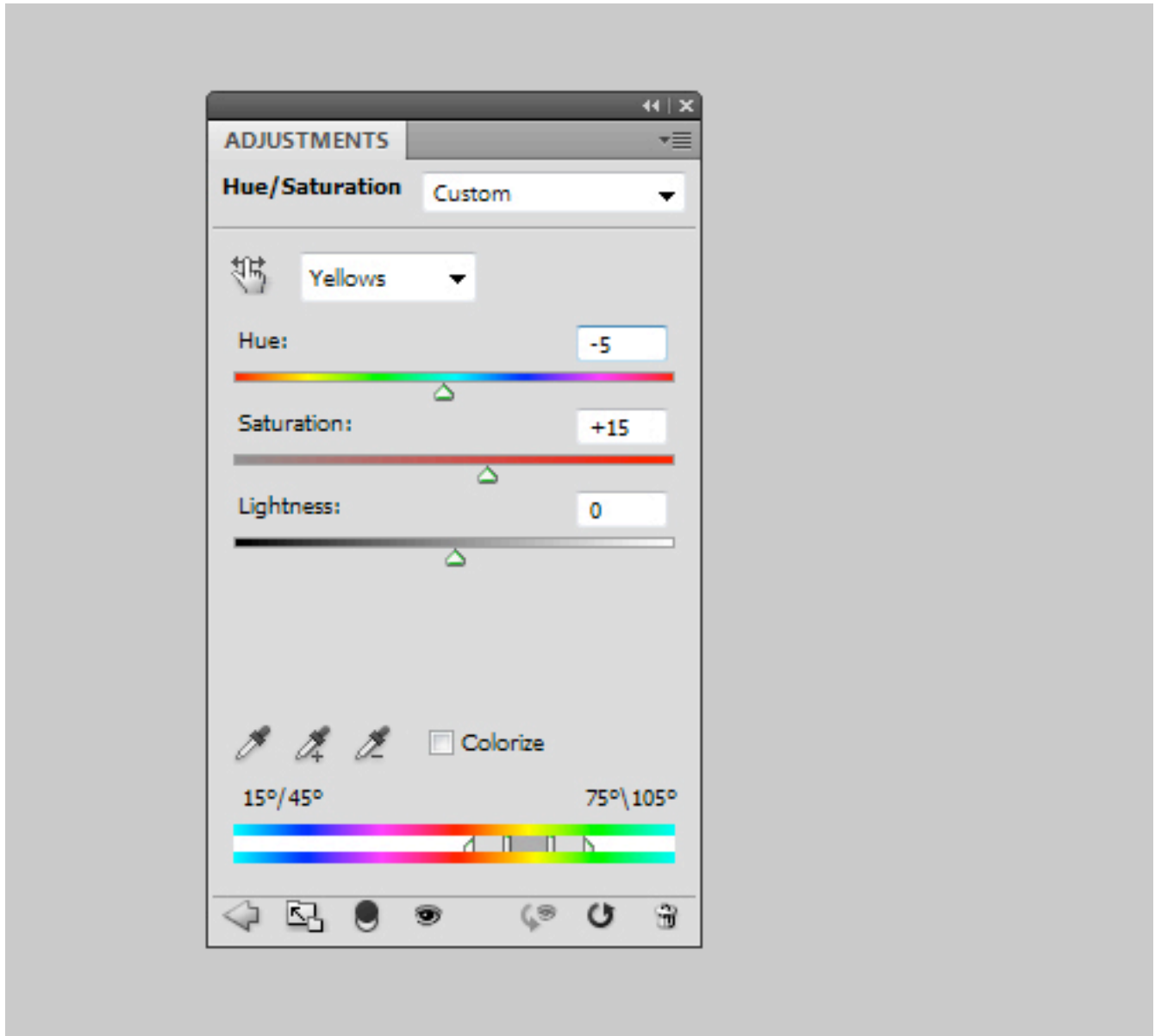
Set the blend mode to Color, the opacity to 50%, the gradient to “Foreground to background color” and the angle to 90%. The gradient will be saved as a layer style, so you can come back at any time to adjust the values. Double-clicking the style name opens up the dialog window once more.



See the colorful drops with optimized colors.

Skin Color

If the skin is not quite perfect after retouching, it might be because of the general hue. You can control it by going to New Adjustment Layer → Hue/Saturation. Click on the miniature mask, and press `Control/Command + I` to invert the mask.



Adjustment Layer: Hue/Saturation

Using white color and a soft brush, paint over the skin areas so that only they get treated. For the adjustment, switch from Standard to “Reds” (found in the Hue drop-down menu of the Adjustment layer), and use the Hue, Saturation and Lightness sliders to adjust the skin color. Switch to “Yellows” and optimize the skin tone. Getting the colors exactly right depends very much on the image material. Rely on your common sense.



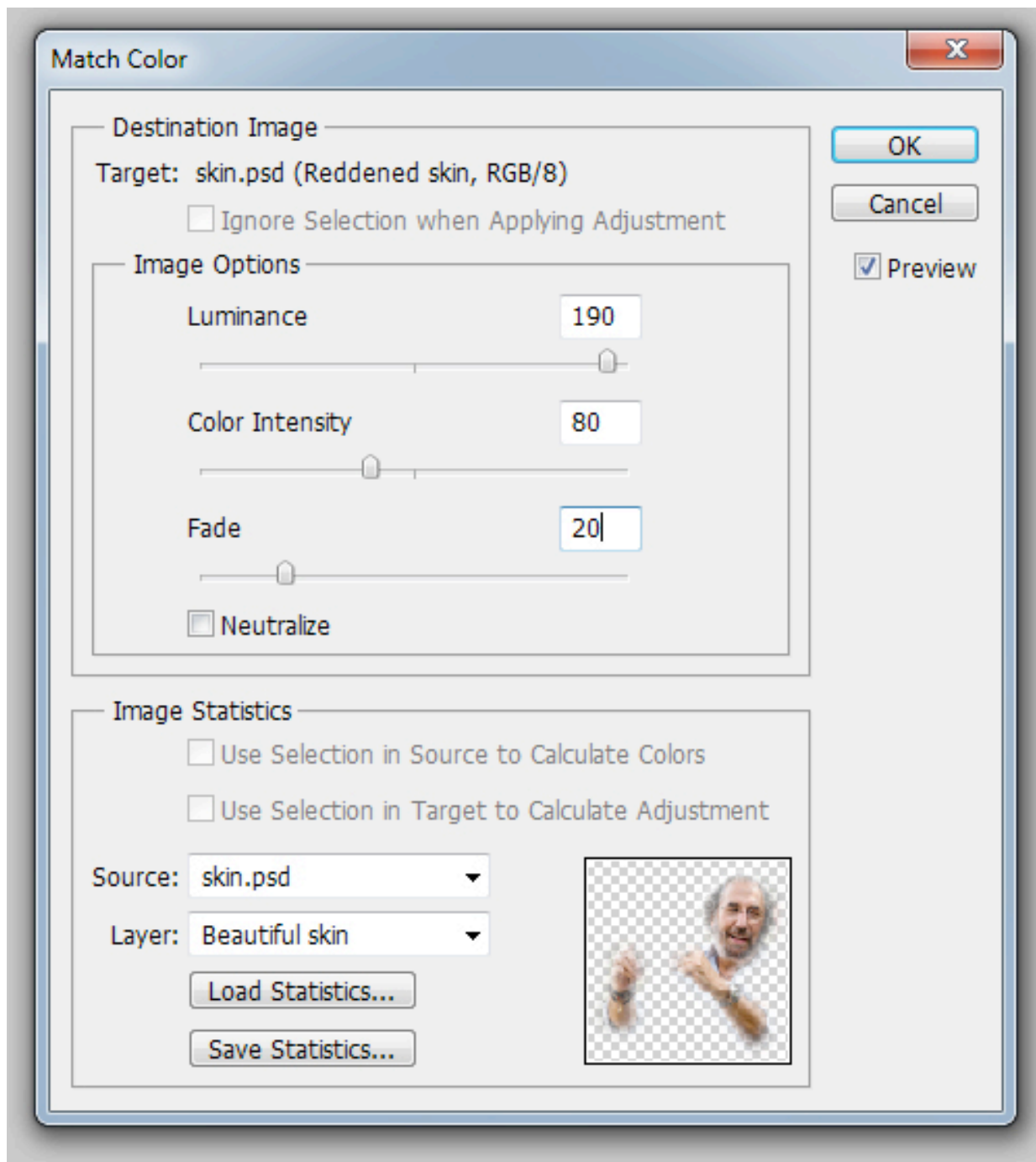
Optimized skin tones

Matching Skin Tones

A sunburn or a blush can disrupt a portrait, especially if there is a contrasting pale person nearby. Photoshop has a tool to correct that: “Match Color” offers control over skin tones. Open your image and use the Quick Selection tool to roughly select the red skin areas.

You can hold down the **Alt/Option** key and subtract areas from the selection. Click on **Select** → **Modify** → **Feather** and enter a value of about 15

pixels. Use the `Control/Command + J` shortcut to copy the selection to a new layer.



Adjustments: Match Color

Using the same technique, copy the non-reddened skin to a new layer. In the next step, you'll have to differentiate between the source layer and the layer to edit, so rename these two layers meaningfully; all it takes is a double-click on the layer name. You could use the naming scheme shown here and call them "Beautiful skin" and "Reddened skin."

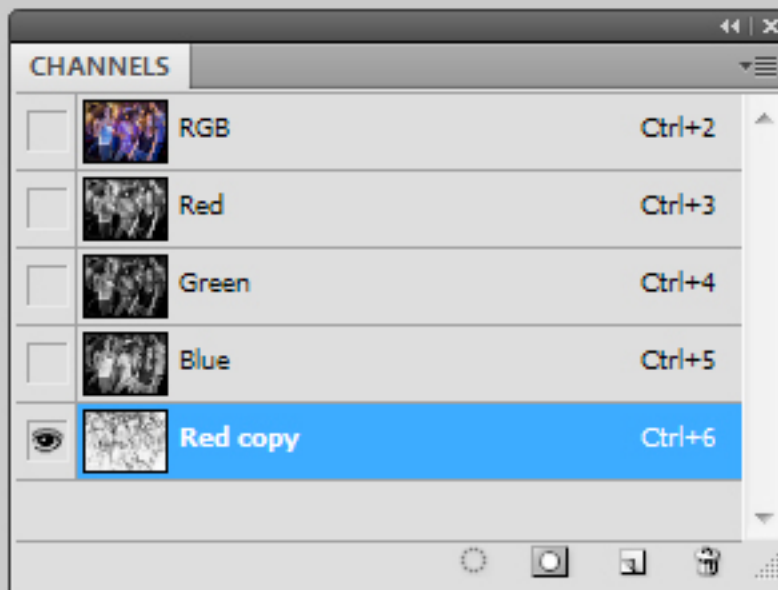
Activate the layer with the red skin, and select Image → Adjustments → Match Color from the menu. For "Source," select the current document, and for "Layer," select the one with the beautiful skin. Control the effect using the "Luminance" and "Color Intensity" sliders in the Image Options area. Once you confirm, you can control the effect's strength with the Opacity slider.



Paler skin after Match Color

Reducing Noise

Noisy images are annoying. One way to reduce noise is through the channels. Copy the background layer by pressing `Control/Command + J`, switch to the Channels palette, and select the channel that shows the least noise. Drag that channel down to the “New Channel” icon (next to the trash can) and go to `Stylize → Find Edges`. Then apply a Gaussian Blur with a radius of about 3 pixels.



Look at this copy of the red channel.

Click on the new channel’s miniature icon while holding the Control/Command key to select the content. Activate the “RGB channel” (top-most), and switch back to the Layers palette. When the duplicated background is selected, click on the “Add Layer Mask” icon.

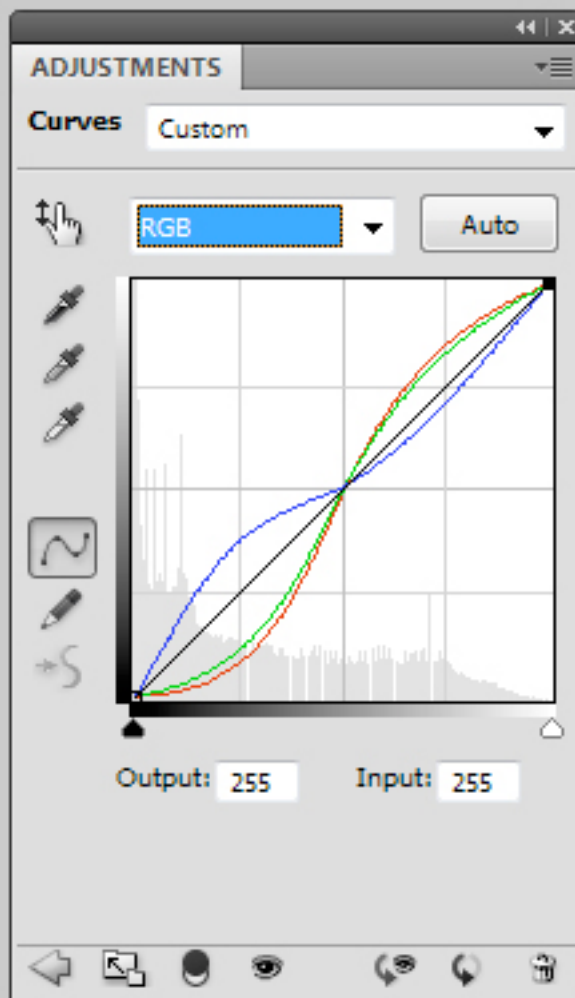
Click on the Layer Miniature icon, and select Filter → Blur → Surface Blur from the menu. Play around with the Radius and Threshold sliders until the noise has been reduced as much as possible. Thanks to the mask you created, the contours are safe.



With and without noise

Retro Look With Curves

Go to Layer → New Adjustment Layer → Curves and switch from RGB to Reds. Then drag the line downwards a little for the shadows and upwards for the highlights, creating a slight “S” curve. Do the same for the Greens. For the Blues, drag the highlights down a little and the shadows up (for an inverted S shape). The shadows should now be slightly blue-ish, the highlights slightly yellow-ish.



Adjustment Layer: Curves

Create a new layer with `Shift + Control/Command + N`, and fill it with `#000066` (RGB 0, 0, 102). Set the blending mode to "Exclusion." Now copy the background layer by clicking it and pressing `Control/Command + J`. Set the blending mode for this copy to "Soft Light."

To decrease the effect overall, activate the top-most layer and then click on the background copy while holding the Shift key, thereby selecting both layers. Alternatively, you can add them to a group with `Control/Command + G`. Reduce the layer's (or group's) opacity. Note that in Photoshop versions prior to CS5, you'll have to reduce the opacity for each layer individually.



Achieve a simple retro look in a few steps.

Identifying Layers

If you're ambitious with your collages, then you'll be familiar with this problem: meaningful layer names are often neglected during the creative process. This can result in layer names like "Layer 4" and "Layer 5 Copy 2," which are not very helpful when you need to quickly identify the contents of a layer.

Photoshop offers a number of solutions for our laziness. For example, you can click on the element you want to select by using the "Move tool" and holding the right mouse key; you'll see which layer contents are below the tool. Photoshop will display a list in a drop-down menu, from which you can easily select the desired element.

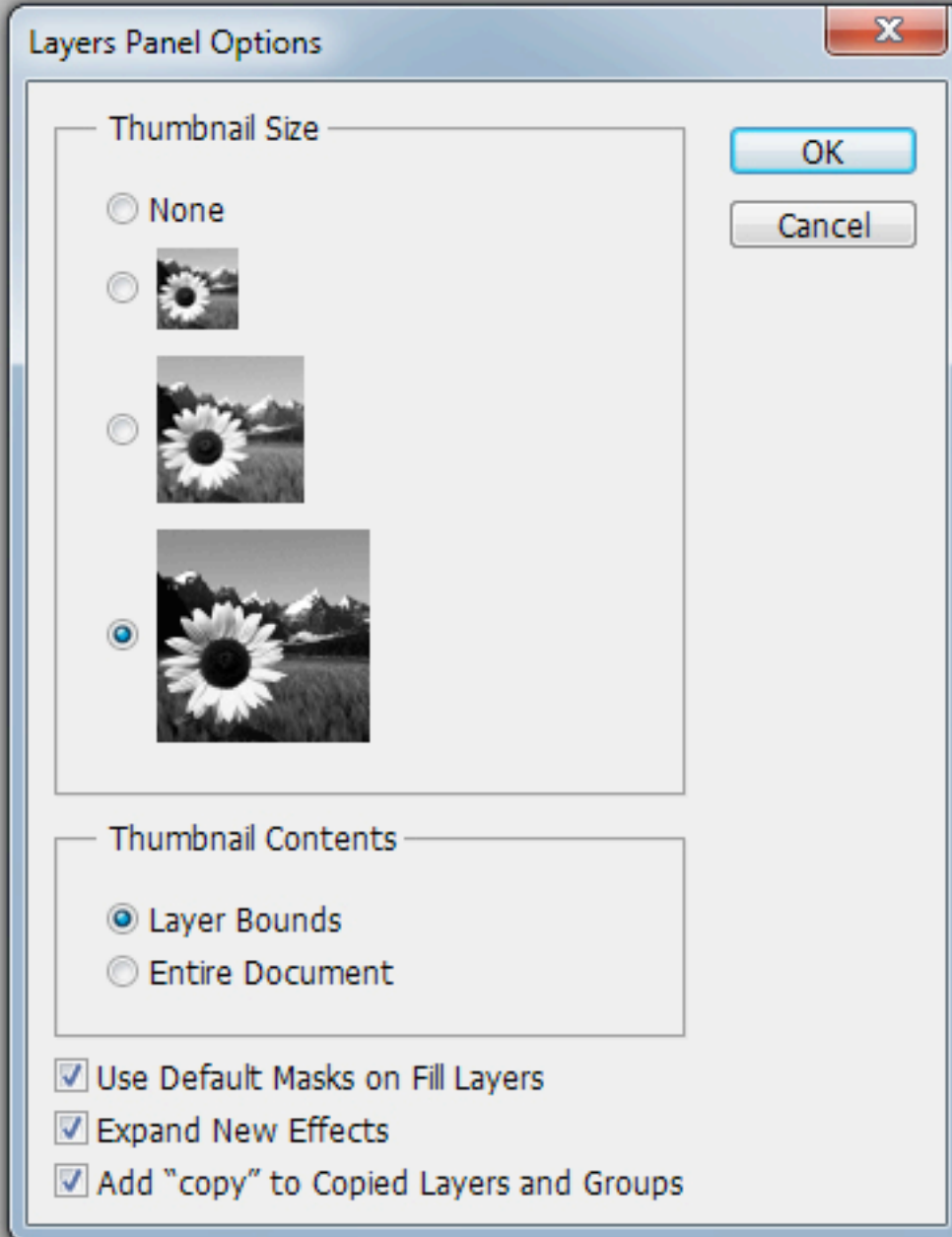


Right click with the Move tool

Control/Command + left-click with the Move tool selected and, in most cases, you'll select the corresponding layer of the element that your mouse is over (unless Photoshop can't distinguish between the multiple layers).

You could also Control/Command + left-click on a layer's miniature icon to get a selection of the content of that layer. The marching ants will show you what is on that layer and where it is.

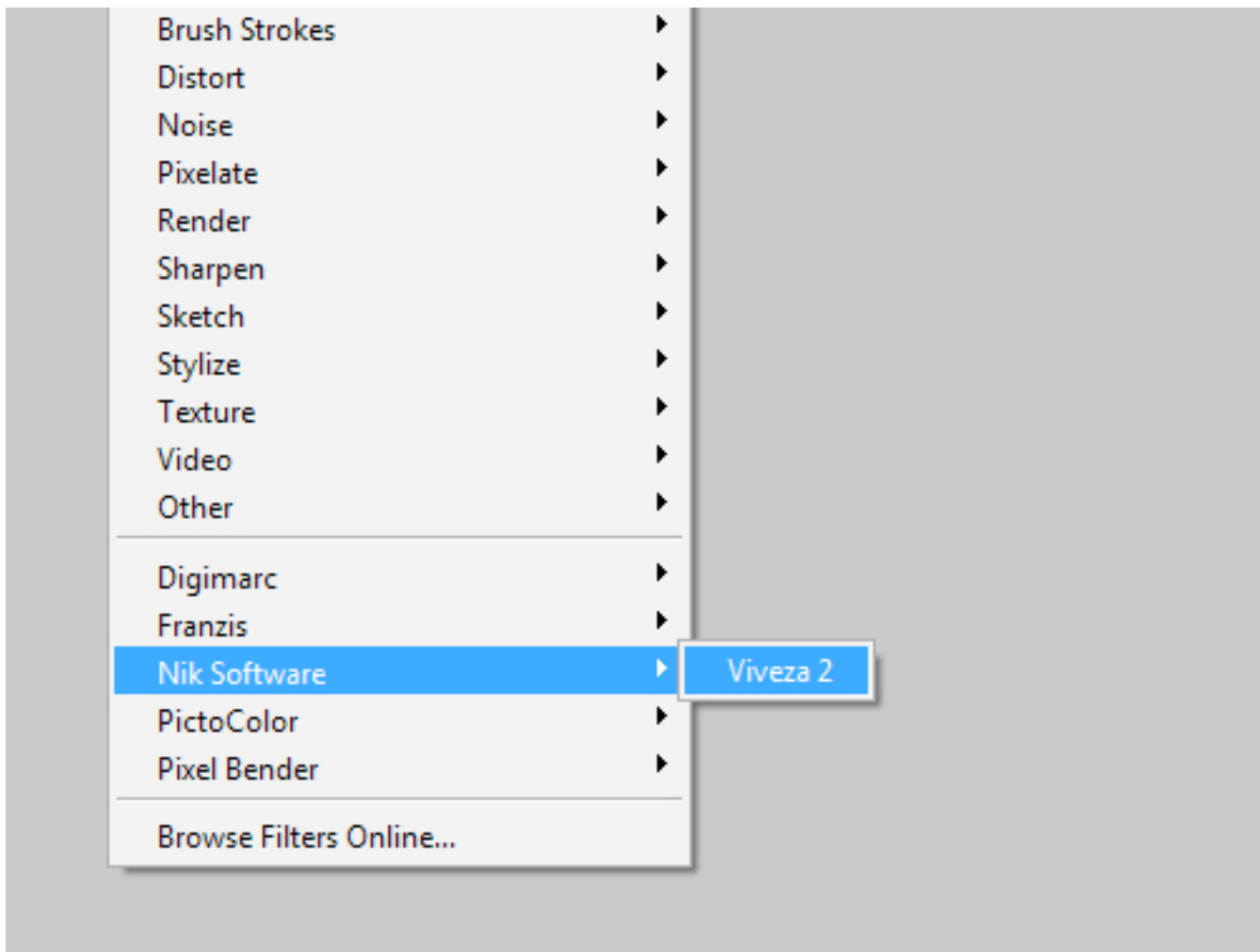
Another option is to click on the Layer palette's Options icon, in the top-right corner, and select "Layers Palette Options." From here you can adjust the size of the layer's miniature preview and concentrate the miniature's content to the layer's bounds, which should cut down on future guesswork when it comes to layer contents.



Layers Palette options

Conserving Resources

Plug-ins save time, but they're a bit resource-hungry; at least, they lengthen Photoshop's start-up time. Your plug-ins might have functionality that you rarely use, so deactivate them until you need them. To do so, create a new folder by going to Adobe → Adobe Photoshop CS5 (or whatever your version) and name it something like *Plugins_deactivated*.



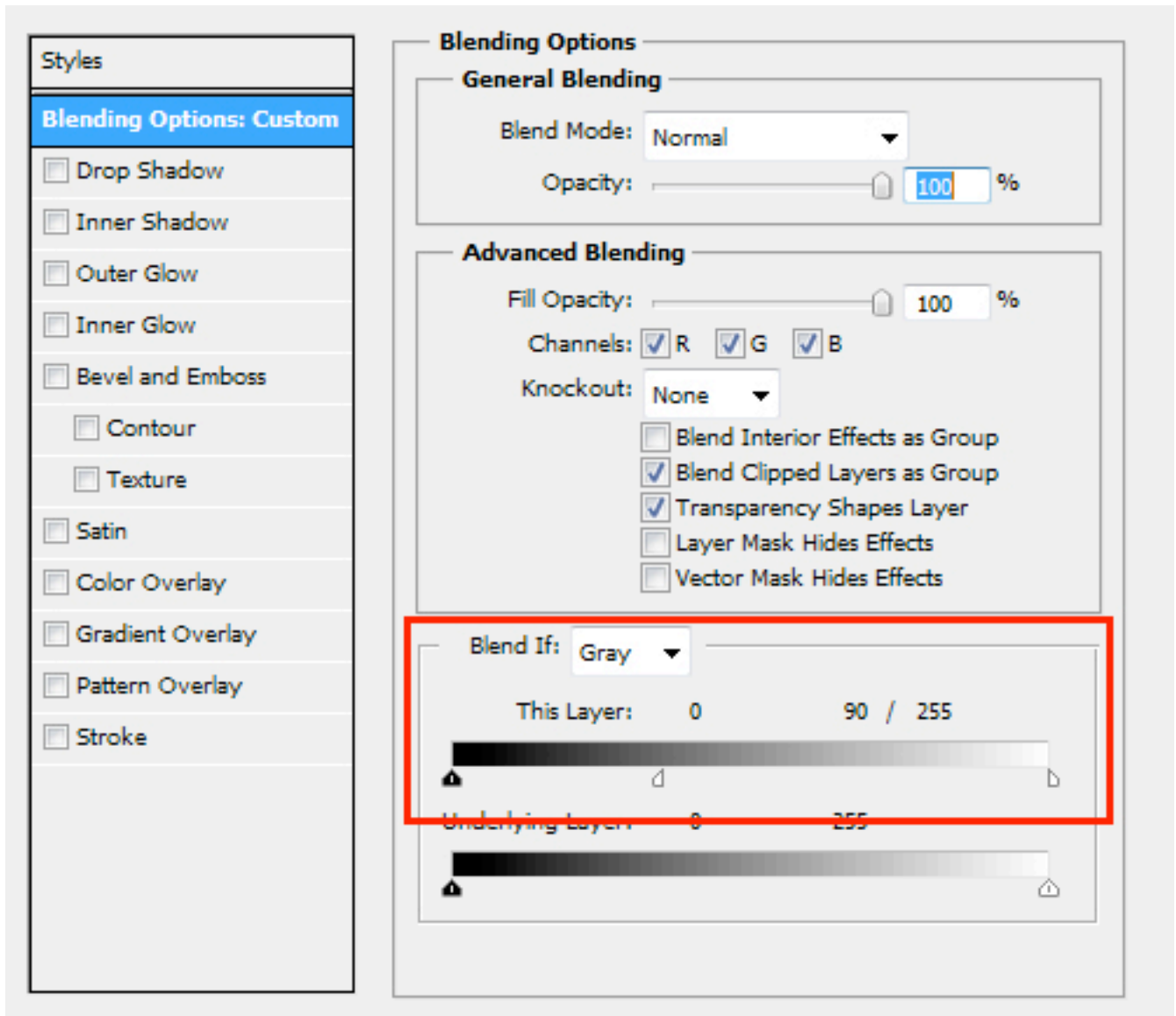
After disabling some plug-ins.

Now move all of the extensions that you don't need for the moment. When you restart Photoshop now, those plug-ins won't load, so the program will

start up quickly. Your RAM will be relieved. Because you neither deleted nor uninstalled the plug-ins, they're available to use anytime. If you need them, just move them back to the plug-in folder.

Classy Sepia Look

The sepia look is an absolute classic. To enhance a black and white image with a classy sepia tone, follow these steps. Click on Layer → New Adjustment Layer → Photo Filter, and select the Sepia filter, with a density of 100%. Double-click the layer (not the layer name) to open up the Layer Style window. This will show the Blending options.



A view of the Layer Style window.

At the bottom of the dialog box for the first gradient, move the white slider to the left while holding the **Alt/Option** key. This creates a smooth transition between adjusted and unadjusted areas. The sepia will now look elegant.



Subtle sepia

Precise Positioning

I'm sure you've often been irritated by Photoshop's tendency to position elements on its own, but the program is just trying to help you align an element that is on its own layer with the outer edge of the document or with the edge of another object. To your frustration, the layer's content will jump to the edge, even though you wanted to leave a few pixels of space in

between. You can temporarily deactivate the automatic snapping by holding the `Control/Command` key as you position.



A banner, close to the edge.

Applying Layer Styles Multiple Times

Usually, layer styles can be applied only once. For example, if you click on Layer → Layer Style → Drop Shadow, you cannot create a double drop shadow, one of which has an angle of 120° , a distance of 2 pixels and a size of 2 pixels, and the other of which has an angle of 180° , a distance of 12 pixels and a size of 12 pixels.

Actually, it is possible! It just requires a little detour. Create the first drop shadow as you normally would. Then right-click on the layer and select "Convert to Smart Object" from the menu. This smart object can be assigned another drop shadow, and you can convert the smart object into yet another smart object. This way, you can easily add a third and fourth drop shadow. Alternatively, you could apply multiple strokes.



Three shadows in combination.

By the way, to put one or even several styles onto their own layers at once, right-click on the FX symbol and select "Create Layer" from the list. Now you can apply filters to these styles, but they won't be editable anymore.

Photo Retouching Tips and Tricks in Photoshop

Dirk Metzmacher

We have had articles on various tools in Adobe Photoshop but this one is focused more on the techniques rather than the tools provided. Please note that all images used in this article were purchased and are used according to their licenses. Here is a short overview of the techniques we'll be covering in this follow-up:

- Defining Colors
- Controlling Folders
- Split-Toning Effect
- Flexible Vignette
- Skin Retouching In Camera Raw
- Setting Lights
- Distinguished Paleness
- Dodge And Burn Look
- Bright Eyes
- The Orton Effect
- Optimizing Lasso Selections
- Aligning Layer Contents
- Restoring Selections
- More Photoshop Tips and Tricks

Defining Colors

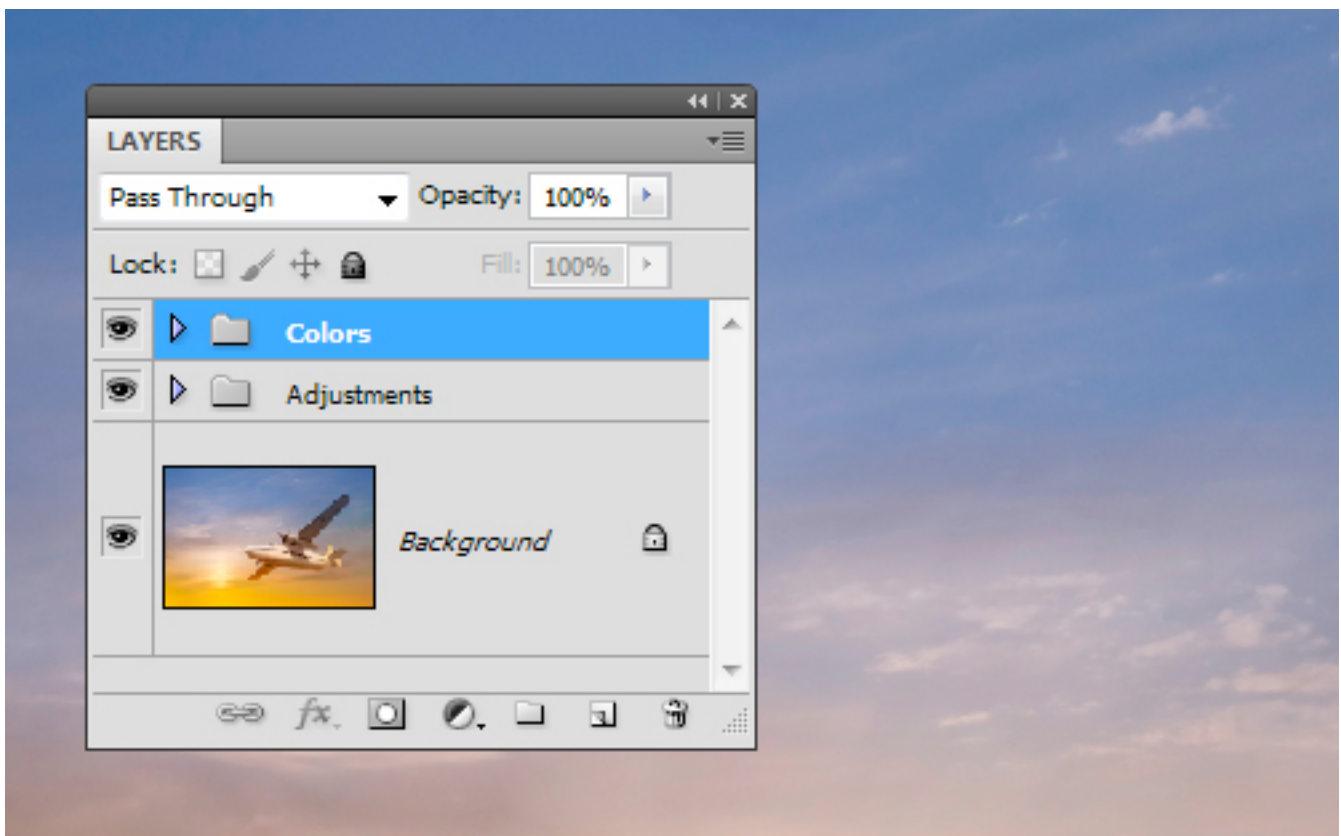
If you want to redefine the foreground and background colors, use the Eyedropper tool to select the foreground color, and then switch the position with the background color, maybe by using the shortcut `X`, and pick up the next color. But there is an easier way. First, define the foreground color just as you're accustomed to, but then define the background color by holding the `Alt/Option` key. Instead of changing the foreground color, you'll redefine the background color with just one click.



Define foreground and background colors.

Controlling Folders

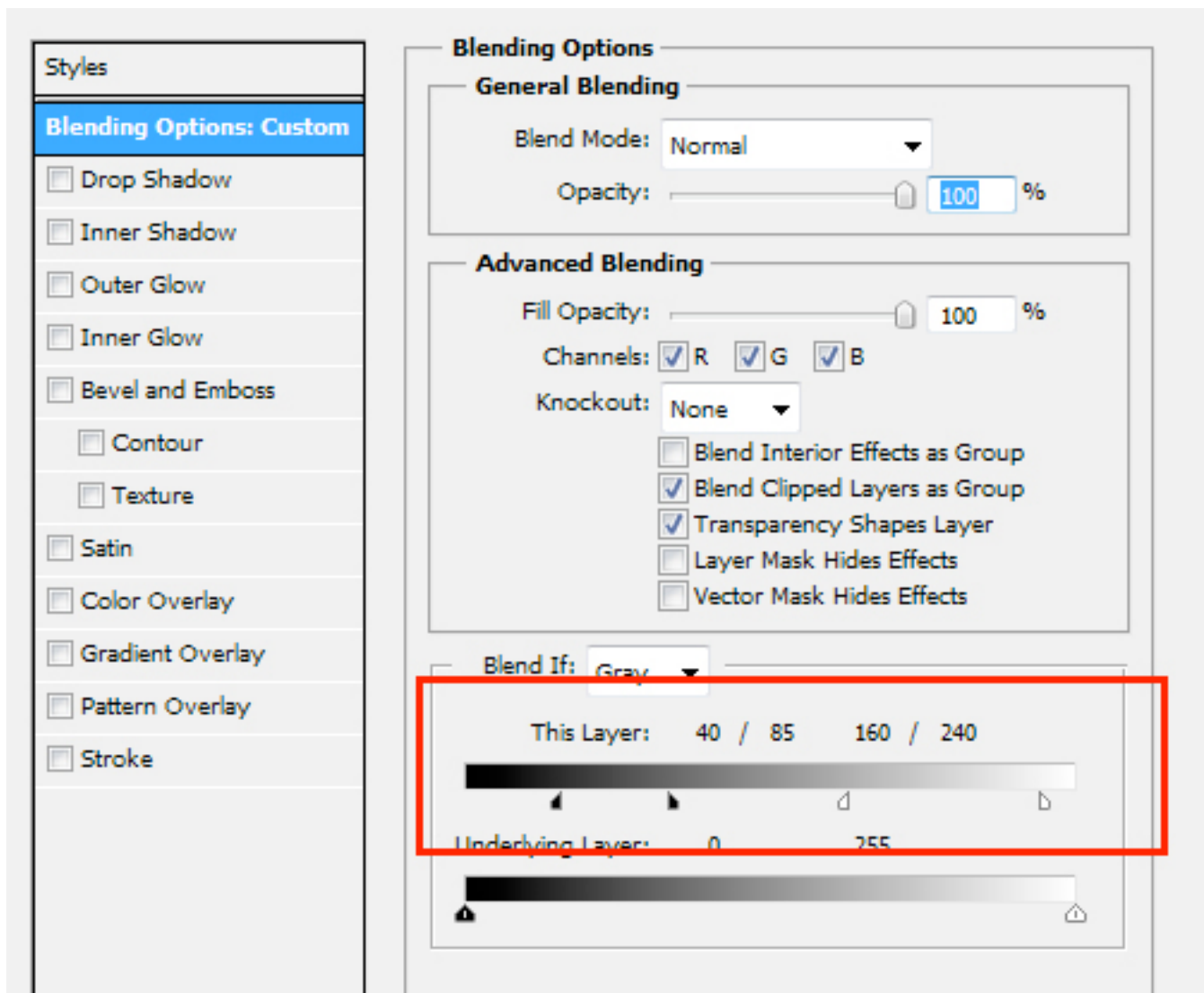
Folders give structure to layers, which is especially important if you're working on demanding compositions. Folders are often collapsed, so you can't see the contents at first sight. This conserves space but it's not always desirable. If you want nested layers to reveal their contents and offer a quick overview, hold the `Control/Command` key and click on one of the triangles to expand. All folders at the first level will expand. You can collapse them again using the same trick. To expand all nested folders inside the folders as well, hold the `Alt/Option` key as well as the `Control/Command` key.



Hold the Control/Command key to expand the folder.

Split-Toning Effect

Create two new gradient maps via Layer → New Adjustment Layer → Gradient Map. You could, for example, create a gradient from dark-blue to beige and another from dark-brown to white. To change a gradient, click on it to open up the “Gradient Editor” dialog box. There, click on your chosen color patches and open up the color picker via the “Color field.”



Blending Options: This Layer

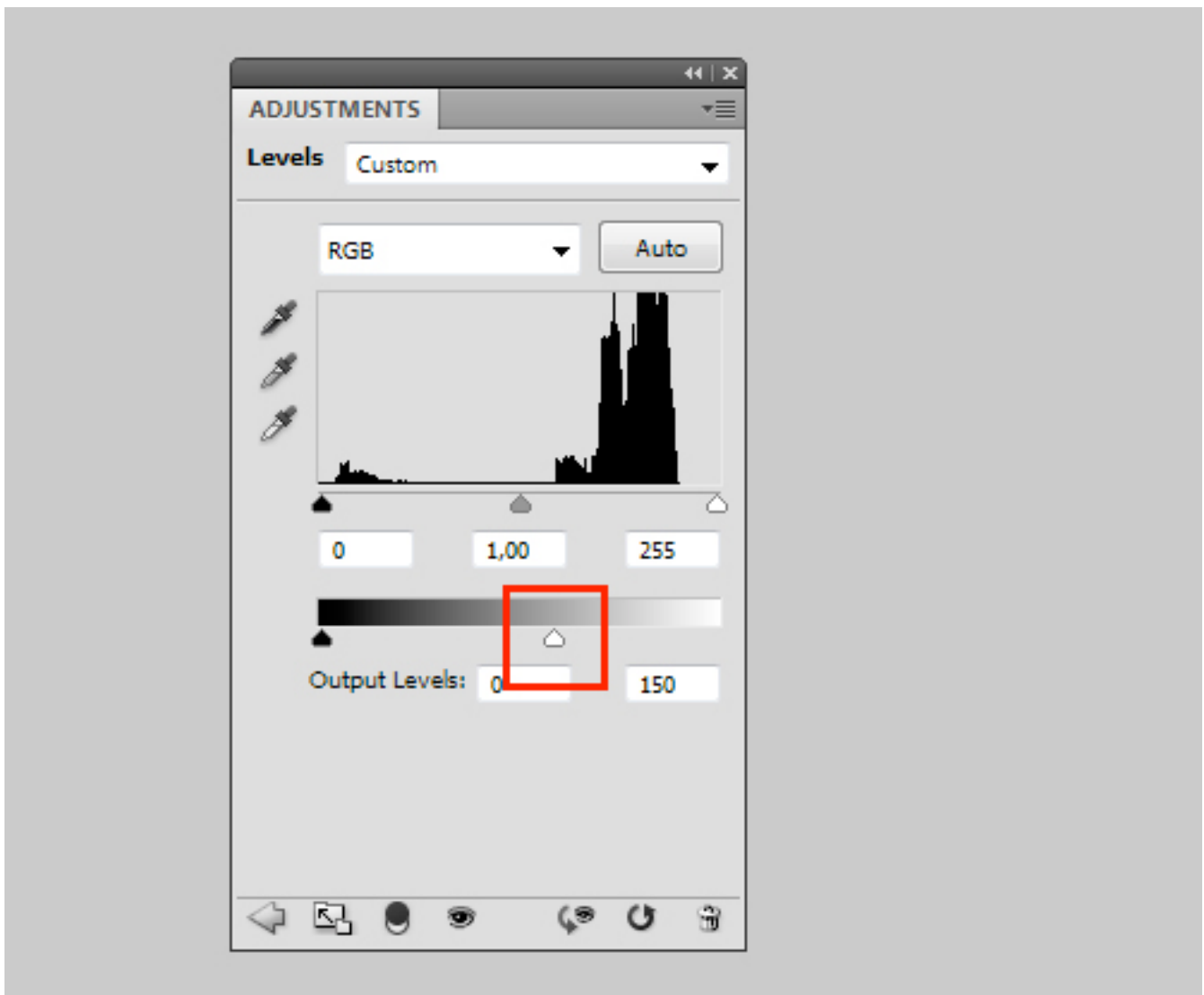
Confirm with "OK," double-click the layer with the second gradient map and, under "This Layer," move the right slider to the left. To make the transition a little smoother, click on the slider while holding down the **Alt** / **Option** key and move it to the right. Confirm with "OK."



Split-Toning Effect

Flexible Vignette

To create a non-destructive vignette, go to New Adjustment Layer → Levels. Darken the image completely by, for example, setting the Highlights down to 80. Now use the Brush tool with black color to paint the light center into the layer mask. Instead of using a brush to paint the area, you could use the Elliptical Marquee tool and fill the selection with black.



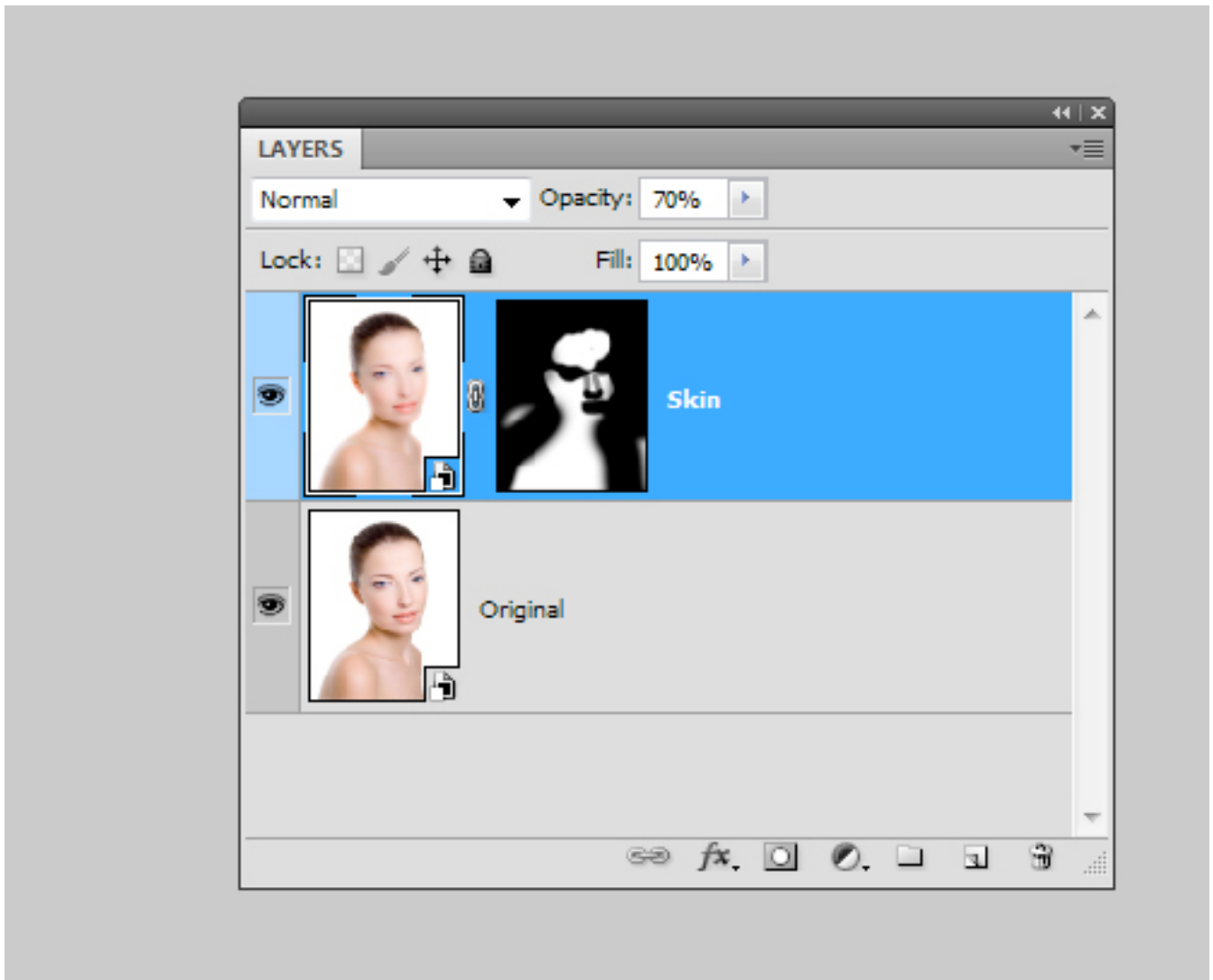
Adjustment Layer: Levels

You can use the Move tool to adjust the vignette's position any time, or blur it using the "Gaussian Blur." You can also increase or decrease the darkening. To do so, open the Levels Adjustment dialog box again.

Skin Retouching In Camera Raw

Again, open a photo in Camera Raw (for example, by using the right mouse key from Bridge and clicking "Open in Camera Raw"). In general, you can use the Spot Healing Brush tool and all other tools and sliders to improve the image. When you're happy with it, hold the `Shift` key and click on "Open Object." The image will be put on a new layer as a Smart Object.

You could also click the blue link at the bottom of the screen, which opens the "Workflow Options" dialog window. From there, you can control some other settings as well. Make sure to check the "Open in Photoshop as Smart Object" checkbox, and then confirm with "OK" to open the images (without having to holding `Shift`).



Here, layers are smart objects.

Right-click on the layer and choose “New Smart Object via Copy,” and then open the Camera Raw dialog box again by double-clicking the layer icon. Set the “Clarity” value to -100 and confirm with “OK.” Hold the Alt/Option key and click on the “Create Layer Mask” button, then use a soft brush to paint over the optimized skin. Use the opacity slider to control the amount of retouching.

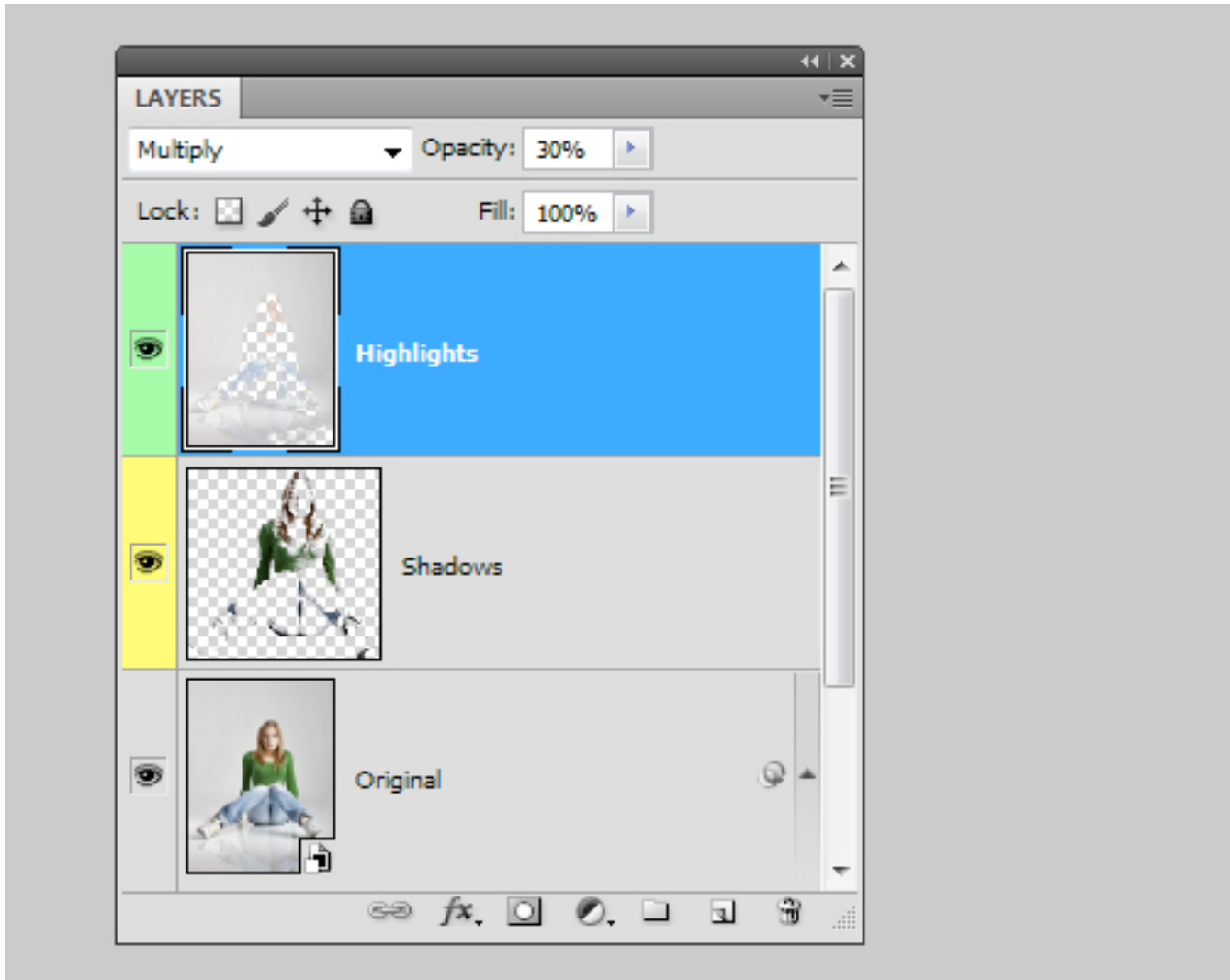


Here is optimized skin with the help of Camera Raw.

Setting Lights

If you want to do some virtual re-positioning of your strobes, then neutralize the shot first. Go to Select → Color Range, and set Select option to “Highlights.” Copy the selection content to a new layer by hitting

Control/Command + J. Activate the background layer again, and select the “Shadows” this time. Bring those to their own layer, too, with Control/Command + J, and then set the blending mode to “Screen” and the highlights to “Multiply.”



Highlights and shadows

Reduce the opacity to about 30%, depending on the image content. “Shadows/Highlights” might also help. On a new layer, filled with a neutral gray and its blending mode set to “Overlay,” paint in the desired light quality with the Dodge and Burn tools. Alternatively, add a new layer and

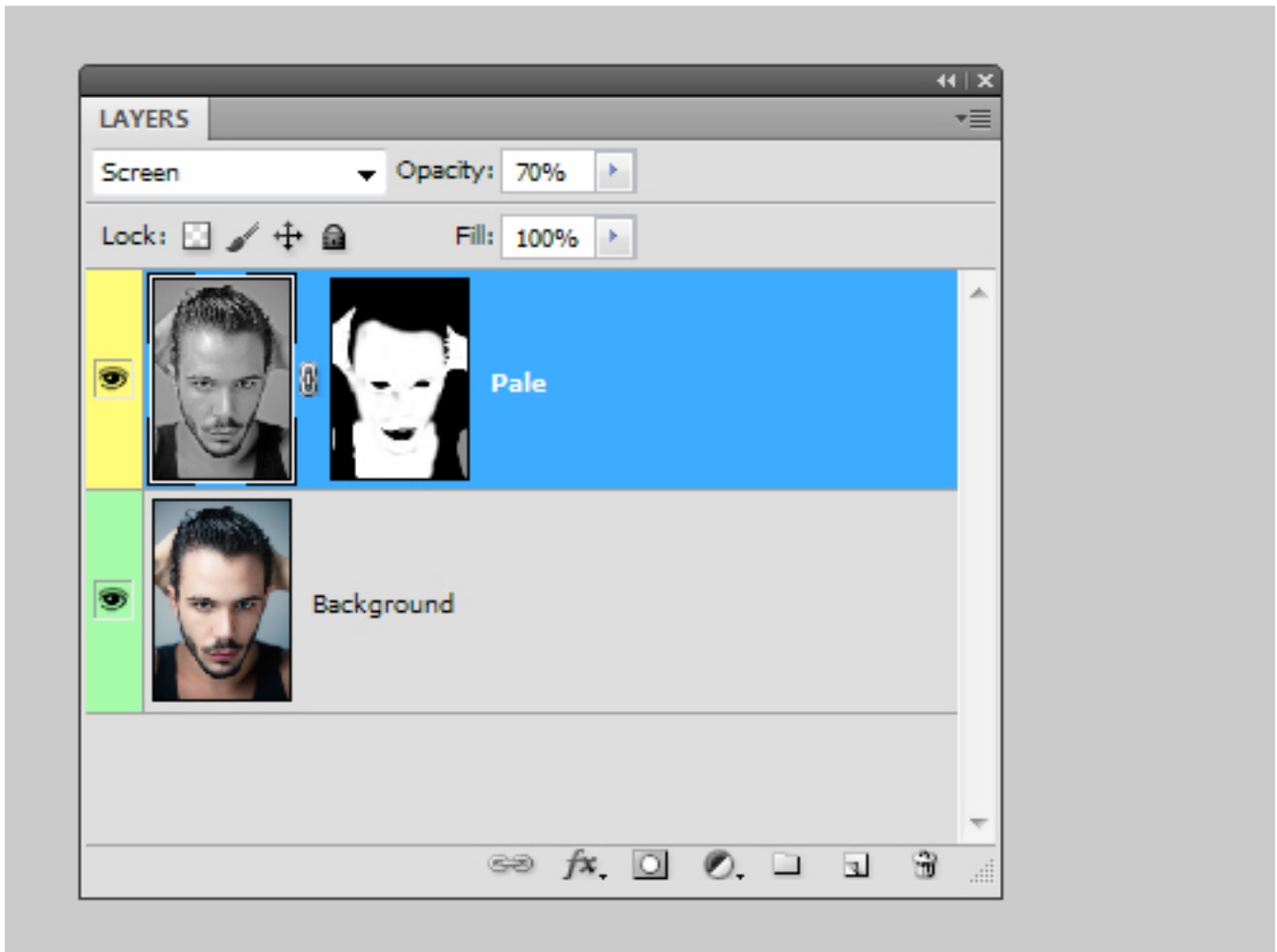
set its blending mode to “Soft Light” or “Overlay” and, with a low opacity brush, paint black and white on this layer.



The lights were neutralized a bit.

Distinguished Paleness

For a distinguished paleness, copy the background layer and set its blending mode to “Screen.” Use Image → Adjustments → Desaturate or “Black & White,” then “Shadows/Highlights” to increase the effect. The exact adjustment options can vary according to your image content.



Here's the layer after creating the mask.

The effect will cover the entire image unless you click on the "Create Layer Mask" button while holding the **Alt/Option** key, and then paint the pale areas with the brush tool and white color. You can control the effect's strength with the opacity slider.



Distinguished paleness.

Dodge And Burn Look

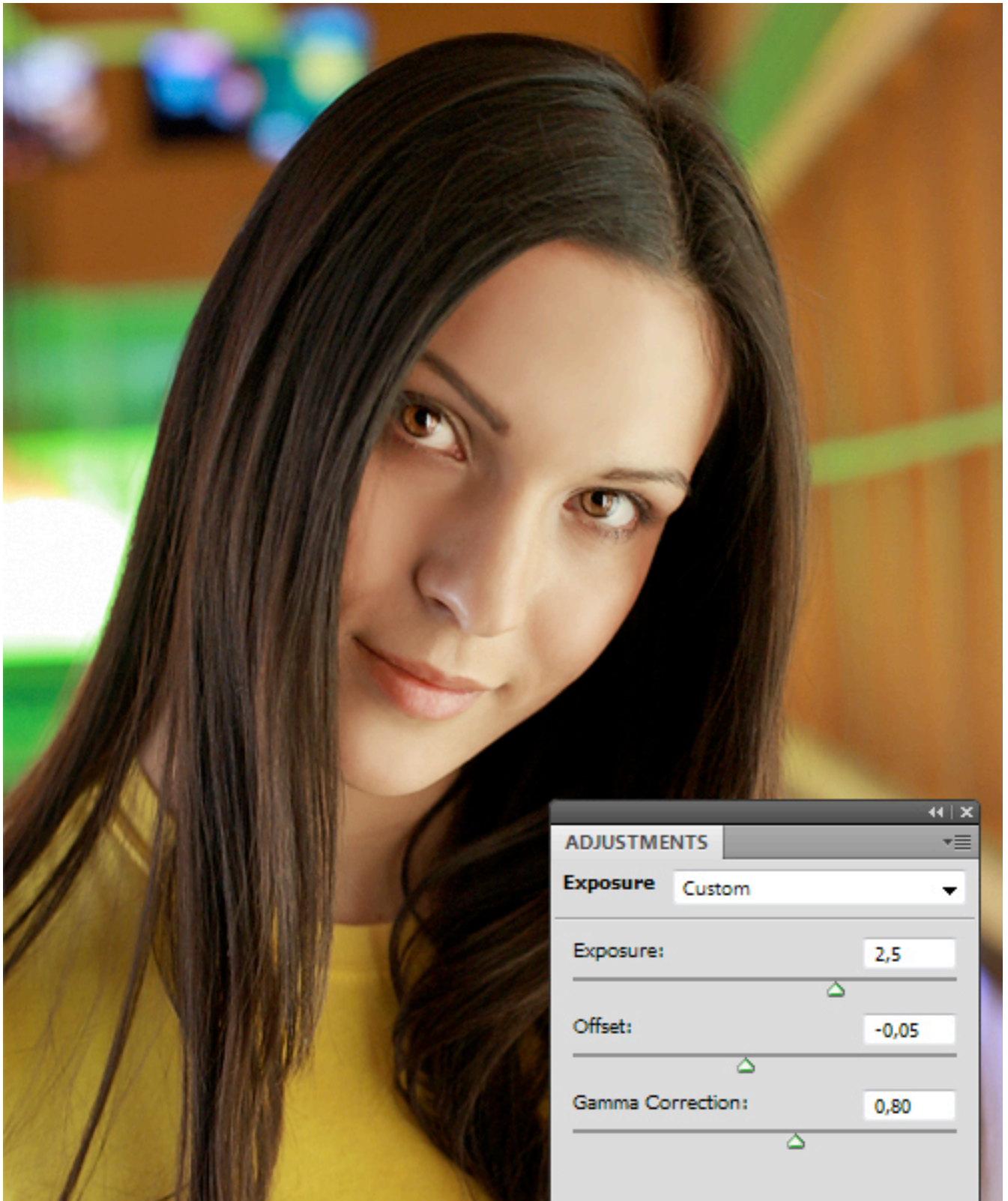
Copy the reduced layers to a new layer with `Shift + Control/Command + Alt/Option + E`, and then set the blending mode to "Vivid Light." Use `Control/Command + I` to invert the layer content, and apply `Filter → Blur → Surface Blur` with a radius of about 70 pixels and a threshold of 40 levels. Press `Shift + Control/Command + Alt/Option + E` again, delete the layer below, and set the blending mode to "Overlay." Apply a "Gaussian Blur" to make the contours a little softer, and then click `Image → Adjustments → Desaturate`.



Dodge and Burn Look

Bright Eyes

To make eyes appear brilliant, click on New Adjustment Layer → Exposure. Fill the layer mask with black (or invert the mask), and paint with white over the irises and with black over the pupils. Set the blending mode of the adjustment layer to “Luminosity.” Increase the exposure in concert with the gamma value to give the iris structure more contrast. Also, try changing the “Offset slider.”



Create beautiful eyes with exposure.

The Orton Effect

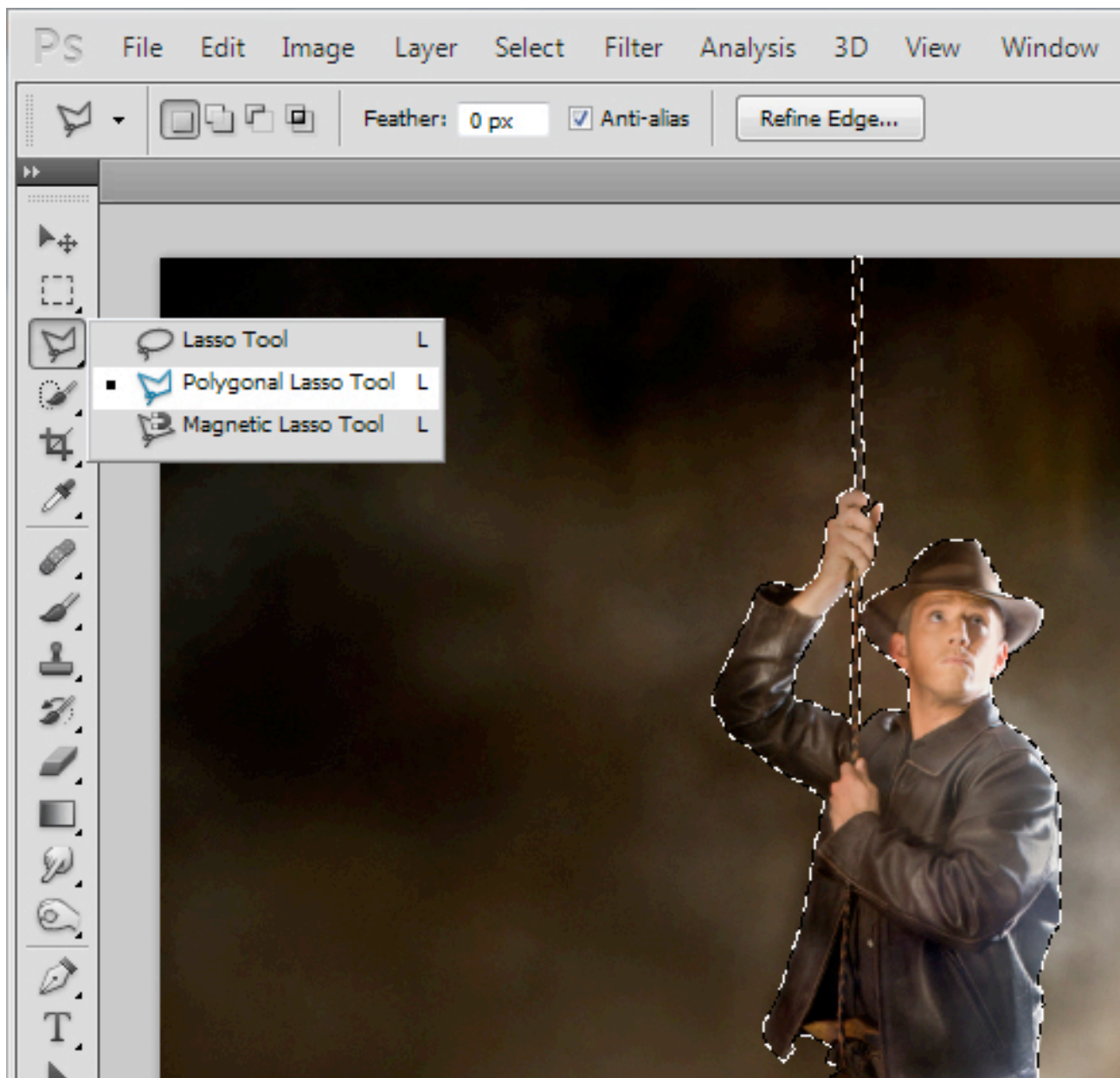
With the Orton effect, sharp and blurred versions of a photo are mixed together. Copy the background layer with `Control/Command + J`, and click on `Image → Apply Image`. Change the blending mode to “Screen” and click “OK.” Copy the current layer again with `Control/Command + J`. Apply a Gaussian Blur to this copy by clicking `Filter → Blur → Gaussian Blur`. The value will depend on the size of the image. The shapes should always blur slightly. Set the blending mode for the layer to “Multiply.”



The Orton effect creates contrast and depth.

Optimizing Lasso Selections

Many users (even professionals) prefer the Lasso Selection tool to the Path tool for uncomplicated selections. To switch to the Polygon Lasso tool for a short stretch, hold the `Alt/Option` key while working. To switch back to the regular Lasso tool, just release the `Alt/Option` key while depressing the mouse button.

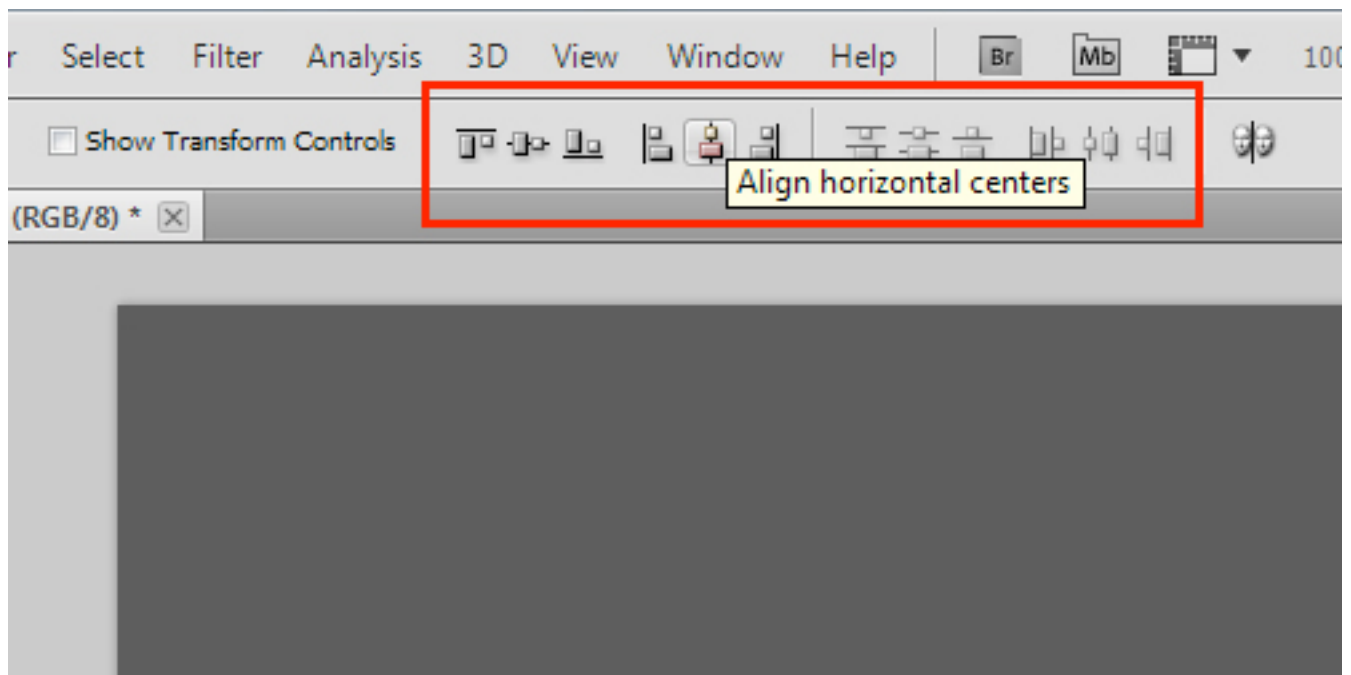


Switching between the Lasso and Polygon Lasso tools is easy.

It often happens that, during a zoom, you hit the edge of the work area while making a selection. Just keep the space bar pressed to switch to the Hand tool, and you can quickly change the displayed image section.

Aligning Layer Contents

Some areas in Photoshop are hardly ever noticed. This is one of them. If you activate the Move tool, you'll see some mysterious symbols to the right called Align tools, in the option bar next to Auto-Select and the Transform controls (which are basically equivalent to Free Transform).



Align tools

If you activate just one layer, the Align tools won't do anything, but if you select two or more layers by holding the `Control/Command` key, then you can align the layer's contents with these buttons. Choose from options such as "Align Top Edge" and "Align Vertical Center."

Restoring Selections

Often, while in the middle of working on a tricky selection, you'll accidentally deselect it by clicking once too often. You can restore the lost selection by pressing `Shift + Control/Command + D`. This will get the ants marching again. You can also undo (`Control/Command + Z`) the action, and even perform multiple undos with `Control/Command + Alt/Option + Z`.

By the way, you can hold the `Alt/Option` key to subtract elements from the selection at any time, or hold the `Shift` key to add to the selection. Pressing a combination of both keys creates a selection intersection. Important selections that you might need later can be saved by going to `Select → Save Selection`.



Restore lost selections.

The Ultimate Guide to Cloning in Photoshop

Joshua Johnson

Photoshop's wide array of cloning tools is the cause of many of the absolute best and worst works created with the application. In a skilled and experienced hand, these tools lead to phenomenal results. In the hands of a careless artist, Photoshop cloning can be disastrous to the credibility of the result. This article introduces the several cloning tools available in Photoshop and goes over the proper usage and best practices of each.

The Clone Stamp Tool

The Clone Stamp tool is the oldest and most widely known of the cloning tools. The basic concept is that you duplicate certain portions of an image using a source, destination and brush.



Use the "Option" key ("Alt") to set the source.

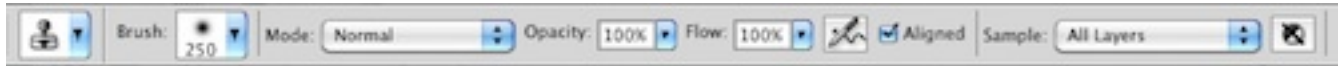
To clone out the name on the tombstone above, you would select a source that shares the texture of the area you want to replace. In this case, the area around the words provides an ample source of stone texture from which to clone.

To begin, simply click on the preferred source area while holding down the "Option" key ("Alt" on a PC). Then, with no keys held down, begin painting over the area you want to replace. The image area from the source will be transferred to the destination.

To be able to use this tool effectively, let's look at the relevant settings.

Basic Settings: Brush

Below, you'll find the default settings when the clone stamp is selected.



The clone stamp's basic settings.

The first setting you'll want to familiarize yourself with is for the brush. Photoshop does not restrict cloning to a basic default brush. Instead, it allows you to use any brush you want, allowing you to create an unlimited number of effects. In the example above, and in most cases in fact, a small to medium-sized round soft brush gives the best result.



A hard brush creates noticeable seams.

As you can see, a hard brush often creates visible edges along the path of the clone. The transition is much smoother on the left side, where a soft brush was used. Both sides suffer from noticeable replication, but this was

intentional to exaggerate the cloned area. We'll discuss how to avoid this later.

As stated, while a soft round brush is recommended for basic cloning, a number of interesting effects can be created using alternate brushes. For instance, below I've used a scatter brush shaped like a leaf to add some visual interest to the photo.

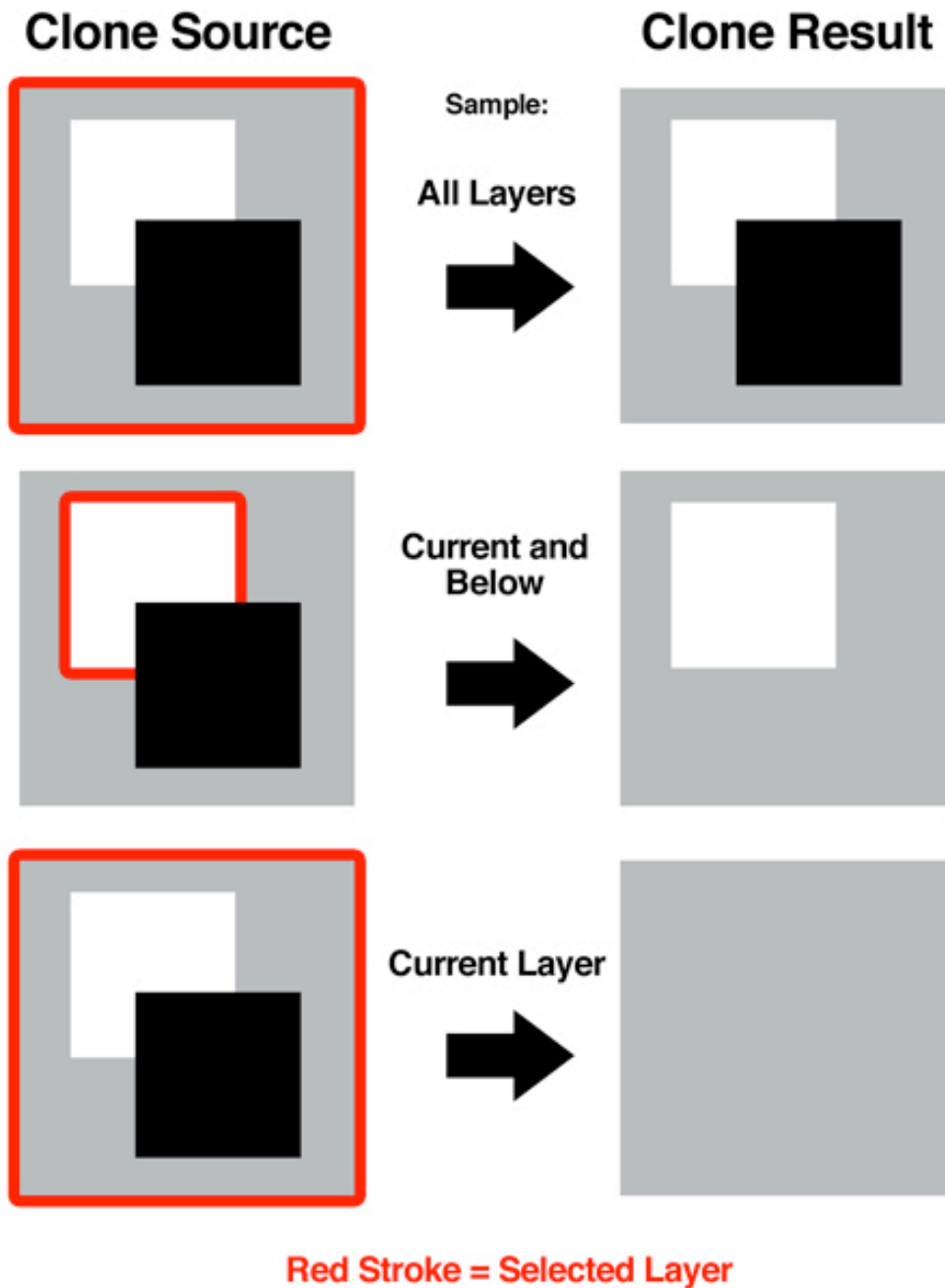


Use a scatter brush to create interesting particle effects.

Experiment with the opacity, blending mode and brush flow for an even wider variety of results.

Basic Settings: Sample

Under the "Sample" menu are three options: *Current Layer*, *Current & Below* and *All Layers*. These options affect the area you are sourcing. Here's a visual illustration of how each mode works:



The area cloned depends on the selected layer and sample mode.

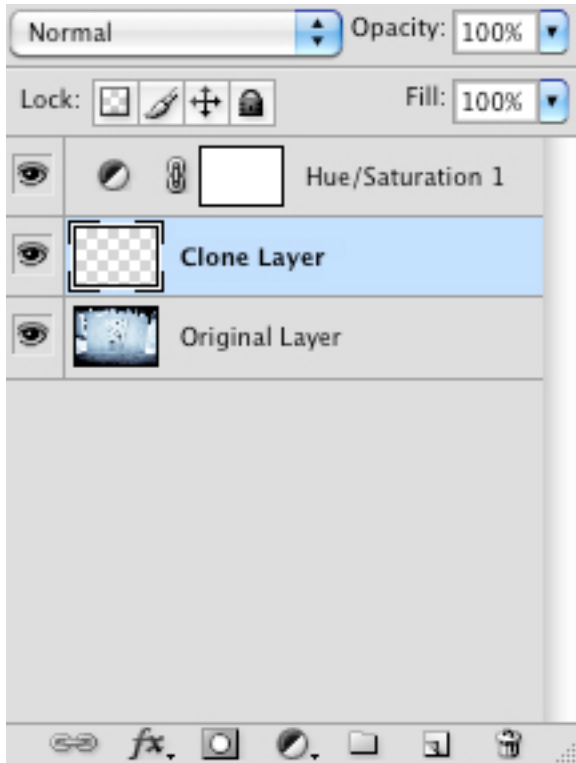
As you can see, with *Current Layer* selected, the clone stamp ignores pixel data contained in any other layer. Conversely, *All Layers* ignores all layer distinction and clones any visible pixels in the document (invisible layers will be ignored). Finally, *Current & Below* samples pixels from the selected layer and any visible layers behind it.

Basic Settings: Adjustment Layers

The final basic setting (the circle with a diagonal line through it) lets you decide whether the clone stamp tool should sample adjustment layers when cloning. Adjustment layers, such as Hue/Saturation and Levels, are meant to be a non-destructive way to change the appearance of layers. So, you can make drastic changes to a layer or group of layers without destroying the original pixels.

Because of this, turning on *Ignore Adjustment Layers When Cloning* is almost always a good idea. This allows you to clone the original image, which can then be affected by an ever-changeable adjustment layer. If you do not choose to ignore the adjustment layer, the adjustment becomes permanent in the cloned areas.

In the layer set-up below, turning on *Sample All Layers* would by default clone pixels from both the background layer and the adjustment layer in the foreground. Turning on *Ignore Adjustment Layers* prevents this.



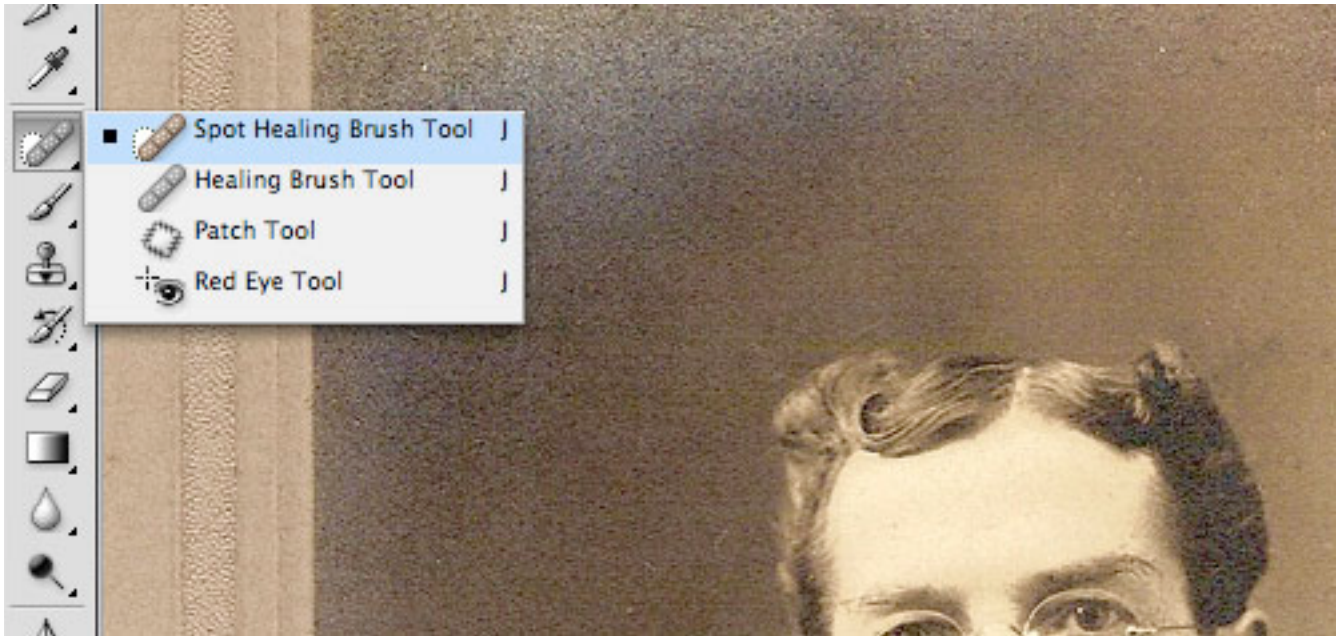
 **Adjustment Layer
Will Be Cloned**

 **Adjustment Layer
Will Not Be Cloned**

You can choose to ignore adjustment layers when cloning.

The Spot Healing Brush

As you can see below, the Spot Healing Brush tool is located under the Eyedropper tool and above the Brush tool, and it can be accessed quickly by hitting *J* on the keyboard.



Type J to bring up the Spot Healing Brush.

The Spot Healing Brush is by far the simplest cloning tool in Photoshop. With little to no experience, you can repair small areas of an image. The secret to using the tool is in the name: *Spot* Healing. The tool is intended not for large areas of replacement, but rather to remove little unwanted spots, such as a scratch on an old photograph or a mole on a person's face.

To use the tool, simply hover over the area you want to replace and click once. Photoshop does all the work by examining the pixel data around the spot and seamlessly integrating the data into the destination.



The Spot Healing Brush is perfect for repairing old photographs.

As you can see above, the tool does a remarkable job of not leaving behind any noticeable artifacts or repeating patterns. The trick is to go slowly and work on very small portions of the image. Select a spot to fix, and use a brush that's only slightly bigger than the selected imperfection. The larger the brush, the more likely you are to clone unwanted portions of the surrounding area, and the more noticeable the repetition of pixels will be.



Use a brush slightly bigger than the target spot.

The Healing Brush

The Healing Brush tool, located under the Spot Healing Brush tool, is very similar to the Clone Stamp tool. To begin, *Option + click* (*Alt + click* on a PC) to select your source, and then carefully paint over the destination to transfer the pixels. The Healing Brush performs this operation with more built-in intelligence than the Clone Stamp.

As with the Spot Healing Brush, the Healing Brush attempts to automatically blend in the cloned pixels with the environment around it.



The Healing Brush tool automatically blends the source with the destination.

As you can see, using the Clone Stamp to clone the puppy's eye results in a straight copy of the pixels, while the Healing Brush does a much better job of blending with the background.

This built-in intelligence proves extremely helpful when cloning a subject with diverse colors, textures and lighting conditions. Using the Clone Stamp in these situations can leave you with a lot of noticeably patchy spots that really stand out from the surrounding area.

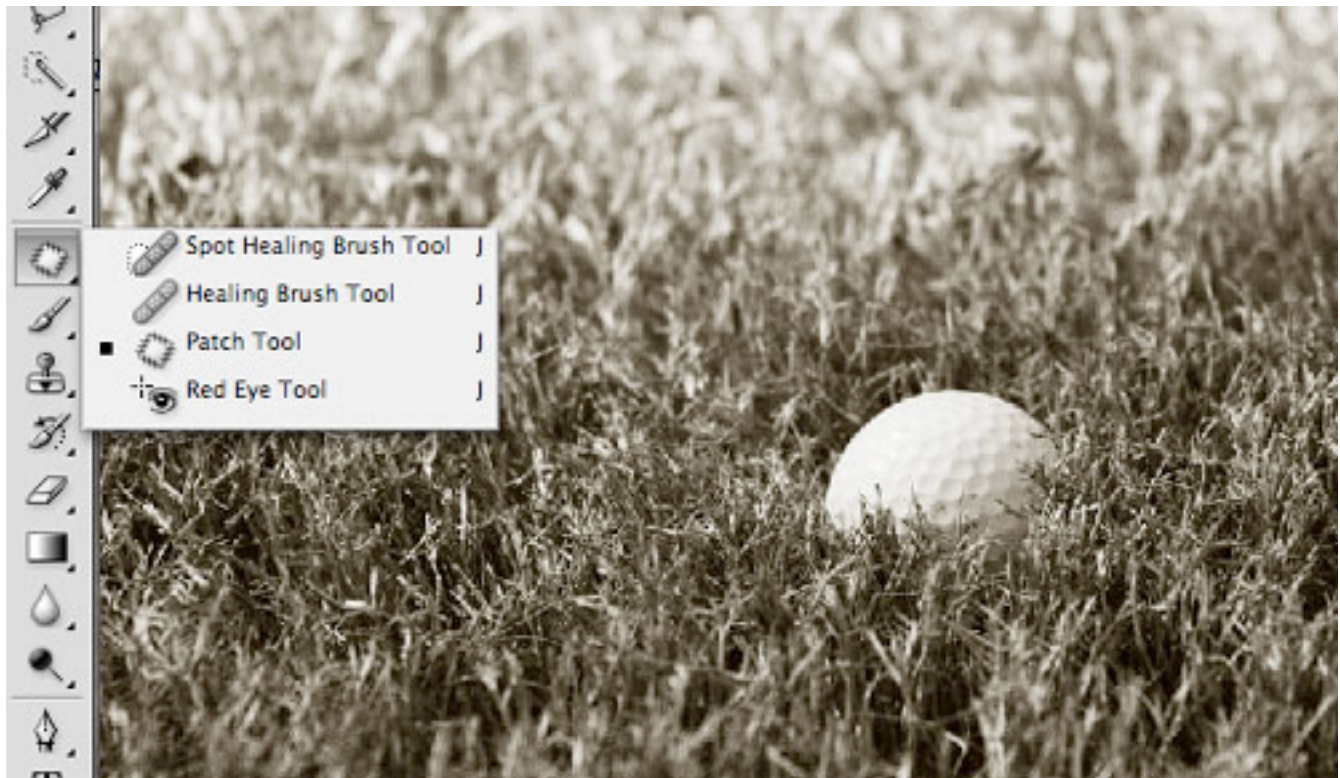


The Healing Brush Tool makes it easy to clone visually complicated areas.

The photograph above is a good example of a subject with a fairly complicated surface. Using the Clone Stamp tool would have made it quite difficult to paint over the cracked areas while retaining the integrity of the stained stone. Much of the discoloration would have been sacrificed as you sourced smoother areas to erase the cracks. However, the Healing Brush was able to effectively replace the cracked areas with smoother areas, while sampling from the surrounding area to replicate the stains.

The Patch Tool

The final healing tool we'll examine is the Patch tool, which can be found under the Healing Brush tool, as seen below.



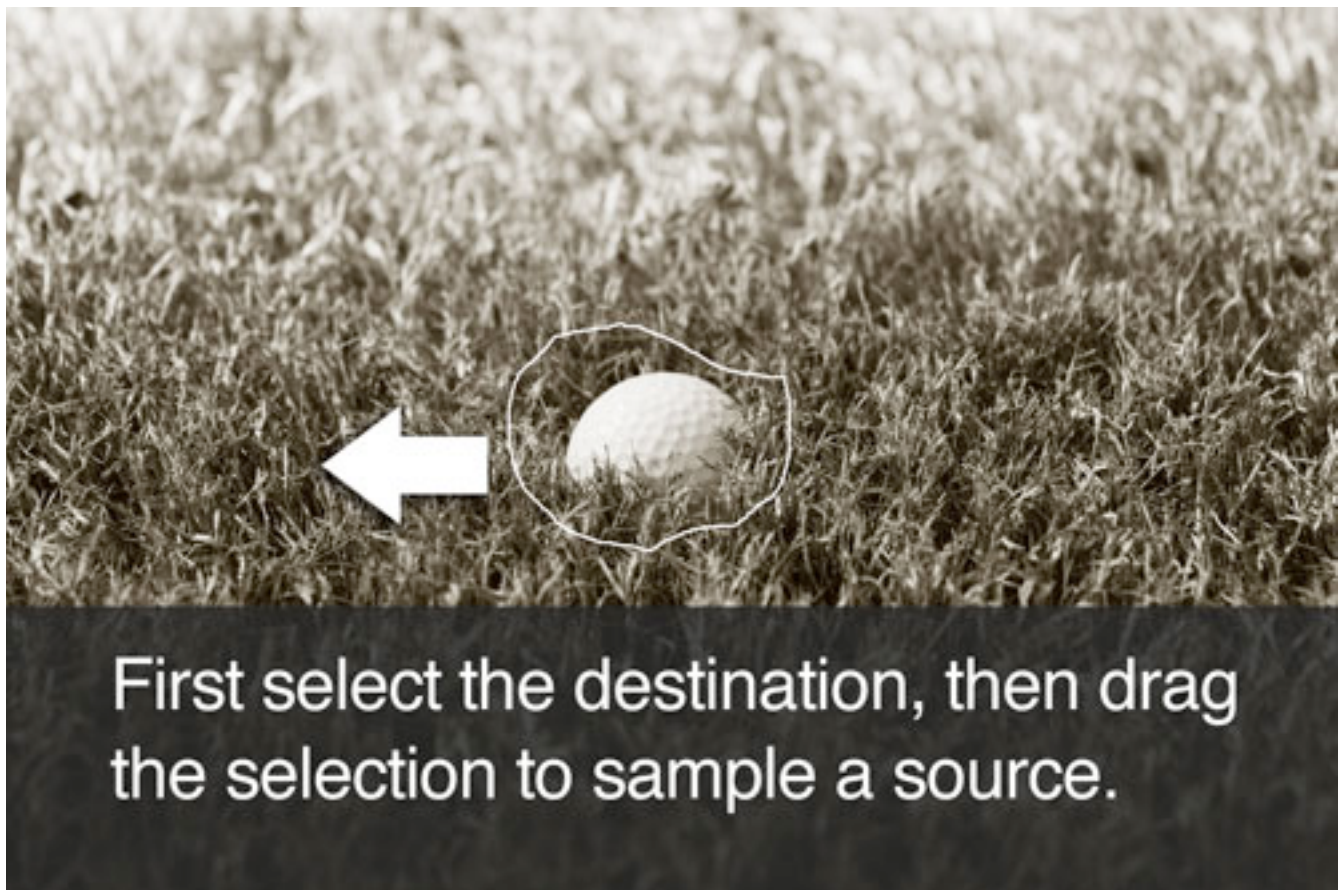
Tip: hit Shift + J to cycle between the tools in the fly-out menu.

The cloning tools we've examined so far are best when used meticulously on small portions of an image. By contrast, the Patch tool is the best way to clone large, relatively uniform areas. As with the other healing tools, the Patch tool not only performs a straight clone but attempts to blend in the edge of the selected area with the target environment.

To use the Patch tool, either make a selection with any of the selection tools, or simply select an area with the Patch tool's built-in lasso. There are two modes to choose from for the behavior of the patch: "Source" and "Destination" (found in the menu bar above the document area).

Source Mode

With the source mode selected, first select the area of the image you want to replace, and then drag that selection to the area you want to source. For instance, to eliminate the golf ball in the image below, you would first select the area around the golf ball, and then drag that selection around to find the best source.



In source mode, first select the area you want to replace.

As you drag the selection around to find a suitable source, watch the destination (i.e. your originally selected area) for a preview of what the source pixels will look like in that area. Keep in mind that this preview is a

straight clone without any blending (the final image will look much better). Release the selection to see the actual result.



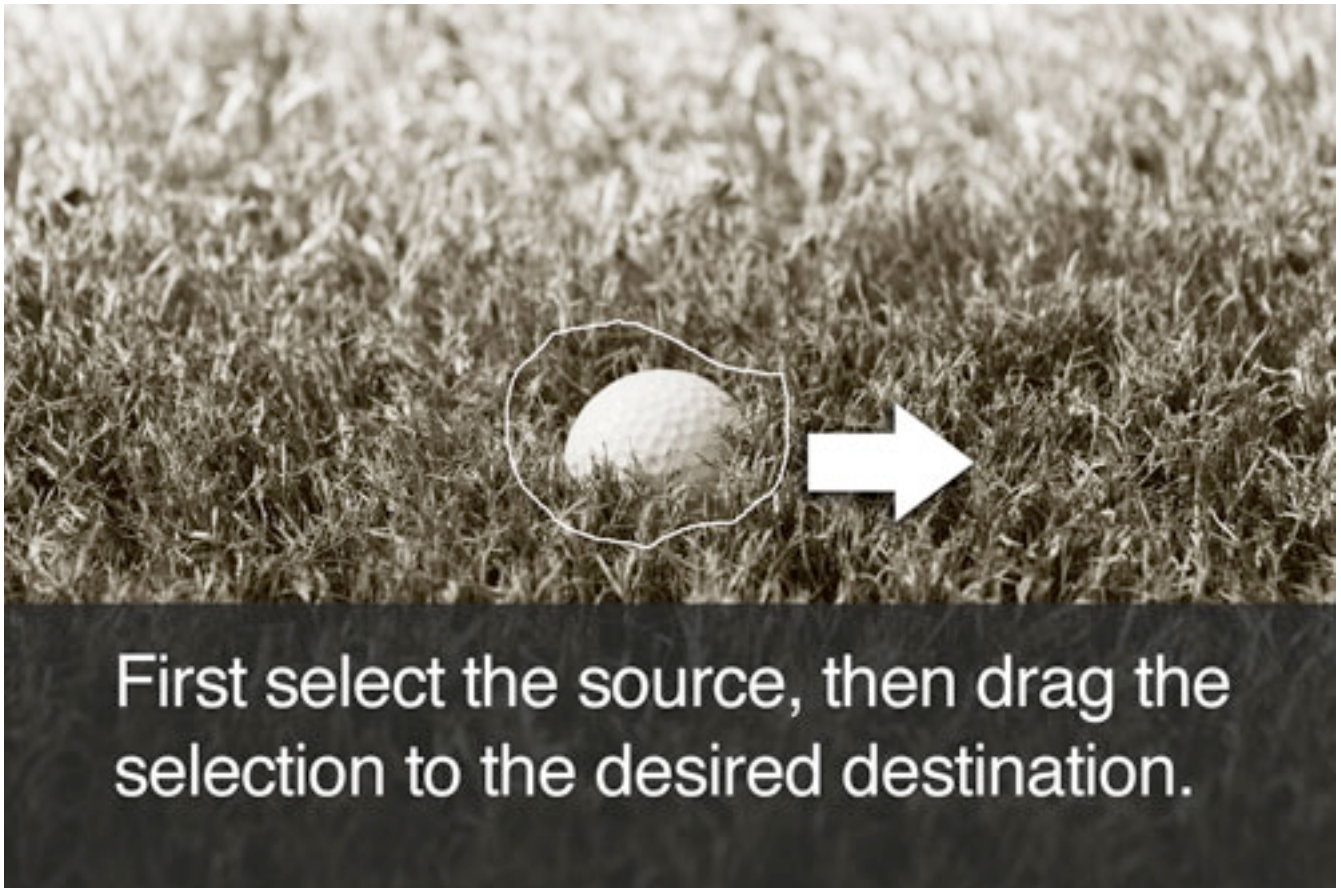
The Patch tool's result.

As you can see, it does a pretty impressive job of blending the source and destination pixels all on its own. But going over areas that need improvement with the Healing Brush is good practice.

Destination Mode

With "Destination" mode selected, the area you select first will be the area that is replicated elsewhere. For instance, if we start with the same selection

as before, dragging the selection this time gives us a preview of copying the ball to a new location.



Patch tool destination mode.

After you release the selection, the golf ball is copied to a new area of the image and blended with the surrounding pixels.



Result of "Destination" mode.

The Clone Source Palette

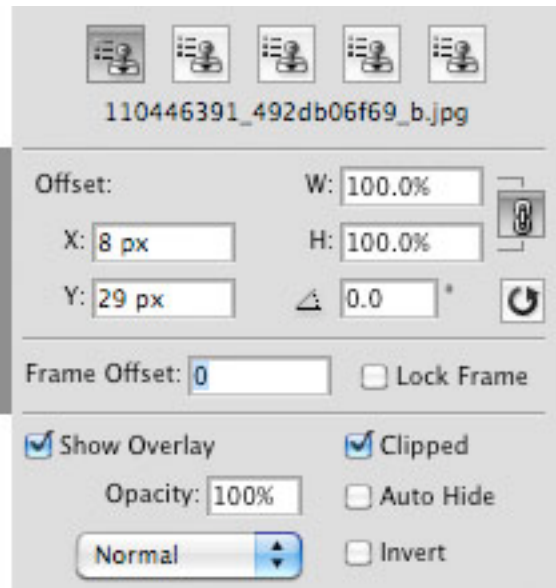
The Clone Source palette (found under *Window* → *Clone Source*) is an invaluable resource for professional-quality cloning. This tool gives you much more control over the results and functionality of the Clone Stamp and Healing Brush.

The Clone Source palette contains three primary sections: cloning source, offset adjustment and overlay options.

Cloning Sources

Offset Adjustments

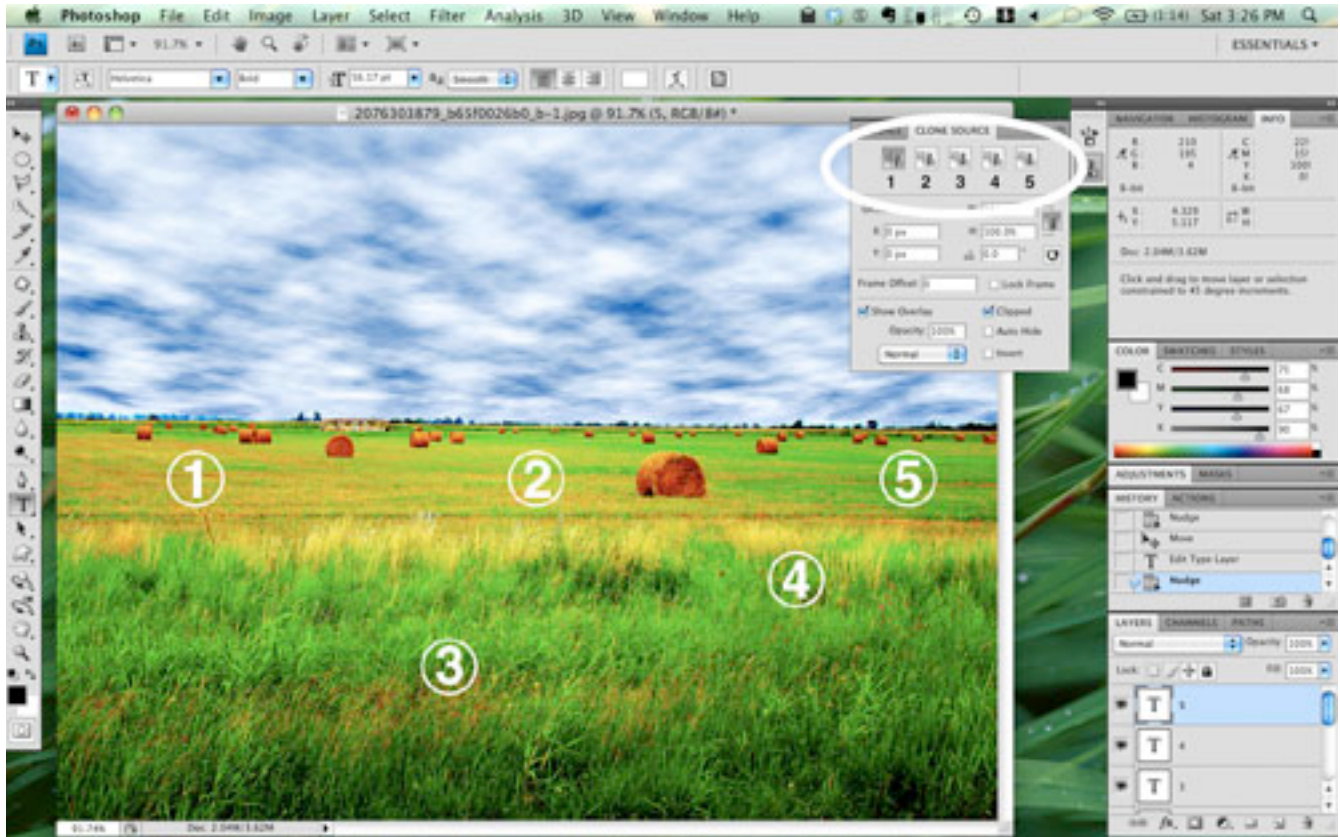
Overlay Options



The Clone Source palette.

Cloning Sources

In the first section in the Clone Source palette, you can define multiple areas of an image as a source from which to clone and/or heal.



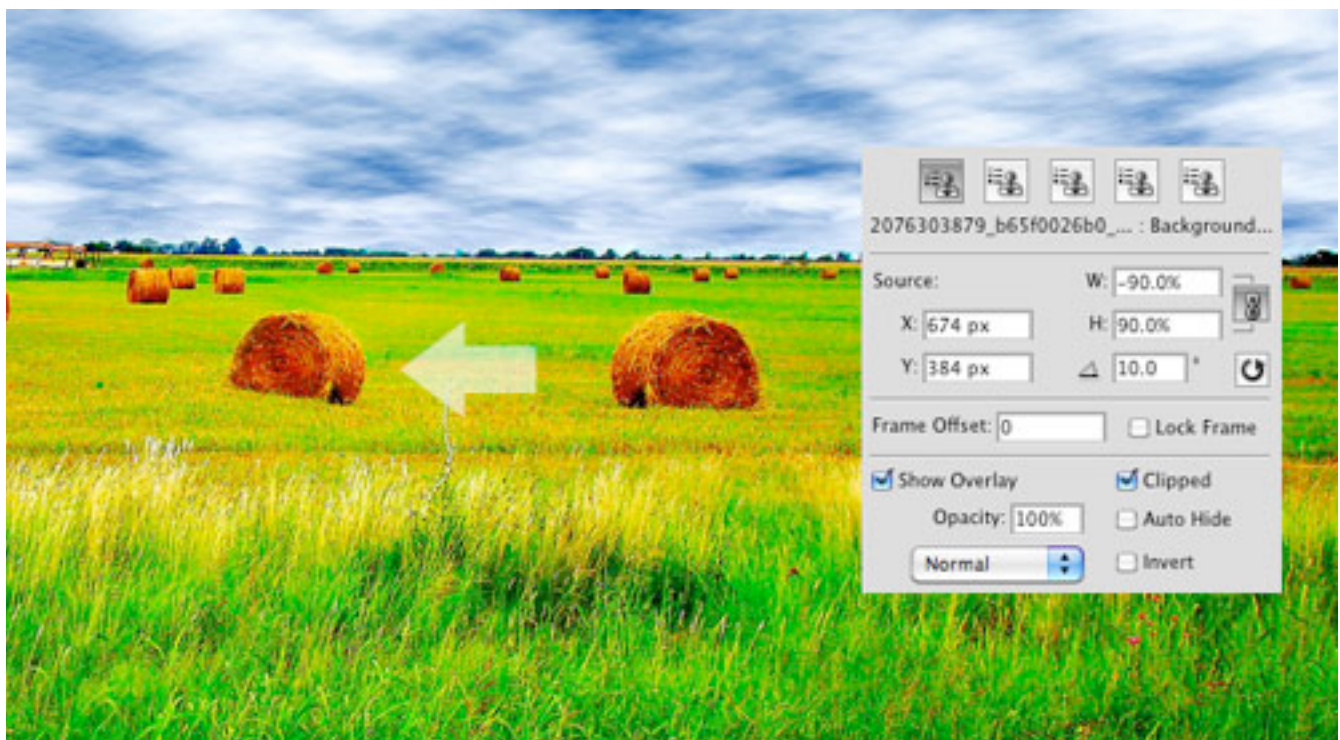
Defining multiple sources.

The image above illustrates an example of when you might want to define multiple sources. To save a source, click on one of the five source buttons, and then *Option + click* (*Alt + click*) with either the Clone Stamp or Healing Brush. That location will now be saved to that button. Now, select the next button in line, and do the same in another part of the image. Once your sources are loaded, you can quickly shift between them simply by clicking the related button.

Notice that the file name appears just under the clone source buttons. This is because you can actually select a clone source outside of the image that you're working on. Simply open a different file and set the clone source. Then, when you go back to the primary file to paint with the Clone Stamp or Healing Brush, the pixels from the other image will function as the source of the clone.

Offset Options

The second section of commands in the Clone Source palette really increase the variety of cloned results available to you. You can set exact coordinates for the source, change the size of the cloned result relative to the original source, tweak the rotation of the result and set a precise offset (again, relative to the original source).



Tweaking the cloned results.

You can see these transformation effects in action in the example above. The two bails of hay are actually one and the same, but they look considerably different because of the offset options. First, I set both the width and height to 90%, so that the cloned bail would appear slightly smaller than the original. Then I changed the width to -90% to flip the clone horizontally (you could change the height to a negative number to flip the image vertically). Finally, I set the rotation to 10° to give the illusion of a small hill.

Overlay Options

The overlay options are among the most helpful features in the Clone Source palette. Years ago, cloning involved a lot of guess work because it was difficult to tell exactly what the selected sample would look like without actually applying it. The guesswork has been eliminated with the “Show Overlay” command. When “Show Overlay” is selected in conjunction with the “Clipped” option, your brush is shown with a preview of the clone source inside. This is extremely helpful when attempting to clone inorganic areas with straight edges, such as a brick wall.



An overlay of the source is displayed within the brush.

Note that if you choose to turn on the overlay but turn off “Clipped,” then your entire clone source layer will be shown surrounding the brush.



An overlay of the source is displayed within the brush.

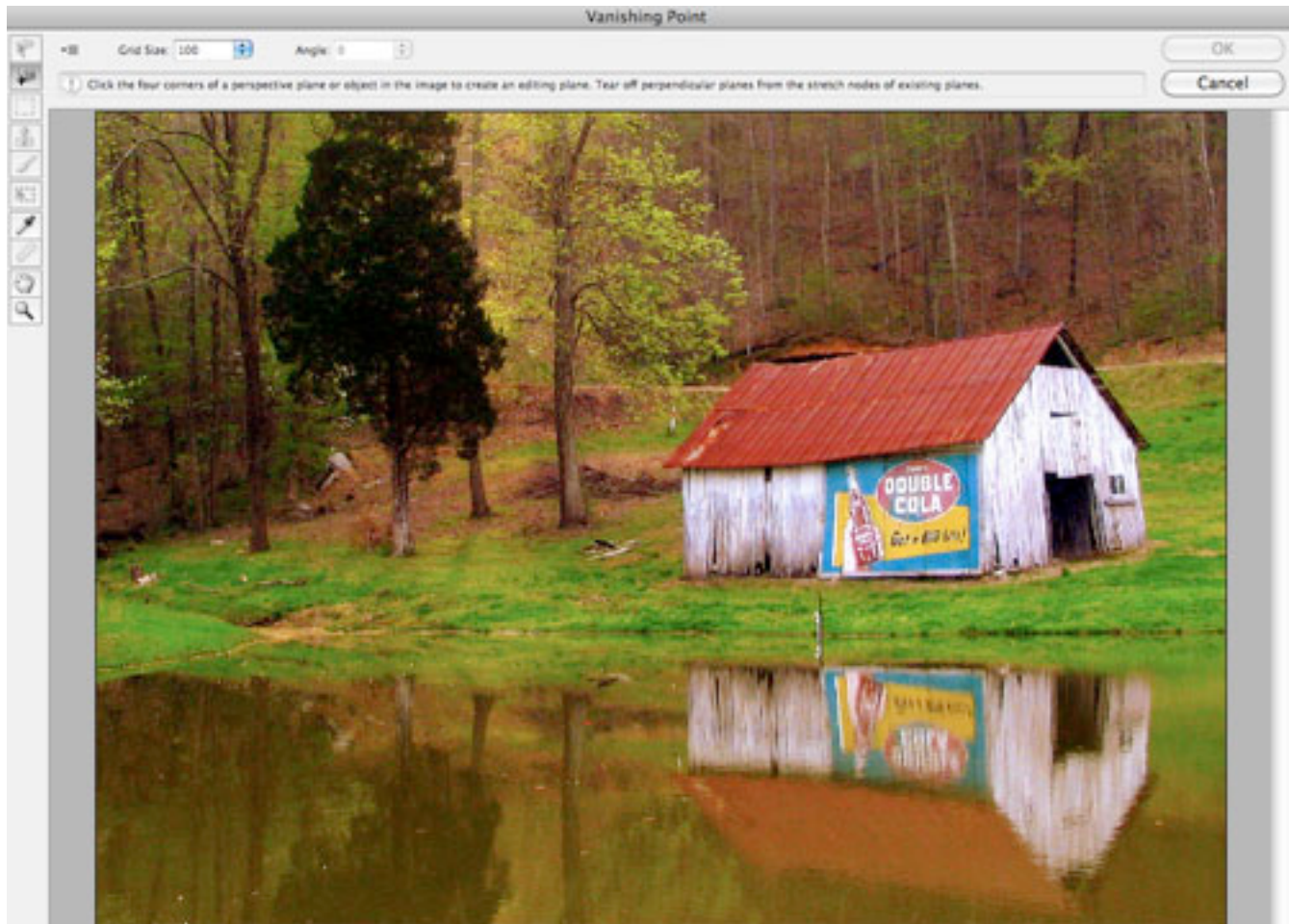
Working this way is actually quite difficult because the source significantly blocks your view of the destination. But if you prefer it, try reducing the opacity of the overlay so that you can see the image below.

Vanishing Point

Vanishing Point takes cloning to an entirely new dimension, literally. The tool makes it possible to set up primitive planes across your artwork, which a clone then follows to simulate a three-dimensional space. Vanishing Point

has a ton of features and potential applications, and it really merits its own entire article, so this will be just a brief introduction.

When you open up the Vanishing Point dialog (found under the “Filter” menu item), you’ll see a large preview of your image, along with a small set of tools on the left side.



The Vanishing Point dialog.

Grab the tool sitting second from the top to set up your initial plane. With this tool, click once on each of the four corners, outlining the desired plane. Once you’ve created an initial plane, you can *Command + click* (*Control + click* on a PC) to extend the plane perpendicularly. Some images, though,

like this old barn, won't have perfect angles. In this case, you'll have to create a second plane, entirely distinct from the original.



Setting up planes.

Once you're satisfied with the planes, grab the Clone Stamp (fourth from the top), and *Option* + *click* the desired source (in our case, the barn door). Then clone the door onto the front-facing wall using the same method you would use with the normal Clone Stamp tool. Turn "Healing" on in the drop-down menu above the image preview to ensure that the source is properly blended into the destination.



Vanishing Point result.

As you can see, Photoshop interpreted the planes fairly well. Some fine-tuning and clean-up are definitely necessary if we want a believable image; but overall, the result is extremely impressive, given the lack of work required.

5 Quick Tips For Better Cloning

Now that we've examined each tool in depth, let's close by recalling a few things to keep in mind if we want to clone with professional results.

Take Your Time

As you undertake a cloning project, the quality of the result is directly proportional to the amount of time you put into it. Cloning photographic details can be incredibly tedious work. The world has become well acquainted with Photoshop magic, so never assume that no one will notice your blunders.

Duplicate the Active Layer

The very first step to take when cloning parts of an image is to duplicate the layer you'll be working on (or to just work on a new transparent layer). Realizing that you made a mistake so long ago that your "Undos" don't go back far enough to fix it is beyond frustrating. Keeping the original image on a hidden layer gives you the flexibility to revert any part of an image to its original state.

Be Selective With Your Tools

Each cloning tool has its strengths and weaknesses, as outlined above. Never arbitrarily grab a tool and stick with it for the duration of a project. Consider which tool is best suited to the particular area of the image you're working on. On large projects, no single tool creates believable results on its own. Use two or more tools in synergy to achieve a realistic result.

Watch for Obvious Duplication



Sloppy cloning results in noticeable patterns.

If you're not careful, duplicated pixels can become painfully obvious. This is especially true of areas that should look fairly organic, like the grass above. Instead of appearing natural, an obvious pattern emerges when you use the same section of an image over and over. To avoid this, make heavy use of the Clone Source palette. Use multiple sources; and change the size, rotation and orientation of the areas you're cloning to give the illusion of an unmanipulated image.

Avoid Disasters

When retouching significant parts of an image, overlooking certain areas becomes all too easy.



Where did her leg go!?

If you're not careful, you could eliminate enough vital body parts to make the image humorous. Your goal is to prevent your work from showing up on Photoshop Disasters, which is where you'll find the image above.

Conclusion

Cloning in Photoshop is a difficult task that requires significant time, studious attention to detail and an in-depth knowledge of several tools and commands. To improve the quality of your results, invest some time learning Photoshop's entire cloning arsenal. Experiment with all of the options for each tool to get a better feel for where you can excel.

Designing for iPhone 4 Retina Display: Techniques and Workflow

Marc Edwards

The iPhone 4 features a vastly superior display resolution (614400 pixels) over previous iPhone models, containing quadruple the 153600-pixel display of the iPhone 3GS. The screen is the same physical size, so those extra dots are used for additional detail — twice the detail horizontally, and twice vertically. For developers only using Apple’s user interface elements, most of the work is already done for you.

For those with highly custom, image-based interfaces, a fair amount of work will be required in scaling up elements to take full advantage of the iPhone 4 Retina display. Scaling user interfaces for higher detail displays — or increasing size on the same display — isn’t a new problem. Interfaces that can scale are said to have [resolution independence](#).

In a recent article, Neven Mrgan described [resolution independence](#): “RI [resolution independence] is really a goal, not a technique. It means having resources which will look great at different sizes.” If it’s a goal, not a specific technique, then what techniques exist? How has Apple solved the problem in iOS?

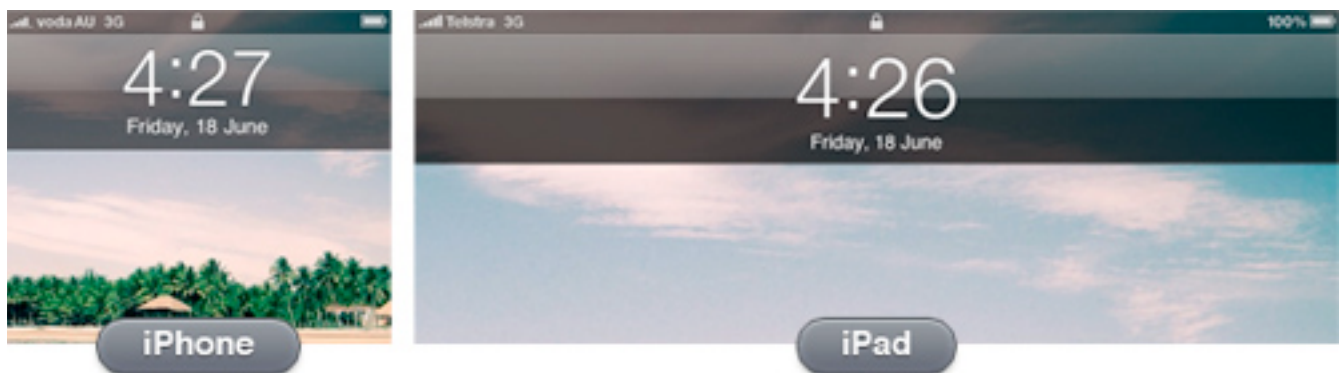
Fluid Layouts

While apps that take advantage of Apple’s native user interface elements require a lot less work when designing for the Retina display, we’re here to

talk about highly custom, graphic-driven apps that need a fair amount of work to take full advantage of the Retina display.

While not strictly a resolution-independent technique, using a [fluid layout](#) can help an app grow to take advantage of a larger window or screen by adding padding or by changing the layout dynamically. A lot of Mac, Windows and Linux apps use this method, as do some websites.

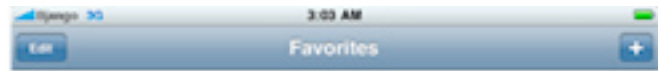
This is partially how Apple handled the difference in resolution from iPhone to iPad — a lot of UI elements are the same pixel size, but padded to make use of the extra screen real estate. The status bar is a good example of this. It works because the pixel densities of the iPhone 3GS and iPad are similar (163 ppi vs 132 ppi).



Fluid layouts work when the change in density is minor, but aren't any help with the iOS non-Retina to Retina display transition (163 ppi to 326 ppi). The image below demonstrates what would happen if an iPhone app was simply padded to cater for the higher resolution display of the iPhone 4. Buttons and tap areas would be the same size in pixels, but half the physical size due to the higher pixel density, making things harder to read and to tap.



iPhone 3GS, 320px wide

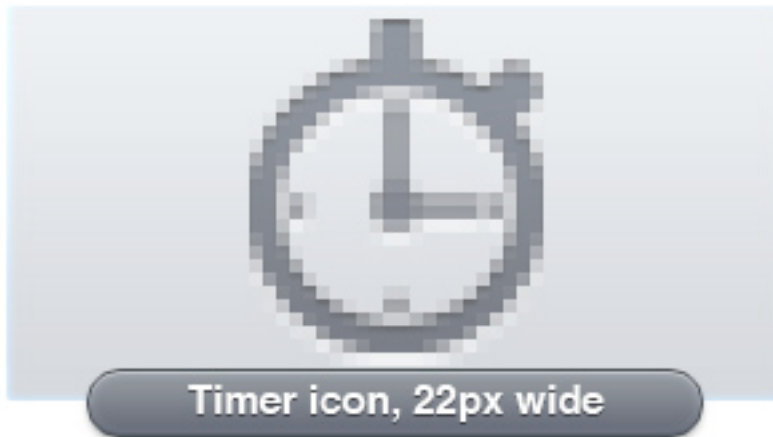
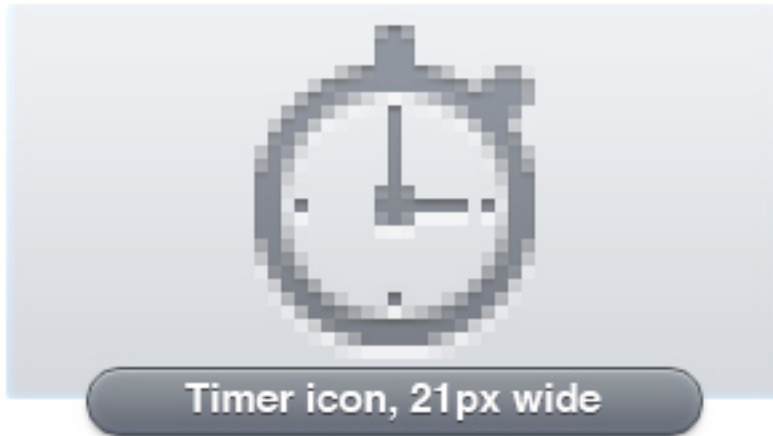


iPhone 4, 640px wide

Just-in-time Resolution Independence

Another approach to handling widely different resolutions and pixel densities is to draw everything using code or vector-based images (like PDFs) at runtime. Without trying to stereotype anyone, it's usually the approach engineering-types like. It's clean, simple and elegant. It lets you design or code once, and display at any resolution, even at fractional scales.

Unfortunately, using vector-based images tends to be more resource-hungry and lacks pixel level control. The increase in resources may not be an issue for a desktop OS, but it is a considerable problem for a mobile OS. The lack of pixel level control is a very real problem for smaller elements. Change an icon's size by one pixel, and you will lose clarity.



Neven emphasizes in his [article](#) that:

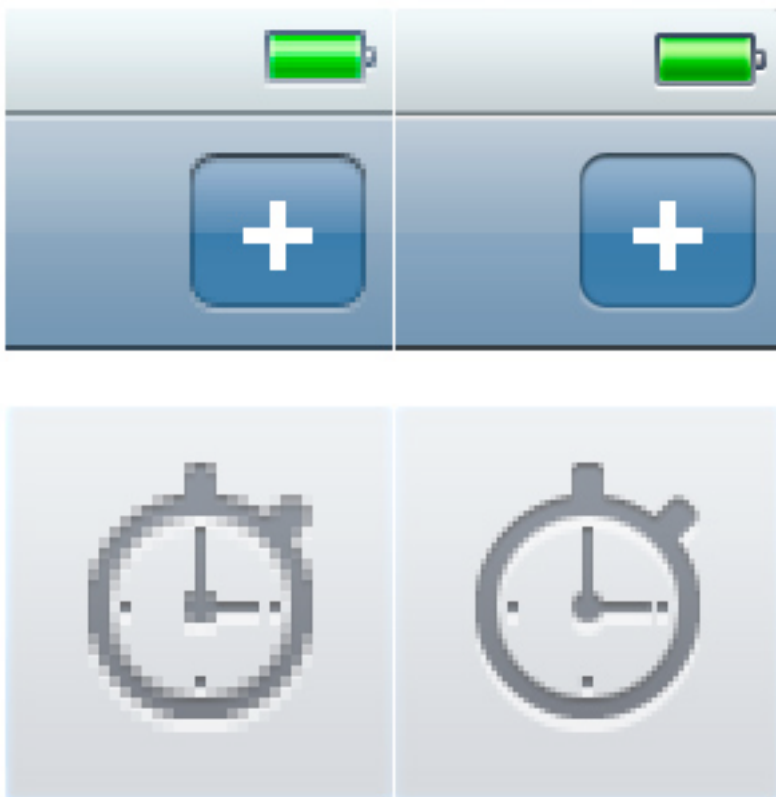
"...it is simply not possible to create excellent, detailed icons which can be arbitrarily scaled to very small dimensions while preserving clarity. Small icons are caricatures: they exaggerate some features, drop others and align shapes to a sharp grid. Even if all icons could be executed as vectors, the largest size would never scale down well."

Although here he is talking exclusively about icons, his description is apt for most UI elements. The decisions involved in scaling are creative, not mechanical. Vector-based elements aren't suitable for all resolutions, if you value quality.

Ahead-of-time Resolution Independence

The best quality results — and the method Apple chose for the iPhone 3GS to iPhone 4 transition — comes from pre-rendered images, built for specific devices, at specific resolutions: bespoke designs for each required size, if you will. It's more work, but pre-rendering images ensures everything always looks as good as possible.

Apple chose to exactly double the resolution from the iPhone 3GS to the iPhone 4, making scaling even easier (different from the approach of [Google](#) and [Microsoft](#) — notice that this article is not relevant to the latest version of Microsoft's mobile OS — proving yet again that controlling the entire stack has huge advantages).



Currently, there are three iOS resolutions:

- 320 × 480 (iPhone/iPod touch)
- 640 × 960 (iPhone 4 and iPod with Retina display)
- 768 × 1024 / 1024 × 768 (iPad)

In a few years, it seems highly likely that the line-up will be:

- 640 × 960 (iPhone/iPod touch with Retina display)
- 1536 × 2048 / 2048 × 1536 (iPad with Retina display)
- Some kind of iOS desktop iMac-sized device with a Retina display

There are significant differences between designing iPhone and iPad apps, so completely reworking app layouts seems necessary anyway — you can't just scale up or pad your iPhone app, and expect it to work well or look good on an iPad. The difference in screen size and form factor means each device should be treated separately. The iPad's size makes it possible to show more information on the one screen, while iPhone apps generally need to be deeper, with less shown at once.

Building Designs That Scale

Building apps for the iPhone 4 Retina display involves creating two sets of images — one at 163 ppi and another at 326 ppi. The 326 ppi images include @2x at the end of their filename, to denote that they're double the resolution.

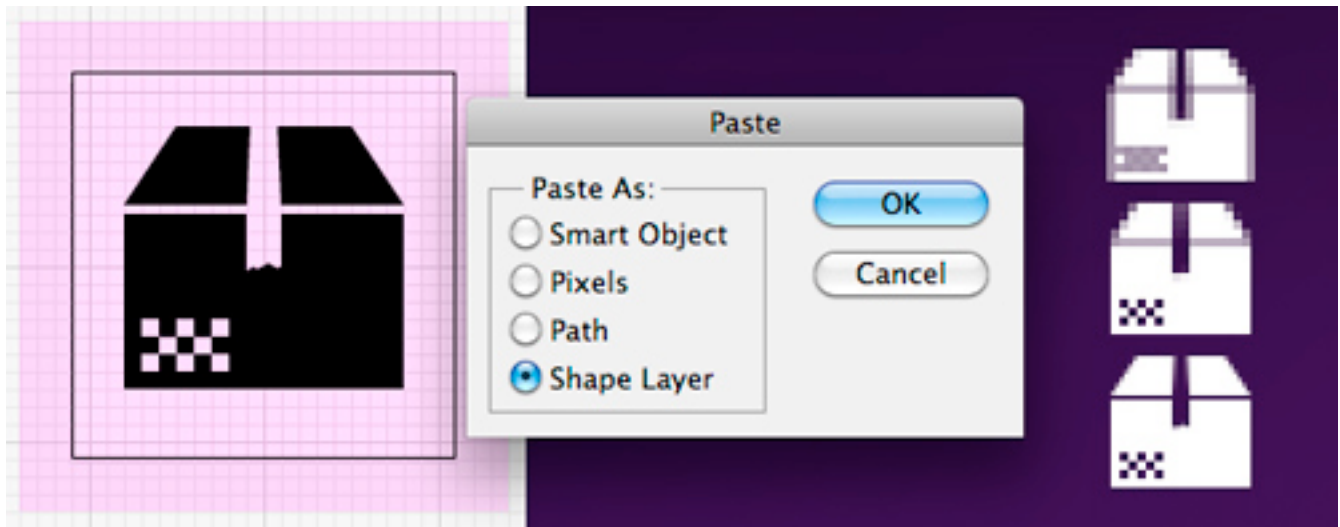
When it comes to building UI elements that scale easily in Adobe Photoshop, bitmaps are your enemy because they pixelate or become blurry when scaled. The solution is to create solid color, pattern or gradient

layers with vector masks (just make sure you have “snap to pixel” turned on, where possible). While a little awkward at times, switching to all vectors does have significant advantages.

Before anyone mentions it, I’m not suggesting any of the methods are new; I’m willing to bet that most icon designers have been working this way for years. I’ve been using vector shapes for ages too, but the Retina display has changed my practice from using vector shapes only when I could be bothered, to building entire designs exclusively with vector shapes.

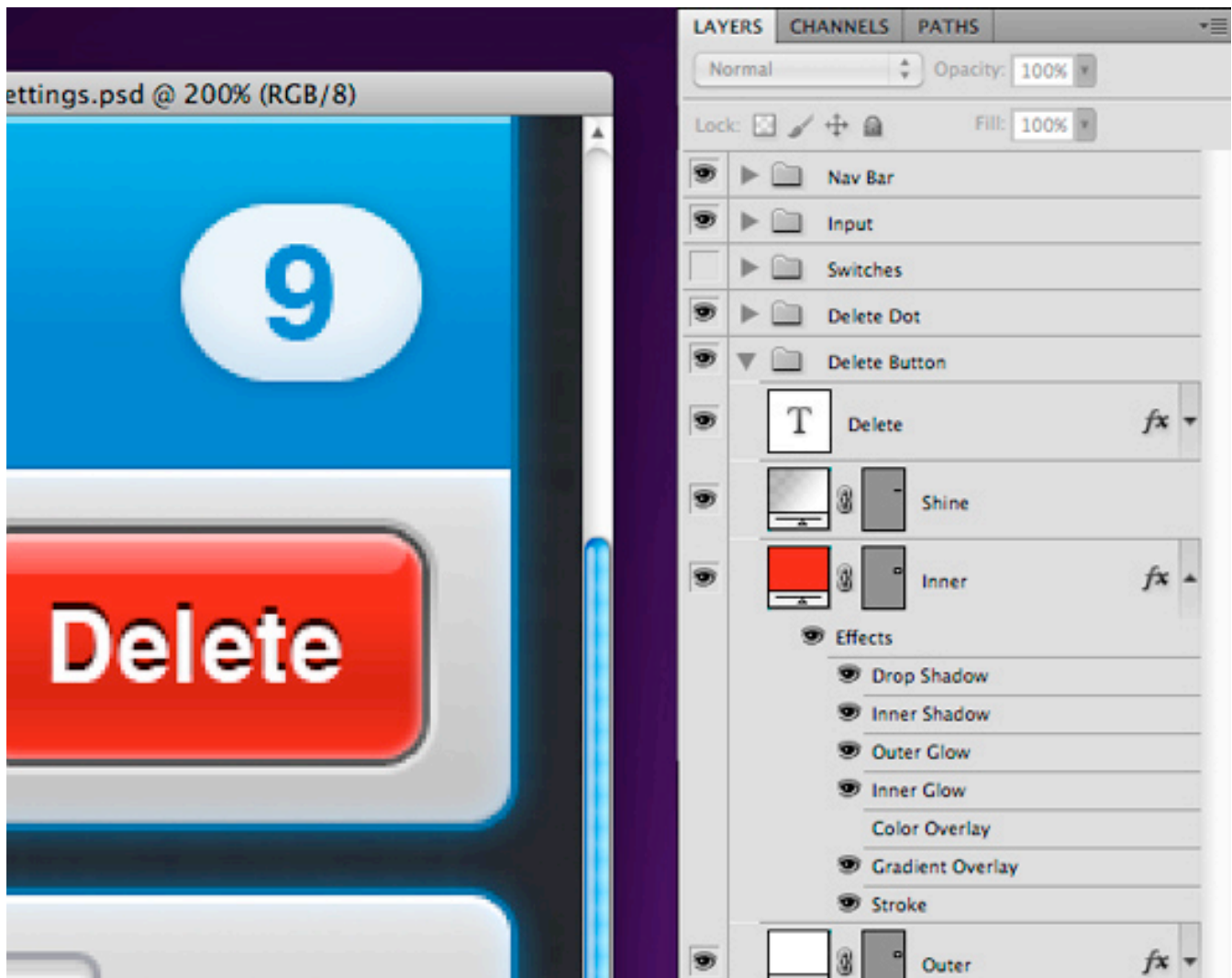
I usually draw simple elements directly in Photoshop using the Rectangle or Rounded Rectangle Tool. Draw circles using the Rounded Rectangle Tool with a large corner radius, because the ellipse tool can’t snap to pixel. Layer groups can have vector masks too, which is handy for complex compositing (option-drag a mask from another layer to create a group mask).

More complex objects get drawn in Adobe Illustrator to the exact pixel size, and then pasted into Photoshop as a shape layer. Be careful when pasting into Photoshop, as the result doesn’t always align as it should — it’s often half a pixel out on the x-axis, y-axis or both. The workaround is to zoom in, scroll around the document with the Hand Tool, and paste again. Repeat until everything aligns. Yes, it’s maddening, but the method works after a few attempts. Another option is to zoom in to 200%, select the path with the Direct Selection Tool, and nudge once, which will move everything exactly 0.5px.



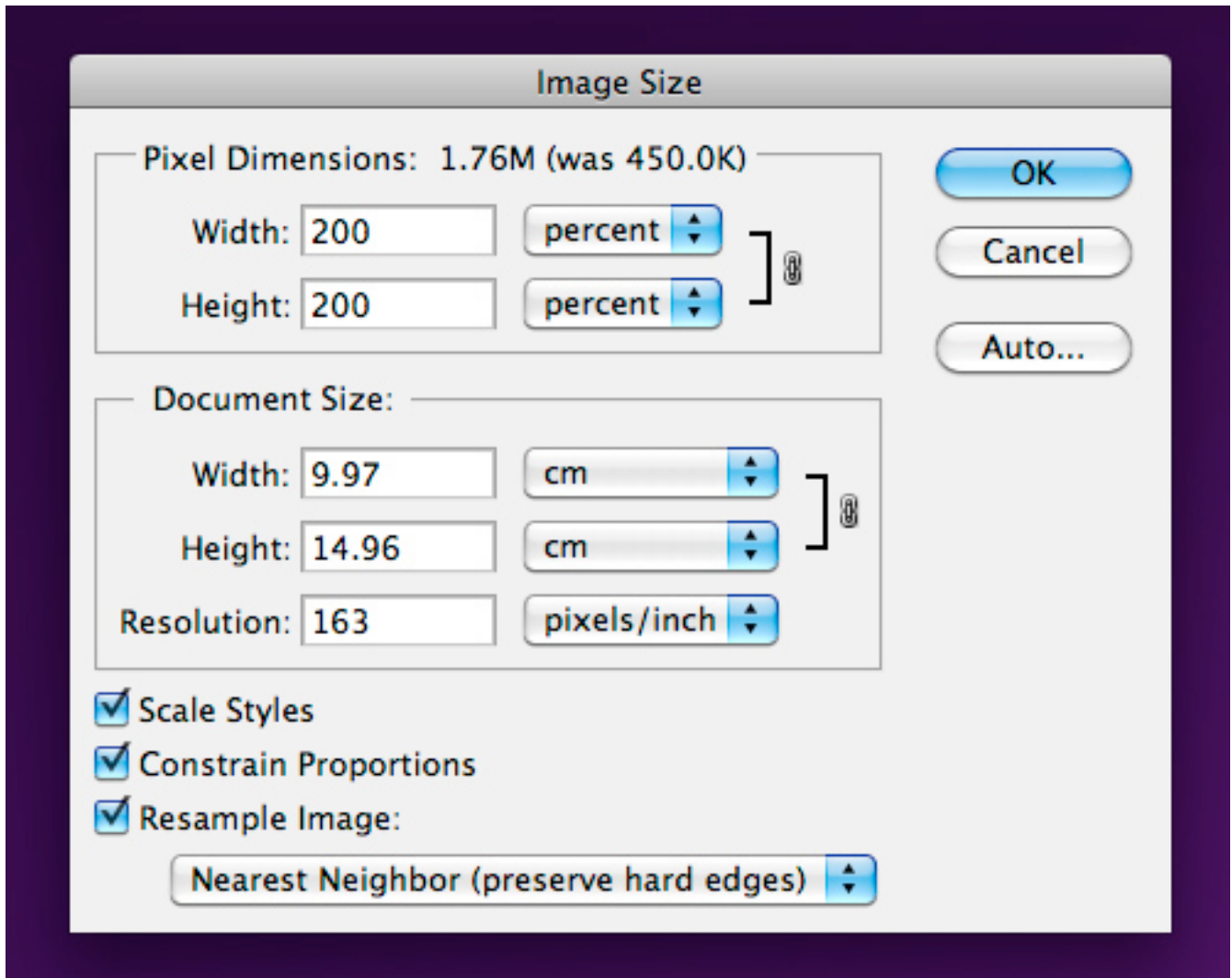
Even more complex objects requiring multiple colors get drawn in Illustrator to the exact pixel size, and then pasted into Photoshop as a Smart Object. It is a last resort, though — gradients aren't dithered, and editing later is more difficult.

If you need to use a bitmap for a texture, there are three options: use a pattern layer, a pattern layer style, or build a bitmap layer at the 2× size and turn it into a Smart Object. I prefer to use pattern layer styles in most cases, but be warned: patterns are scaled using bicubic interpolation when you scale the entire document, so they become "softer." The solution is to create two versions of each pattern, then to manually change pattern layer styles to the correct pattern after scaling — a little tedious, but totally do-able approach.

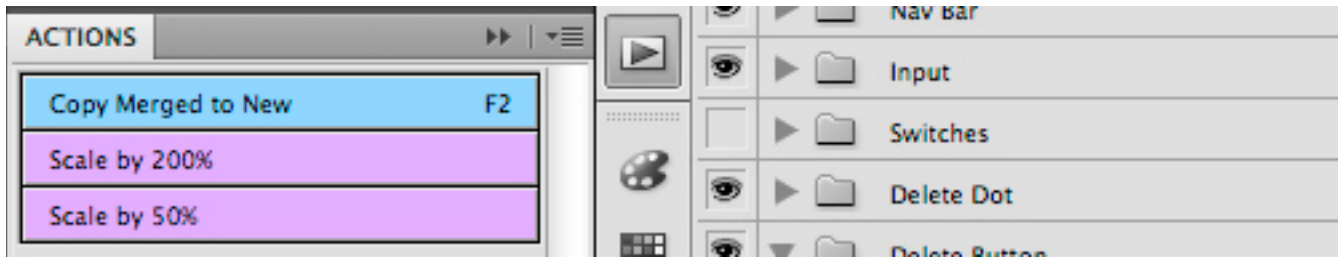


Scaling Up

At this point, your document should be able to scale to exactly double the size, without a hitch.



I have a Photoshop Action set up that takes a History Snapshot, then scales to 200%. That means, previewing at the Retina display's resolution is only a click away. If you're feeling confident you've built everything well, you should be able to scale up, edit, then scale down and continue editing without degradation. If you run into trouble, a Snapshot is there to take you back. Using one document for both resolutions, means not having to keep two documents in sync — a huge advantage.



A word of warning: layer styles can only contain integer values. If you edit a drop shadow offset to be 1 px with the document at 2× size, and then scale it down, the value will end up as 1 px because it can't be 0.5 px (a non-integer value). If you do require specific changes to the 2× version of the Photoshop file, you'll have to save that version as a separate file.

Exporting, Exporting, Exporting

Now for some bad news: exporting all the images to build an app can be extremely tedious, and I don't have much advice here to assist you. As my documents act as full screen mockups, they're not set up in a way that Photoshop's Slice feature is any use. Layer comps don't help either — I already have folders for each app state or screen, so switching things off and on is easy.

The best export method seems to be: enable the layers you'd like visible, make a marquee selection of the element, then use Copy Merged and paste the selection into a new document — not much fun when you have hundreds of images to export.

The problem is amplified when saving for the Retina display, where there are twice as many images and the 1× images must match the 2× images precisely.

The best solution I've come up with so far:

- Build your design at 1×
- Use Copy Merged to save all the 1× images
- Duplicate the entire folder containing the 1× images
- Use Automator to add @2x to all the filenames
- Open each @2x image and run the "Scale by 200%" Photoshop action. This gives you a file with the correct filename and size, but with upscaled content
- Scale your main Photoshop design document by 200%
- Use Copy Merged to paste the higher quality elements into each @2x document, turn off the lower quality layer, then save for the Web, overwriting the file

In some cases, Photoshop's "Export Layers To Files" can help. The script can be found under the File menu.

Mac Actions and Workflows

All the Actions and Workflows that I use myself can be [downloaded](#). The Automator Workflows can be placed in your Finder Toolbar for quick access from any Finder window, without taking up any space in your Dock.

Fortunately, Apple chose to exactly double the resolution for the iPhone 4, and for using ahead-of-time resolution independence. As complex as the process is now, things would have been far worse if they had chosen a fractional scale for the display.

Mastering Photoshop: Pixel Perfection When Rotating, Pasting and Nudging

Marc Edwards

When creating Web and app interfaces, most designers slave over every single pixel, making sure it's got exactly the right color, texture and position. If you're not careful, though, some common functions like moving, rotating and pasting can undo your hard work, resulting in a blurry mess. But with some small changes to your workflow, you should be able to maintain the highest-quality artwork from the start to the end of the project.

Pixel perfect rotation

If you're not careful, rotating layers in Photoshop can damage them in a very noticeable, pixel-mashing way.

When rotating layers with Free Transform (and some other tools) to exactly 90 or 270°, the quality of the outcome is determined by the layer's size. If the layer is of an even width and even height, then you'll be fine. If it's of an odd width and odd height, you'll also be okay. But if they're of an odd width by even height or even width by odd height, then you'll see something like the result below:

Original layer (vector or bitmap)

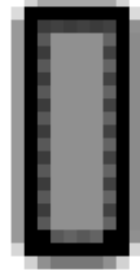


Using standard rotation

Bitmap



Vector



Using Bjango rotation action



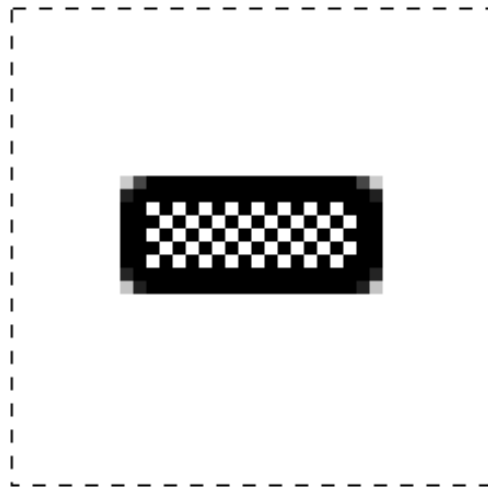
In this case, the artwork is 20 × 9 pixels: even-by-odd dimensions. The results for bitmap layers and vector layers are different, but they both produce unusable results because the origin of rotation doesn't fall on an exact pixel boundary..

A Fix

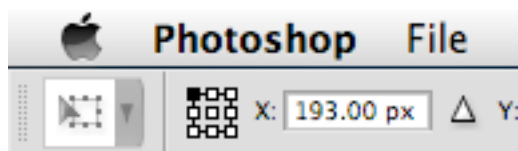
Because even-by-odd or odd-by-even dimensions are the problem, we need a way to ensure that the contents of the layer are odd-by-odd or even-by-even. Probably any method you can think of will solve this

problem, be it adding a square bitmap mask to a layer or adding more content to the layer that you're rotating. You could also draw a square on another layer and rotate both at once.

As long as the dimensions for the layer or layers are even-by-even or odd-by-odd, it'll be fine.



An Easier Fix



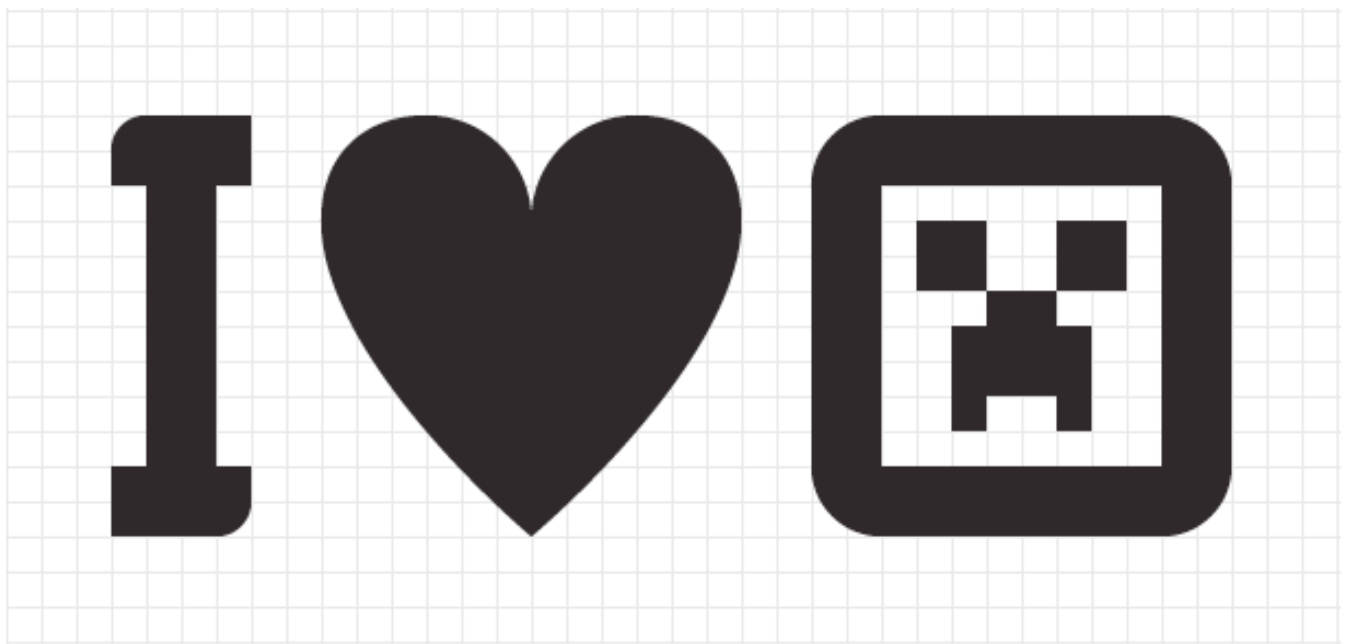
Changing the origin of rotation to the top left (or any other corner) will ensure it is on a pixel boundary, guaranteeing perfect results every time. To do this, click on a corner origin after selecting the Free Transform tool, but before rotating. This works brilliantly and is the simplest solution yet.

Bitmap and vector masks are affected by this issue as well, so please take care. But the issue affects only rotated layers, either via “Free Transform” or “Transform” under the Edit menu. Rotating the entire canvas via Image → Image Rotation has no problem.

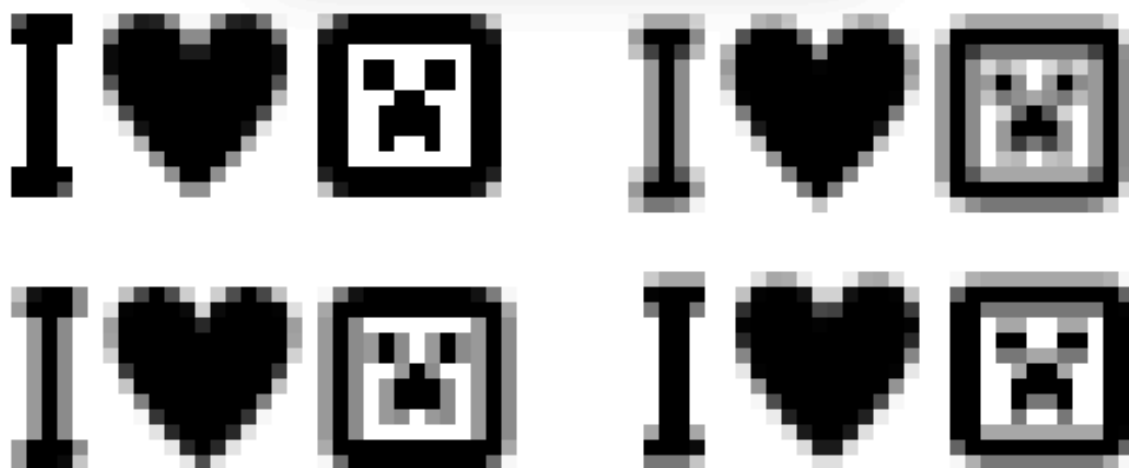
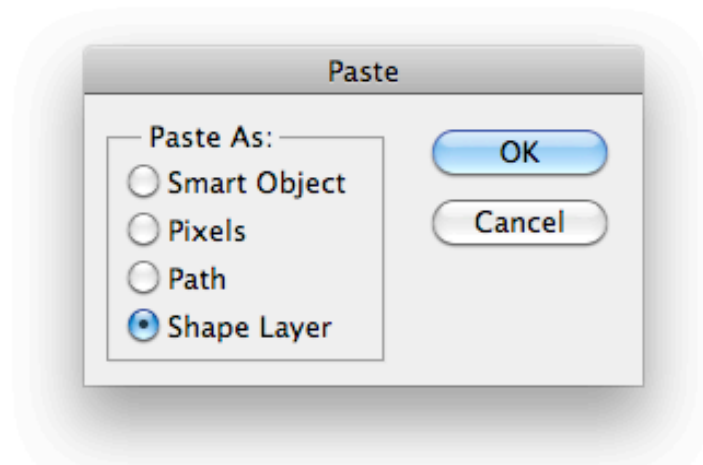
Pixel Perfect Vector Pasting

If you’ve drawn pixel-snapped artwork in Illustrator and pasted it into Photoshop as a shape layer, you may have noticed that the result is not quite what you expect (i.e. a perfectly sharp image), but rather a blurry mess. Here’s how to fix that.

Below is some artwork as it appears in Illustrator: perfectly formed, snapped to the pixel grid, and at the size we intend to use it in Photoshop.



Below are the same paths pasted into Photoshop a few times. Notice how only the top-left version is sharp, while the others are half a pixel out on the x axis, y axis or both.



What Went Wrong?

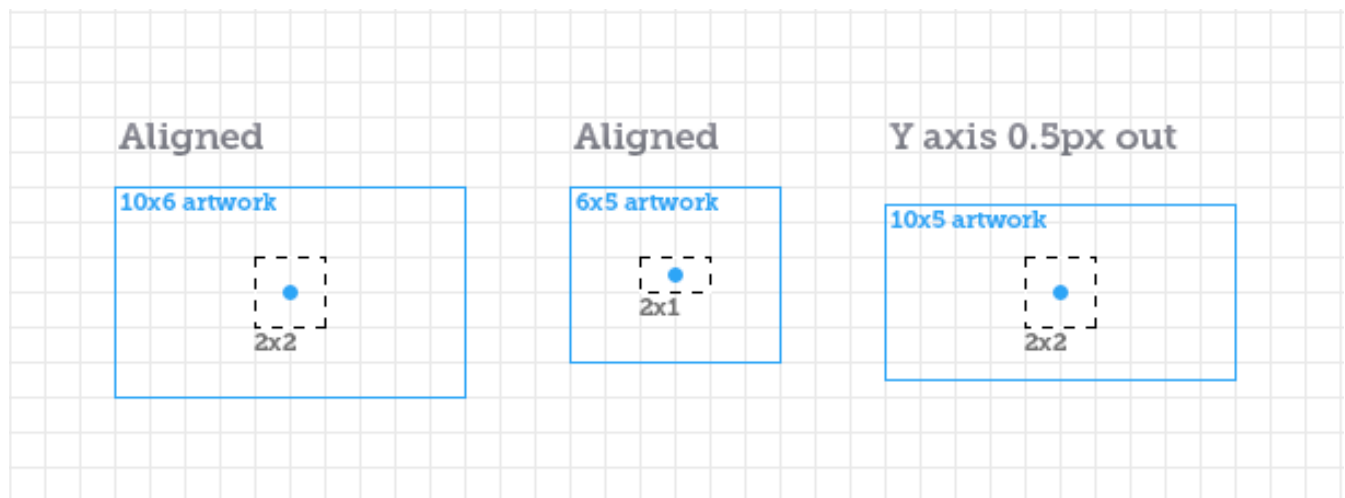
Photoshop's pasting behavior works in one of two ways. If you've made a selection, then the clipboard's contents are pasted so that the center of the clipboard is aligned with the center of the selection. If a selection hasn't been made, then the contents are pasted so that the center of the clipboard aligns with the center of your current view. The level you're zoomed into and the portion of the document you're viewing determines the result.

A Fix

Our test artwork is 32 pixels wide by 12 pixels high. Drawing a 32×12 marquee selection in Photoshop forces the artwork to land exactly where we want it and to be pixel-aligned. This works every single time.

An Easier Fix

The marquee doesn't have to be the exact size of your artwork, though. In our case, a 2×2 -pixel selection would work just as well, because the center of an even-width-and-height marquee selection and the center of even-width-and-height clipboard contents would fall exactly on a pixel boundary, which is what we want. If the artwork was an odd width and height, then a 1×1 selection would have been required.



If you couldn't be bothered noting your artwork's dimensions, then by drawing an appropriately sized marquee, you can draw a 2×2 -pixel selection and paste. If the image is blurry on the x axis only, make the selection 1×2 and paste again. If the image is blurry on the y axis only, make the selection 2×1 and paste again. If the image is blurry on both axes, make the selection 1×1 and paste again.

It may sound complex, but in practice it's very quick; you'll only ever have to paste twice to get sharp vector paths from Illustrator.

Smart Objects

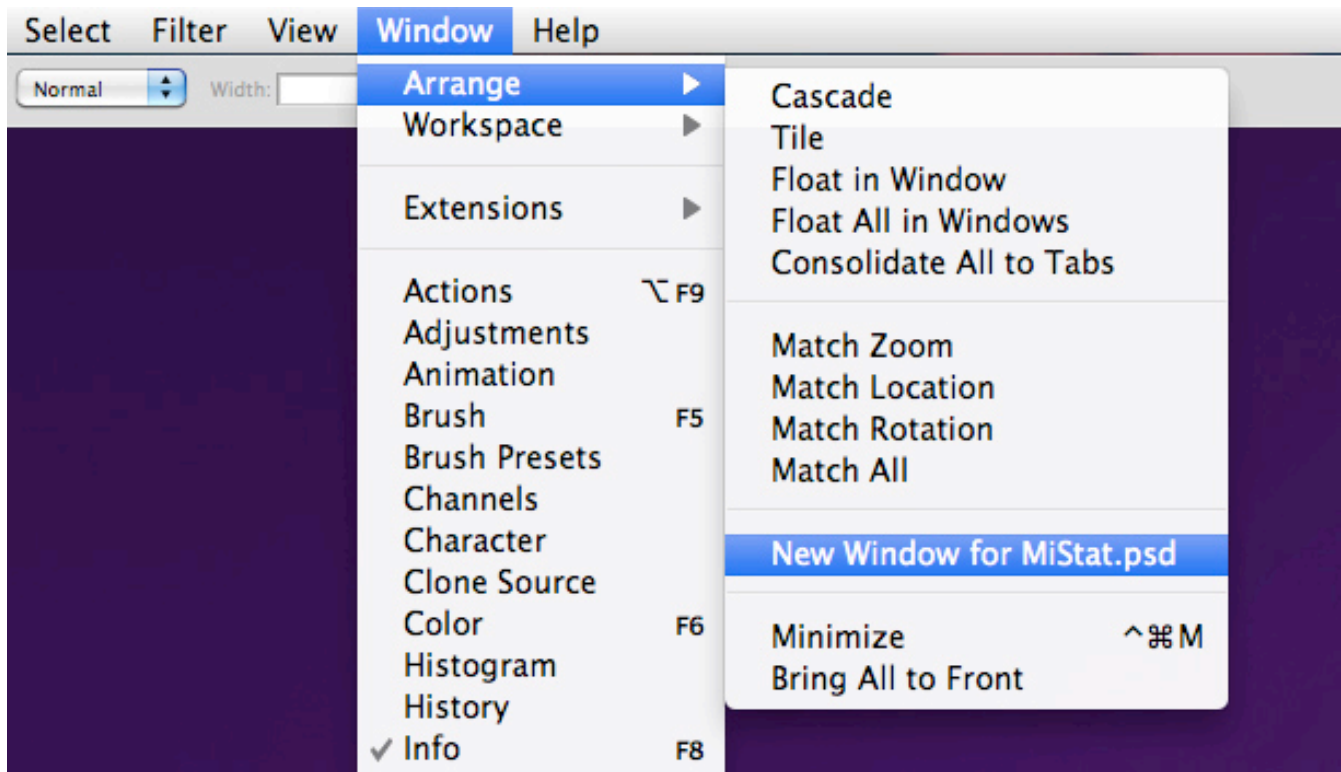
Pasting elements as smart objects doesn't come with the same issue (at least not in Photoshop CS5 anyway). I like to use Shape layers, though: they allow more control and editability and have better anti-aliasing.

Pixel perfect vector nudging

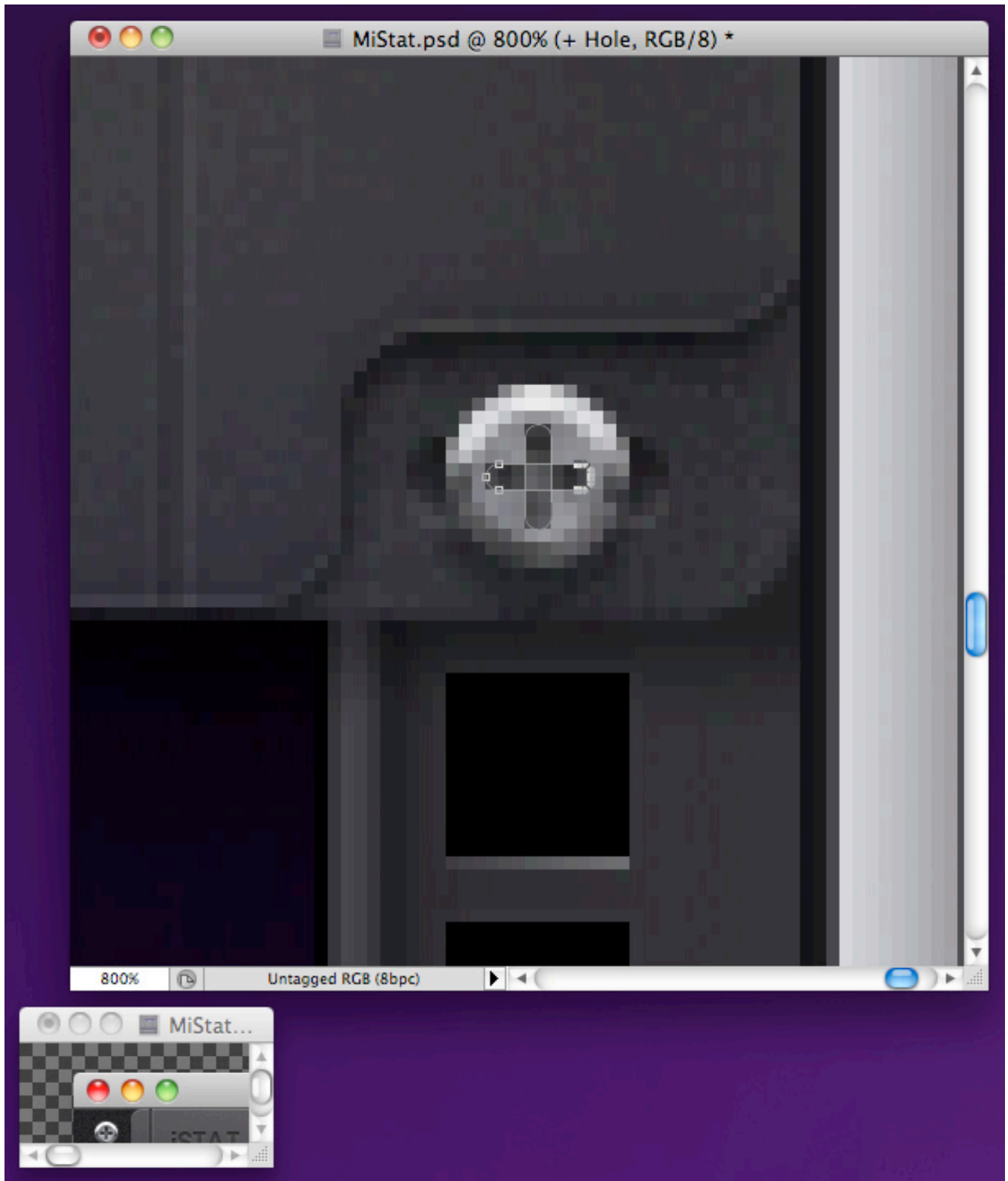
When nudging vector points, Photoshop exhibits some strange behavior, related to how far you're zoomed in. At 100%, nudging with the arrow keys will move your vector point exactly 1 pixel. At 200%, nudging moves the point by half a pixel. At 300%, it moves by a third of a pixel.

The behavior seems intentional, but it's not usually what I'm after. Most of the time, I want to nudge in whole pixel increments. Here's how you can do that, without zooming out to 100%.

Open your document, and then create a second window by going to Window → Arrange → New Window. You can then resize the new window and place it out of the way.



Edit in the other window as normal, zooming in as far as you'd like. You'll now be able to press Command + ` to switch back to the window that's zoomed to 100%, nudge using the arrow keys, and then press Command + ` to switch back again. Because the other window is zoomed to 100%, nudging will move the selected vector points exactly 1 pixel.



Please note that holding Shift while using the arrow keys to nudge always moves by 10 pixels, no matter how far in you're zoomed. Also, dragging points with the mouse will snap to pixels in most situations—most, but not all.

While not perfect, this technique does remove some of the frustration with editing detailed vector paths in Photoshop. Or maybe it's just another reason why complex shapes should be drawn in Illustrator first, and then pasted as shape layers?

Take Charge Of Your Pixels

Using the correct techniques, it should be easy to place pixels exactly where you want. Remember, you're the one in charge. Demand that they fall in line. Accept nothing less than pixel perfection.

Setting up Photoshop for Web and iPhone Development

Marc Edwards

Most people who have designed websites or apps in Photoshop will, at one point or another, have had issues trying to match colors in images to colors generated by HTML, CSS or code. This article aims to solve those problems once and for all.

Color Management to Match Colors Across Multiple Devices

In the print world, color management typically involves calibrating your entire workflow, from scanner or digital camera to computer display to hard proofs to the final press output. This can be quite a tall order, especially when the devices use different color spaces – matching RGB and CMYK devices is notoriously hard.

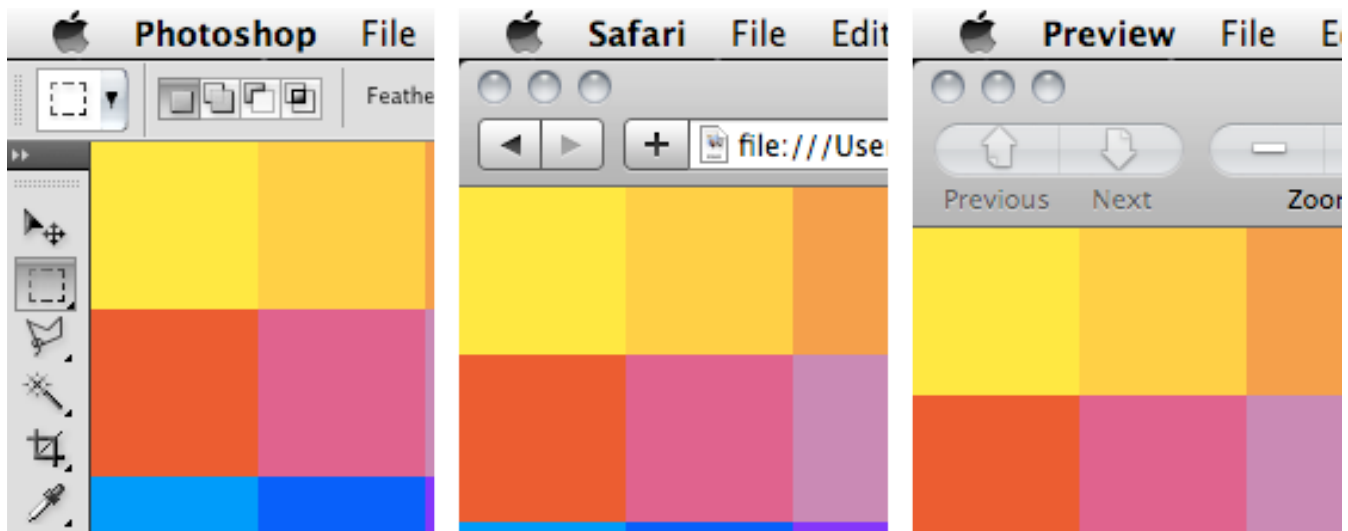
When designing or editing for TV, calibrating the main editing display and using a broadcast monitor are common; these show real-time proof of how the image will look on a typical TV in a viewer's home. In such a scenario, color management offers many benefits and is highly recommended.

When building Web and application interfaces, the situation is a little different. The final output is the same device that you're using to create the artwork: a computer display (putting aside for now differences in gamma between Windows, Mac OS X prior to 10.6 and the iPhone, which we'll cover later.)

There is a catch, though. Even though you're creating the Web or app interface on the same device that the final product will be shown on, the colors will have various sources: images (typically PNG, GIF and JPEG), style markup (CSS) and code (JavaScript, HTML, Objective-C, etc). Getting them all to match can be tricky.

The goal

When designing websites or app interfaces, we want to perfectly match the colors that are displayed on screen in Photoshop and that are saved in files with what's displayed in other applications, including Firefox, Safari and the iPhone Simulator. Not only do we want the colors to look the same, but we want the actual values saved in the files to perfectly match the colors we have defined in Photoshop. Colors should not shift or appear to shift in any way, under any circumstance.



Why is this so difficult?

Photoshop applies its color management to images displayed within its windows and to the files it saves. This is a bad thing if you're working

exclusively with RGB images for Web or on-screen user interfaces. With the default Photoshop settings, #FF0000 will actually display as #FB0018, and #BB95FF will display as #BA98FD. The differences are subtle but definitely there.

How Does Photoshop Differ from OS X and Windows?

OS X's color management is applied to the entire display at the very end of the processing chain, after the main buffer in video ram. This means that although color management is applied, the software utilities that measure color on screen (like */Utilities/DigitalColor Meter*) will report the same values that you have saved in the file or entered as your code. I believe the color management in Windows Vista and Windows 7 (Windows Color System) works in a similar fashion.

Photoshop's color management is applied only to the image portion of its windows and to the files it saves. This color correction happens as Photoshop draws the image on screen, so software utilities that measure color on screen often report different colors from the ones you have specified. It's worth noting that OS X's color management is applied on top of Photoshop's.

The best solution I've found is to disable Photoshop's color management for RGB documents as much as possible. Doing so forces the RGB colors that are on screen and saved to the file to match the actual color value. If you need to calibrate your monitor for Web and app design work, then you would best be served by changing it at the OS level.

Disabling color management used to be quite easy in Photoshop CS2 and all versions prior, but it now requires a little more skill.

Disabling Photoshop's RGB Color Management

These instructions are for Photoshop CS5 on Mac and Windows. Setting up CS4 is very similar.

Step 1: Go to *Edit* → *Color Settings* and set the working space for RGB to *Monitor RGB*.

Step 2: Open a document and go to *Edit* → *Assign Profile*, then set it to *Working RGB*. This must be done for every single document you work on.

Step 3: Ensure *View* → *Proof Colors* is turned off.

Step 4: When saving files with *Save for Web & Devices*, ensure that *Convert to sRGB* is turned off. If you're saving a JPEG file, then also turn off *Embed Color Profile* (you may want this turned on for certain photos, but chances are you'll want it off for interface elements and icons).

Difference Between "Assign Profile" and "Convert To Profile"

Now would be a good time to mention the difference between *Assign Profile* and *Convert to Profile*, so that you know which to use when.

Each Photoshop document contains a color profile that's separate from the actual color data stored for each pixel. *Assign Profile* simply changes the profile in the document, without affecting any of the color data. It's a non-destructive action: you can assign a new color profile to your documents as often as you like without doing any damage. Assigning a new profile may change the way your document appears on screen, but the data contained in the file will remain unaltered.

Convert to Profile is quite different. Not only does it assign a color profile to the document, but it tries to keep your image looking the same on screen. It does this by processing the color data contained in the file for each pixel. Converting to a new profile will more likely preserve a document's color on screen, but the data contained in the file will be permanently altered. Use with caution.

If you're copying layers from one Photoshop document to another, you will want to ensure that the documents have been assigned the same color profile.

Illustrator is the Same as Photoshop

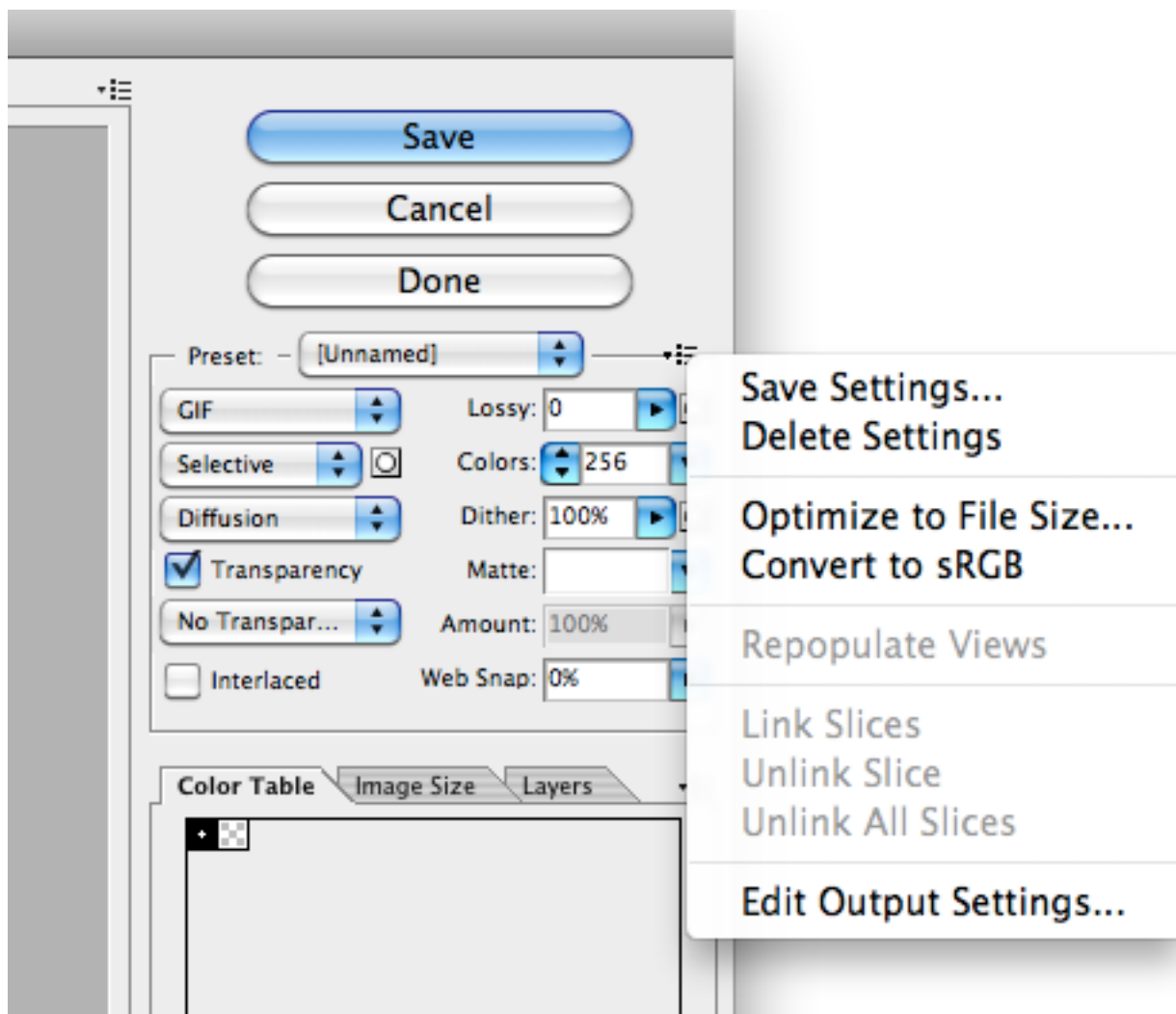
If you would like images saved in Illustrator or imported from Illustrator to Photoshop to match as well, then follow the steps below. These instructions are for Illustrator CS5 on Mac and Windows. Setting up Illustrator CS4 is very similar.

Step 1: Go to *Edit* → *Color Settings*, and set the working space for RGB to *Monitor RGB*.

Step 2: Open the document and go to *Edit* → *Assign Profile*. Then set it to *Working RGB*. This must be done for every single document you work on.

Step 3: Ensure that *View* → *Proof Colors* is turned off.

Step 4: When saving files with *Save for Web & Devices*, ensure that *Convert to sRGB* is turned off. If you're saving a JPEG file, then also turn off *Embed Color Profile* (again, you may want this turned on for certain photos, but chances are you'll want it off for interface elements and icons).



Gamma Differences

Windows has used a gamma of 2.2 since its introduction. Mac OS X has used a gamma of 1.8 for all versions except Snow Leopard (the latest release), which uses 2.2. What does this mean? Prior to Snow Leopard, Web pages looked darker on Windows. Thankfully, both operating systems are now in sync, so a Web page should look very similar on a Mac and PC that use the same monitor.

Final Check for iPhone UI

Your iPhone or iPod's screen and calibration will likely be different from your Mac or PC's screen and calibration. I often import full-screen images of the UI into iPhoto and sync them with an iPhone to see exactly how the final interface will look on the device (on Windows, you can sync photos using iTunes). This gives you another chance to make adjustments before slicing up images or committing anything to code.

[This article](#) explains how to handle the problem that while testing some landscape iPhone app interface mocks, they seem blurrier than they appear in Photoshop.

Please note: For some bizarre reason, the Photos app on the iPhone doesn't display landscape images at 1:1. Instead, it scales them slightly or shifts them to a sub-pixel position, making the images blurrier than they should be. To avoid any issues, always save images in portrait mode (320 pixels wide by 480 pixels high) to test your user interface mockups.

Conclusion

Now, you're able to move bitmap and vector images between Photoshop and Illustrator without any color shifts at all, and using any method. You're also able to grab a color using the color picker in Photoshop, and then use the same HEX color value in your CSS, HTML, JavaScript, Flash or Objective-C code, and it will match your images perfectly.

Compositing in Adobe Photoshop: Time-Saving Tips

Daniel Durrans

Compositing is a skill and process that spans the entire spectrum of creative industries. At the high end, compositing boasts its own specialized profession in film and television post production and visual effects. Dedicated software such as NUKE and Shake have taken the craft to powerful levels of its own, leaving behind the relatively basic compositing toolset of Adobe Photoshop. However, for many graphics practitioners compositing is a vital everyday process — and as with all pixel-pushing endeavors, Photoshop remains the entry point and hub to learning and ultimately mastering the fundamentals of this important skill.

In this article, I'll share some of my own time-saving tips for compositing in Photoshop. Tips such as these should never replace a solid understanding of your craft; however, being able to adapt a technique to make it work for you is part of being a creative professional.

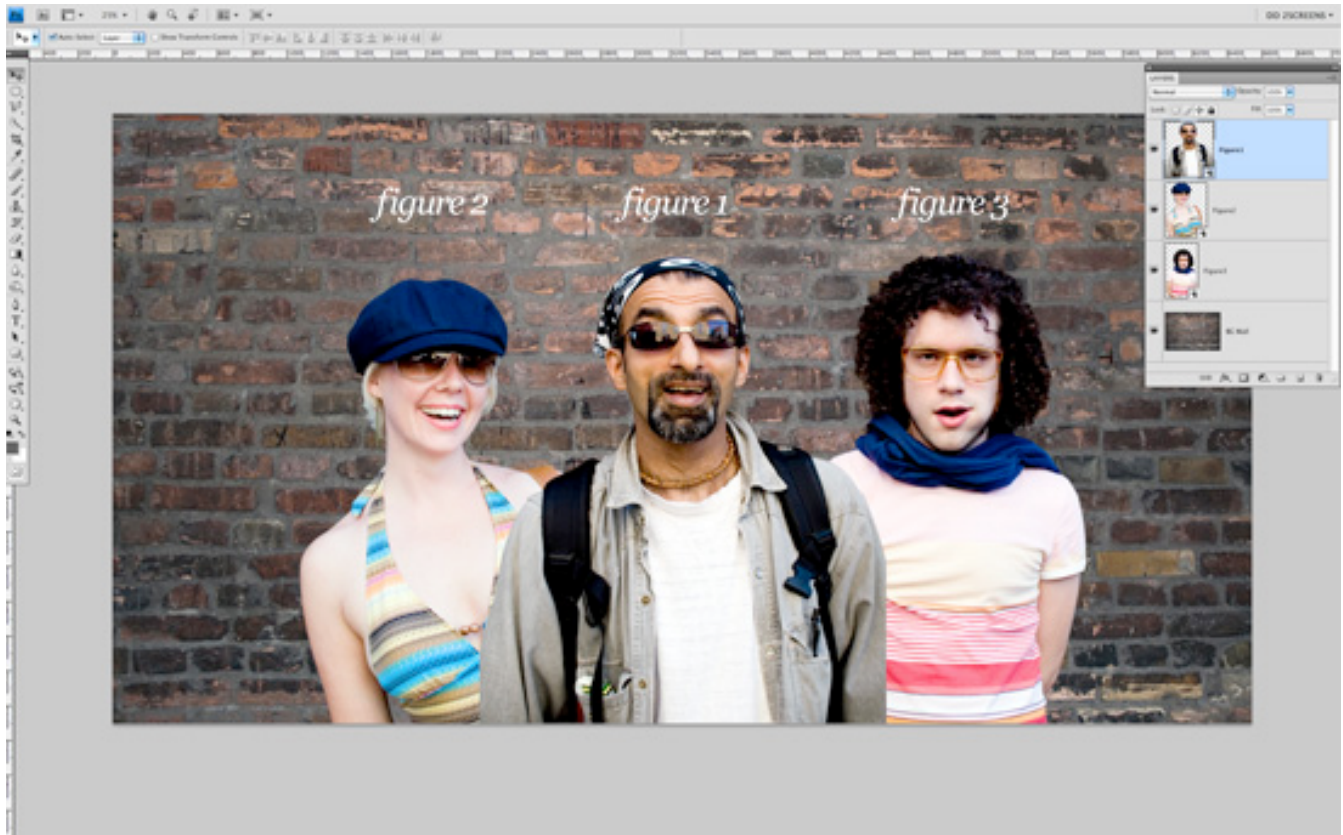
Tip 1: Matching Tones, Channel by Channel

One of the challenges we face when compositing is matching the colors and tones of various images to produce a realistic and convincing composite. This method aims to save you from spending time fiddling around with color balances and layers upon layers of adjustments, by showing you a systematic approach that should become second nature and enhance your compositing skill set.



These are the three images we will composite together

In the following example, we will composite three people into one shot and address the differences in lighting, tone and color balance. I use this technique most often as a way of quickly grouping my subjects into a similar tonal range for further global color adjustments.



Masked images placed on background

In the above image, I have masked out the images and placed them together on a background. *(Read on for some time-saving tips on masking.)*

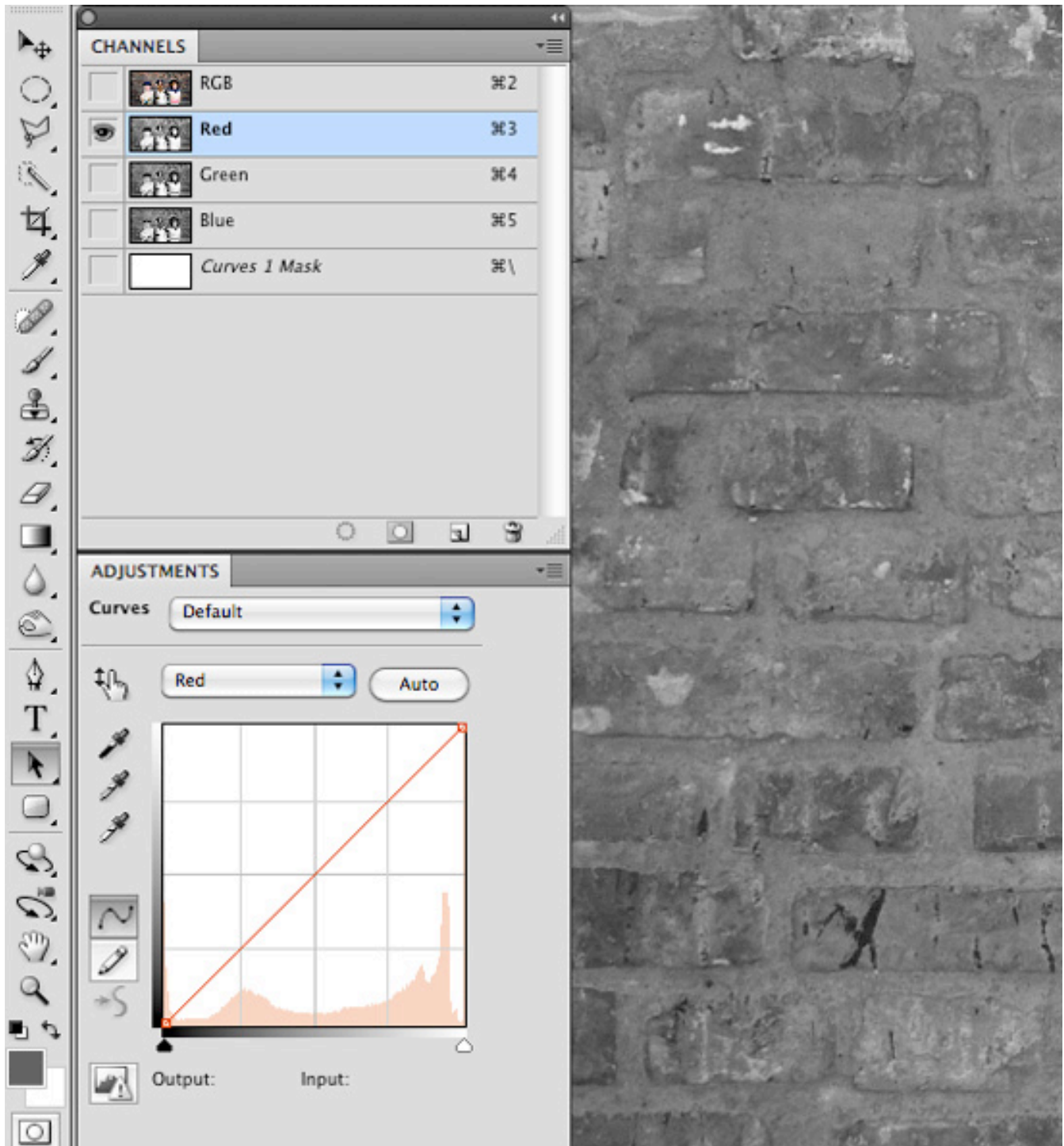
The key to this technique is selecting one of the images as your target, and then matching the other two images to the tone and lighting of this target. Out of the three images, I like the colors, tones and contrast in *figure 1* the most, so I've chosen it as our target.

Throughout this article, you will see that I am using Smart Objects. This is an excellent habit to get into when starting any Photoshop workflow. Smart Objects allow us to perform non-destructive transformations on a layer, as well as non-destructive filtering.

Visual Evaluation

We are now entering the exciting world of greyscale tonal evaluation, deep inside the channels of our RGB image — the bare bones of bitmap imaging. We are going to go through each channel of the image and simply try to match the greyscale luminance levels to the target layer:

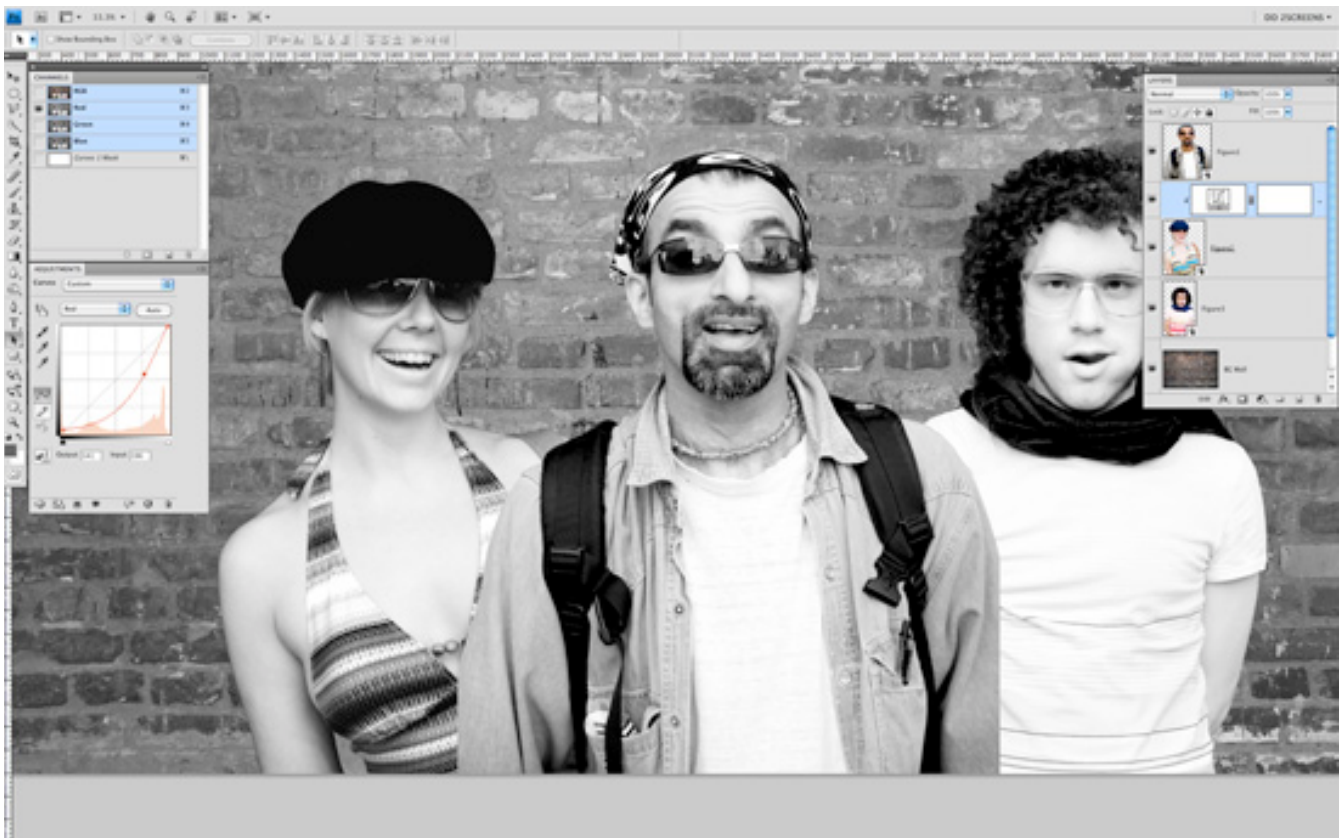
- 1.** In the *Channels* palette, solo the red channel by either clicking the channel or using the keyboard shortcut `Cmd/Ctrl + 3`. You should see the entire image in greyscale, representing the luminance values of red.
- 2.** Select the layer for *figure 2* and add a Curves adjustment layer just above it. Make this adjustment layer a clipping mask by `Alt/Opt` clicking between the two layers in the layer palette. You could also select the adjustment layer and use the keyboard shortcut `Cmd/Ctrl + Alt/Opt + G`. Now select the red channel inside *Curves*.



3. Now make a quick, overall visual evaluation of the two images: make a point right in the middle of your curve. If the mid-tones in your target layer (*figure 1*) look darker than your current layer (*figure 2*), move the midpoint down to darken the layer to better match your target. If the tones in the

target appear lighter than your current layer, move the midpoint up to lighten the layer and better match your target. Use small increments, and continuously use your eyes to evaluate the changes.

If things don't look quite right still, locate the lightest shade of grey (but not white, as this could be a specular highlight — not something you want to factor in much, with compositing) on the target image, and do the same with *figure 2*. With your eyes darting between these two greyscale shades, move the white slider on the *Curves* dialog box until the shades visually match. Next, do exactly the same process with the darkest part of the image, moving the black slider in the *Curves* dialog.



Curves adjustments for the red channel

4. Swap over to the blue channel, by either clicking the channel in the Channels palette or using the keyboard shortcut `Cmd/Ctrl + 4`. Select the blue channel within the *Curves* dialog box. Perform the same adjustment, starting by creating a center point on the curve, and dragging until the mid-tones in your image match those in the target.



Curves adjustments for the blue channel

5. Repeat these adjustments for the green channel. Click the green channel in the *Channels* palette or use the keyboard shortcut `Cmd/Ctrl + 5`.



Curves adjustments for the green channel

6. You can now revert back to your RGB composite image by selecting the RGB channel in the *Channels* palette, or by using the keyboard shortcut `Cmd/Ctrl + 2`, and review the changes you have made. It is sometimes necessary to reduce the opacity of the adjustment layer if the change has been too drastic. Toggle the visibility of the adjustment layer to see a “before” and “after” for your adjustment. As we are using adjustment layers, our changes are non-destructive, so it is always possible to go back into the channels and curves to make further adjustments at any time.

7. Now, repeat steps 1–6 for *figure 3*, adjusting the curves per channel as before.



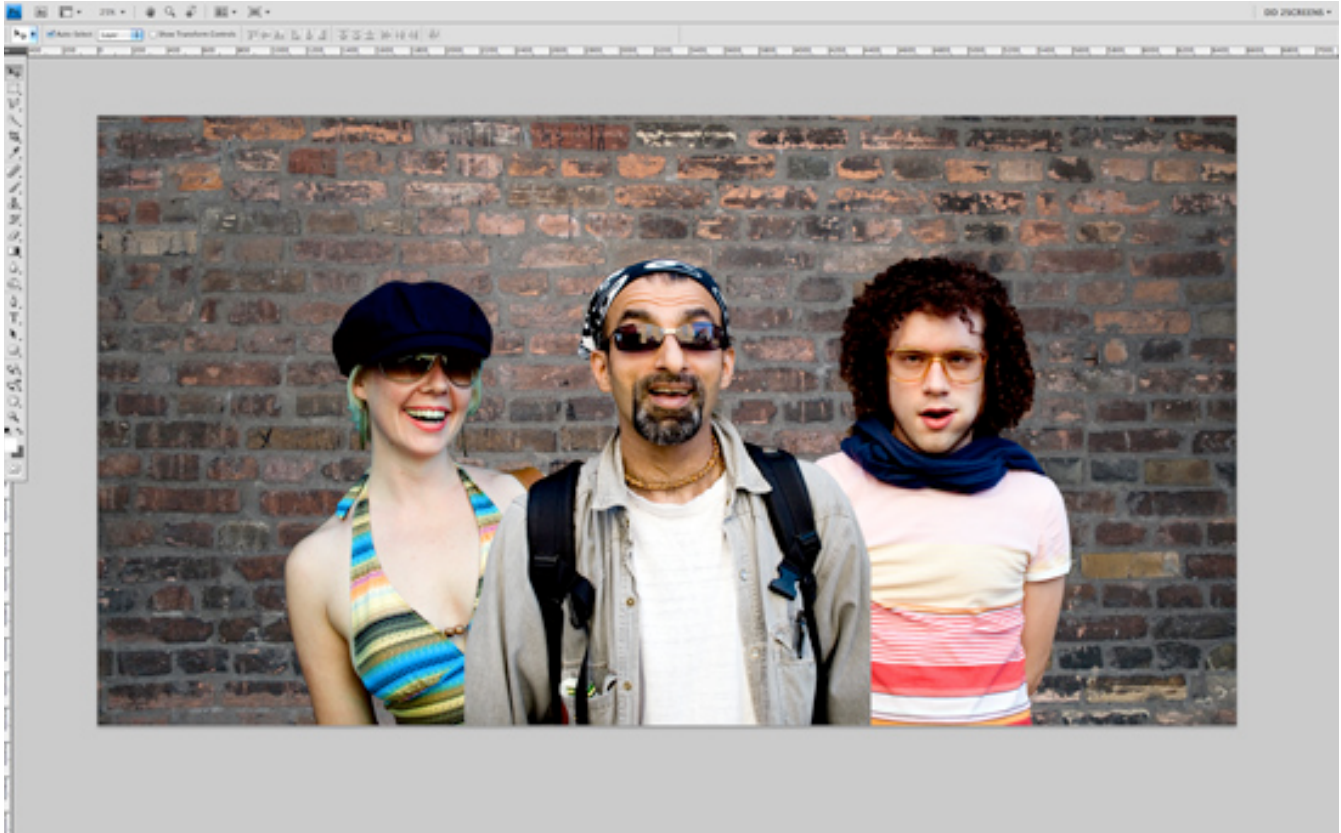
(From left) "before" and "after" adjustments to figure 2



(From left) "before" and "after" adjustments to figure 3

The registered changes make an excellent starting point to a compositing task, providing the perfect platform for further color corrections and

adjustments. It is very rare that the image will be perfect at this stage, but the images will be more homogeneous and in a better relative condition to each other than before.



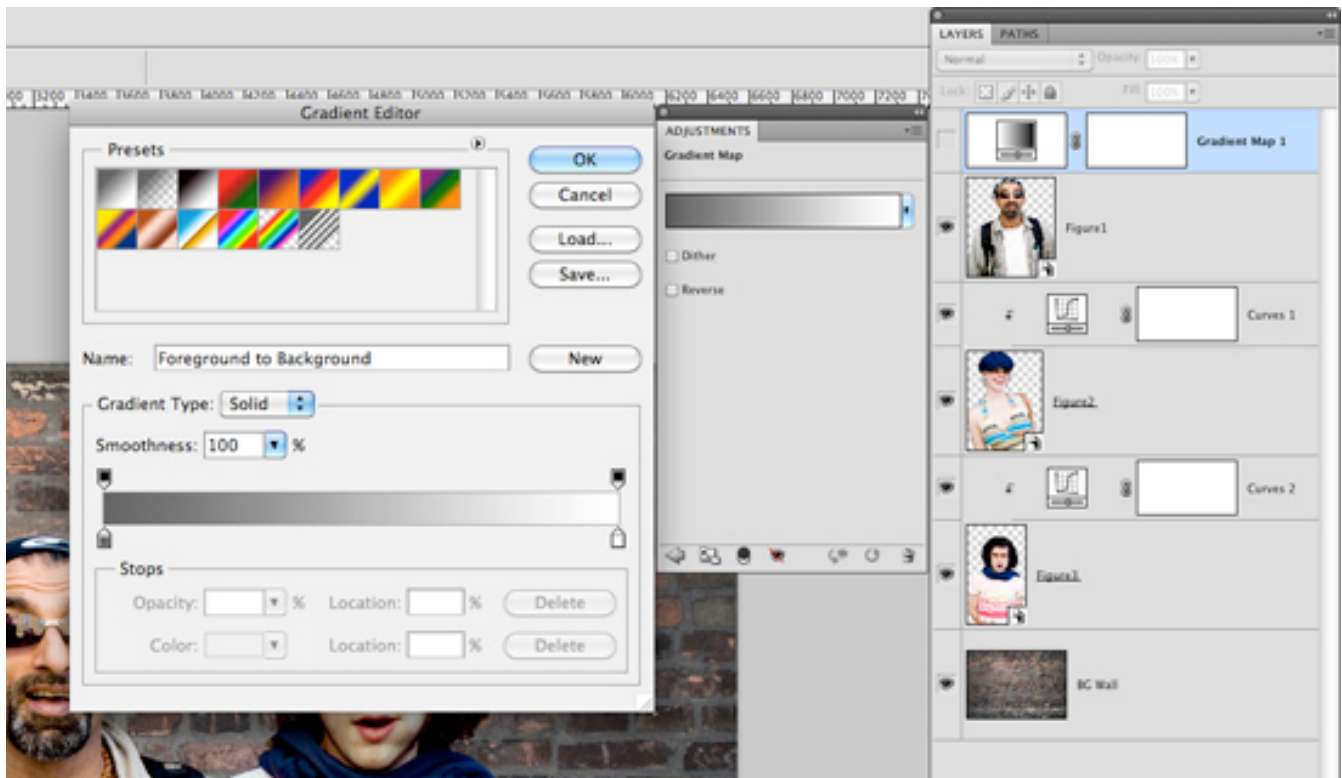
As you get more comfortable with this technique, start adding additional points to your curves by sampling tones from your image using the *Curves* sampler tool.

Tip 2: Gradient Map with Soft Light

Although this is not essentially a compositing technique, it is an especially useful adjustment to perform on a composited image, where the colors and tones often require this type of homogeneous tweaking and subtle realignment. This technique works well as a final adjustment to an image. It

has the effect of bringing all colors and tones slightly closer together, whilst still retaining their independence and relevance to the whole image.

1. Add a new *Gradient Map Adjustment* layer on top of all other layers. You will want to make sure that the layer thumbnail is selected, and not the layer mask thumbnail which is usually selected as default.
2. Next, turn off the visibility of the gradient map layer by deselecting either the eyeball next to the layer, or the eyeball at the bottom of the *Gradient Map Adjustment* panel.



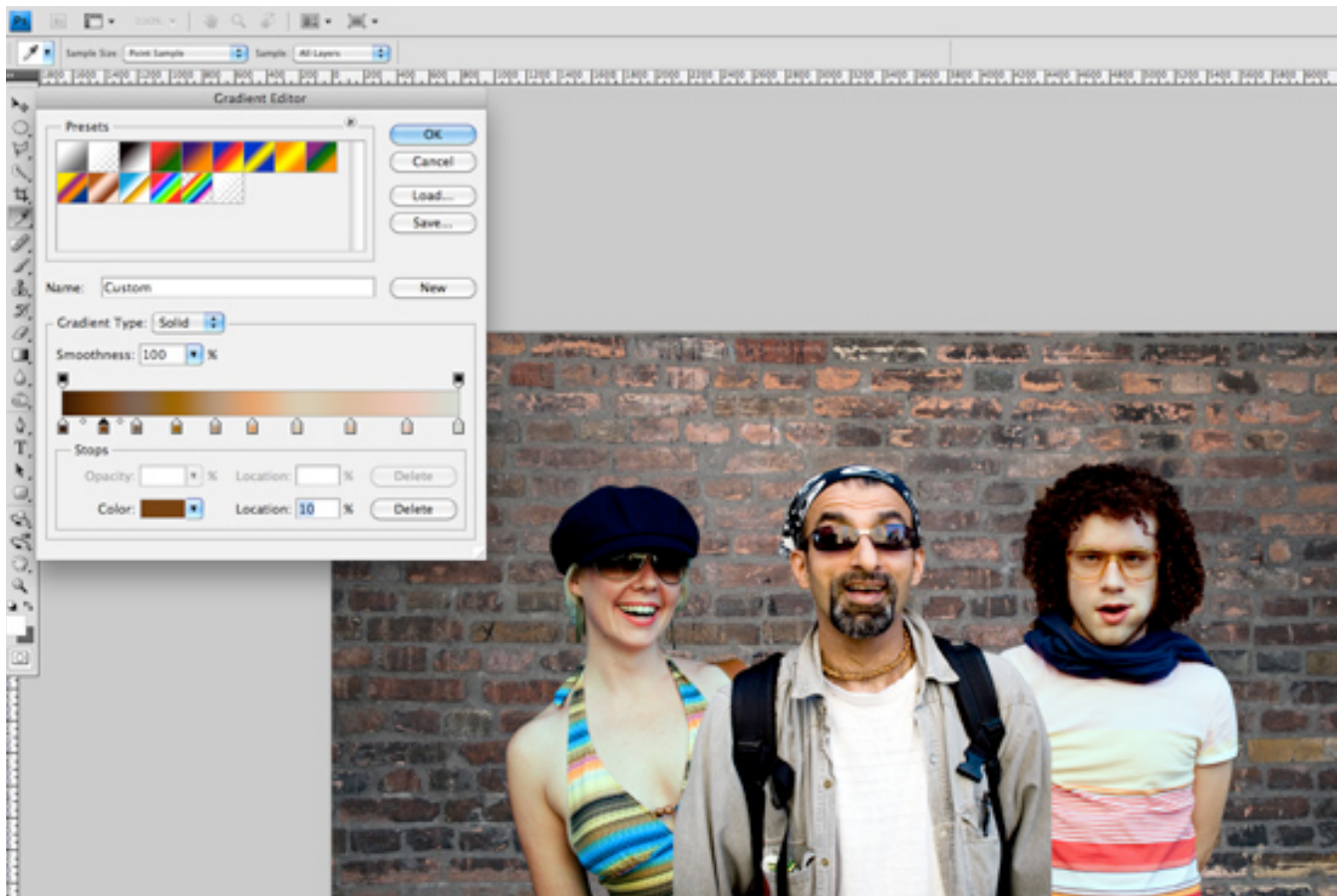
Open a Gradient Map Adjustment layer, turning off visibility

3. Click on the gradient bar in the gradient map dialog box to open up the gradient editor. As default the gradient map is set to a black to white gradient — not particularly useful for this technique, but actually quite

handy at giving us an initial idea of the direction the dark to light tones we will select should be going in.

We are going to set ten points on the gradient bar — with colors picked directly from our image — going from darkest to lightest. First, click on the black point of the gradient and hover over the image; you should see the Eyedropper tool. Locate the very darkest point of your image and click; if it is black or very close to black, you won't see much change in your gradient map. Now click just below the gradient bar, a small space away from the gradient point you just changed, to add a new gradient point.

Don't worry about the distance between the points at this stage; we can change this at the end. Hover over your image again, select the next darkest area, and click. Continue with this process, adding progressively lighter points to the gradient bar all the way down to the white point, changing that to the lightest color in your image. You should aim to have ten points in total, although a few more or less is fine. Try to space out the points evenly before pressing OK.



Sample ten colors from your image on the gradient bar

4. Turn on the visibility of the gradient map layer once more. You will probably see a frightening rendering of your carefully composited image, and you may be wondering now what you have just gone and done. Don't worry; this is to be expected. Change the gradient map layer's blending mode to *Soft Light* and reduce the opacity until you are happy with the image once more. Check the change by toggling the adjustment layer visibility on and off.



Before

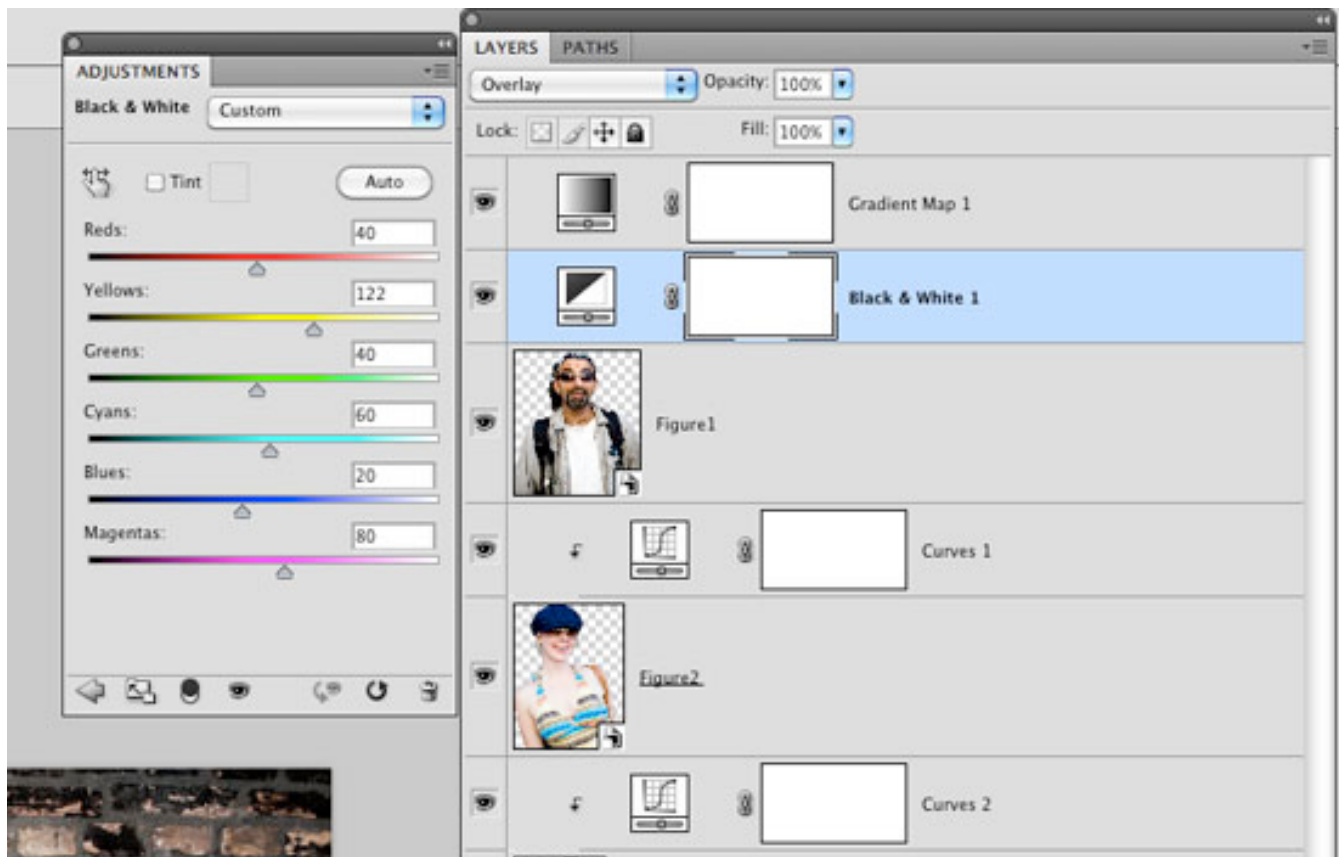


After

Tip 3: Black & White Overlay

This is a great, quick trick for compositing that is perfect for those times when simply closing the job is a priority. The effect applies a stylized adjustment which tempers the colors in the image and increases contrast, especially useful in stylized shots such as sports imagery. The effect of the adjustment immediately makes the images more congruent, and this is what compositing is about.

1. Add a new *Black & White* adjustment layer above all layers you want to affect, and set the adjustment layer's blending mode to Overlay.



Add the Black & White adjustment layer

2. The great thing about the *Black & White* adjustment layer is the amount of control it gives you over the desaturation effect you have made. Adjust the color balances in the adjustment panel, and finally reduce the opacity of the layer to an effect you are happy with.



Final image with Black & White adjustment layer (set to overlay)

Tip 4: Lighting Direction

Often, one of the most difficult aspects of compositing is dealing with the direction light is coming from. Different images may be lit with the same intensity, with the same coloring and within the same tonal range, yet if the direction of the light is different, it can be fatal to the realism of the image.



The images above will be composited into one shot with an efficient, non-destructive way of addressing light directionality.



Masked images placed on background

Once masked and placed on the background, we can see that the light on the two buildings is coming from opposite directions. We could flip one of the buildings horizontally, but this is often not an option in cases where we need to preserve the original angle and direction of an image.

Painting Shadows and Highlights

We will choose the light direction we wish to maintain, out of the two, and only work on the layer which we need to change. There are a multitude of methods for painting in shadows, so my main piece of advice is: do it non-destructively. Try this method:

- 1.** Add a new *Curves* adjustment layer above the layer you wish to affect. Make this adjustment layer a clipping mask by **Alt/Opt** clicking the line beneath the layer in the layer palette. You could also select the adjustment layer, and use the keyboard shortcut **Cmd/Ctrl + Alt/Opt + G**.
- 2.** Make a point on the middle of the curve and move downwards to darken the layer. Fill the adjustment layer's mask with black, and paint with a soft white brush into the layer mask to add shadow.



Shadow added to building

3. Reduce the opacity until you are happy with the effect. You can always paint back into the layer, or use lower-opacity brushes, to get the effect just right.

4. To neutralize the shadow which exists on the wrong side of this same building, repeat the process by adding another *Curves* adjustment layer and setting it as a clipping mask. Add a mid point to your curve and move the curve upward to lighten the image. Fill the adjustment layer mask with black, and paint with a white brush over the shadow you wish to remove. Reduce the opacity quite a lot, until the shadow is no longer prevalent.

Of course the composited image is still nowhere near perfect, but that change in lighting has made a difference which now lets us *imagine* these

images could exist in the same world; that's a great starting point for a compositing task.



Shadow is neutralized

Tip 5: Super-quick Previewing Using Blending Modes

Blending modes and tools offer a really powerful set of compositing features which can be used to speed up a lot of tasks. The following is a very simple trick which many people know about, but often forget.

Here is the scenario: you need to composite an image of a glass of milk on an image of a table.





Sourced images for compositing

You have sourced the images you think would work together, and you need to check if the glass will sit realistically on the table, if the angles will line up and if the perspective will be convincing. However, you are so squeezed for time that even a rough trace of the glass would take too long. Luckily for you, the glass of milk has a black background.

Removing Black or White

Photoshop offers ready-made blending modes for removing black and white from one layer placed on top of another. The *Multiply* blending mode will render white pixels transparent, while the *Screen* mode does the same with black pixels. Both blending modes will also affect how other tones in your layer interact with the layer below, so unless this effect is something you are going for, this technique is usually best used to preview images which are on solid black or white backgrounds. This is massively time

saving, and is a great way of ensuring you are happy with the image before you commit to masking it out.

This can also help you when sourcing images for a time-sensitive task; knowing that solid black or white backgrounds can be so easily removed for previewing will help you identify the images most appropriate for your use.



Preview of how the elements fit, using only blending modes

Tip 6: Masking

Masking out an image is key to almost all compositing workflows, and is often the most time-consuming, tedious part. You have two main areas of masking to choose from when an image needs to be isolated from its surroundings. *Manual masking* is the preferred method of most top graphics professionals: usually this means using the pen tool, brushing in *Quick Mask* mode, or using the images channels to create an *Alpha Channel*

mask. Alternatively, automatic masking can be effected from an ever-increasing range of tools and third-party plug-ins within Photoshop. Which method you choose will often be determined by how much time you have, the complexity of the task and the intended use of the image.

Rather than going through every masking technique (there are plenty of resources out there, if you want to learn about how each tool works), here is a quick run down of some time savers.

Quick Mask for Web Imagery

It might sound obvious as a time-saving trick, but when you need to mask an image in super-quick time, the *Quick Mask* really can be a life saver. I use it for Web imagery, as the edge details will then not be so apparent at the fixed pixel view the user will have. It is also important to choose an image with decent contrast between your masking subject and its background, or the *Quick Selection* tool will not do a great job with really tough selections.



Quick Mask tool

Know Your Background Color

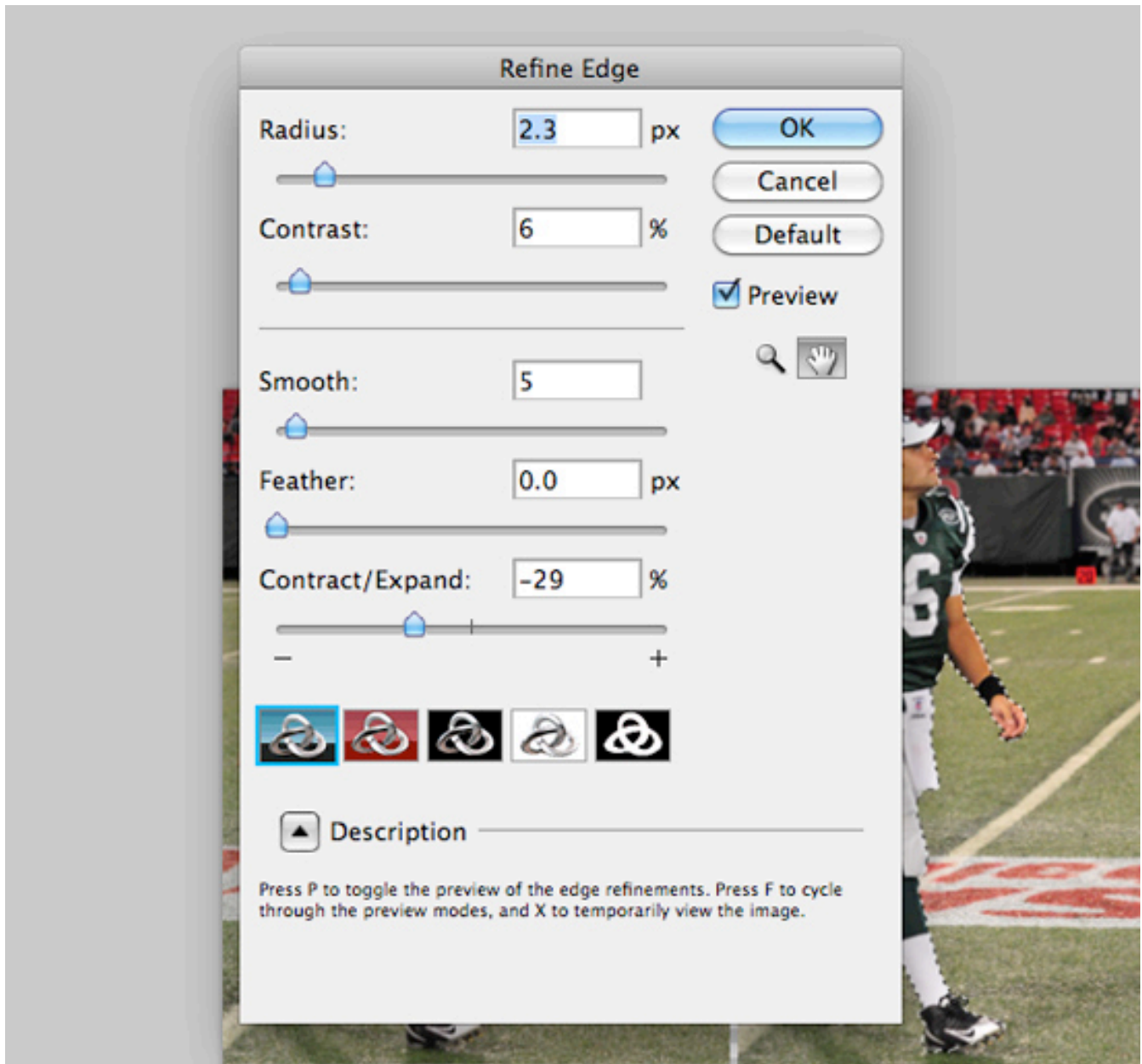
You can often save a lot of time masking, if you know and bear in mind what background your masked image will be composited on. Keep your goal in mind; when you need to get the job done, release your mind from the constraints of perfect masking and do the bare minimum!

Refine Edge

The *Refine Edge* tool set is a very powerful, non-destructive set of tools to help you refine any selection that is currently active. It can save you time, in fixing problem edges you may have encountered with other selection

tools. The values in the *Refine Edge* dialog box remain constant from one adjustment to the next, meaning this tool can also be great for ensuring the edges of composited images have the same level of softness, smoothing and contrast.

For Photoshop CS5 only: Photoshop CS5 has a time- and frustration-saving tool lodged inside its *Refine Edge* feature which can yield outstanding results. When it comes to masking fine details, every designer will tell you that hair is the most challenging. The *Edge Detection* tool allows you to identify the unwanted colors in your image while intelligently masking edge details; it can effectively identify the finest hair details and mask them out in a non-destructive dialog box, with minimal work on your part, and do a very convincing job.



Refine Edge dialog box

Pen Tool

One thing I always do with the *Pen* tool, is keep a finger hovered over the *Alt* key; this is really useful as at any point, you can hold it down to move just one handle, and to freeze the corresponding handle in place. You can

also Alt-click any point on your path to toggle between a corner point and a smooth point.

Conclusion

There is no shortcut to becoming proficient on your chosen tool or in your chosen craft, be it Photoshop or anything else; but once you have mastered a tool and understand its power, it is then up to you to do what you do best: be creative with it. This means looking at those everyday tasks you do, the time limitations you are faced with and your ability to improvise. Look under the hood once in a while, and be creative and inventive with everything you do!

Mastering Photoshop: Unknown Tricks and Time-Savers

Thomas Giannattasio

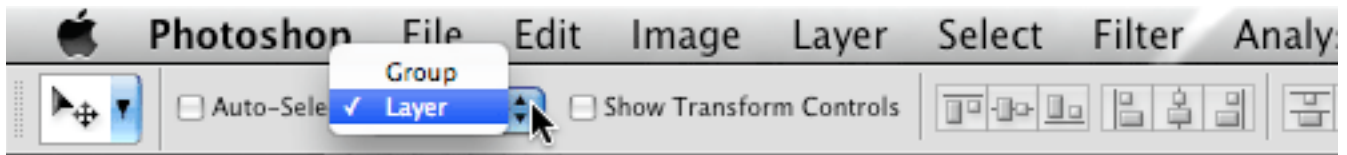
We all have shortcuts that are essential to our daily workflow. A majority of them are staples such as Copy (*Command + C*) and Paste (*Command + V*), but occasionally we stumble upon a shortcut we wish we'd learned years ago. Suddenly, this simple shortcut has streamlined our process and shaved quite a bit of time off our day. Collected here are some lesser known but extremely useful shortcuts. Many of these are not documented in the "Keyboard Shortcuts" menu, and some of them don't even have equivalent menu options.

Please note that all of the shortcuts listed below assume that you are using Photoshop on OS X. They will work on the Windows platform by converting as follows: *Command* → *Control* and *Option* → *Alt*.

Layers

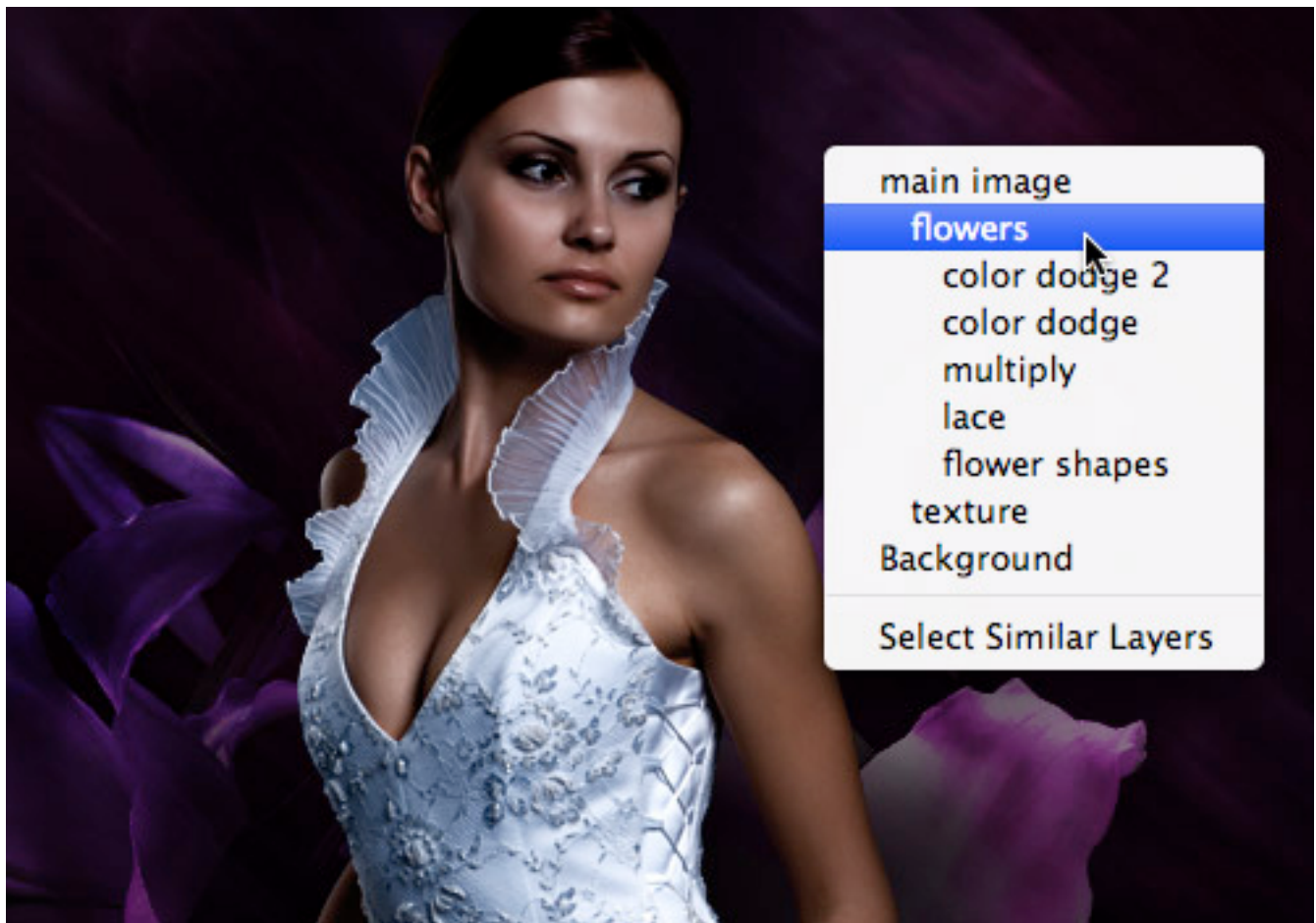
Selection

Sifting through nests of layer sets to find the layer you need quickly becomes tiresome. Luckily, there are a number of ways to select layers more intuitively. Using the Move tool (*V*), you can *Command + click* on the canvas to select the uppermost layer with pixel data located directly below the mouse. If your layers are grouped within layer sets, this action may have selected the entire folder. You can change this behavior to select the actual layer by using the *Auto-select drop-down* in the Move tool's property bar.



Changing auto-select behavior.

There will be times when you want to select a layer that is located below a number of other layers. By right-clicking with the Move tool, you'll bring up a contextual menu containing a list of all layers located below the cursor. If your layers are properly named, you should be able to quickly select the layer you need. By holding *Shift* while using either of the selection methods above, you can select multiple layers. After selecting multiple layers, you can link the layers together by right-clicking and selecting Link Layers.



Right-clicking to display all layers beneath the cursor.

The keyboard can also be used to select layers. Pressing *Option* + *[* or *Option* + *]* selects the layer below or above the current layer, respectively. Pressing *Option* + *<* selects the bottommost layer, and *Option* + *>* selects the uppermost. *Option* + *Shift* + *<* selects all layers between the current layer and the bottommost layer, and *Option* + *Shift* + *>* selects all layers between the current and uppermost.

Select layer below current



Select layer above current



Select bottommost layer



Select topmost layer



Select all layers between current and bottommost



Select all layers between current and topmost



Sorting

Sorting layers with the mouse can be clumsy and slow. A few shortcuts speeds up the organizing. *Command + [* and *Command +]* moves the selected layer up or down one position in the stack. If multiple layers are selected, they'll move relative to the uppermost or bottommost layer. Pressing *Command + Shift + [* or *Command + Shift +]* brings the selected layer to the top or bottom of its current layer group. If the layer is already at the top or bottom of the layer group, it jumps to the top or bottom of the parent layer group.

Move layer down



Move layer up



Move layer to bottom of current group



Move layer to top of current group



Viewing

Option + *clicking* the eye icon of a layer is a commonly known way to hide or show all other layers. There is also a way to expand and collapse layer groups: by *Command* + *clicking* the arrow next to the layer group, you can close or expand all other layer groups; this does not work on nested layer groups. Alternatively, right-clicking the arrow gives you a menu to perform the same actions; but this will work on nested layer groups.

Duplicating

There are a number of ways to duplicate data from one layer to another. Duplicating an entire layer is as simple as pressing *Command + J*. If a selection is active, you can use the same shortcut (*Command + J*) to create a new layer based on the selected area of the original layer. Pressing *Command + Shift + J* with a selection creates a new layer while cutting the data from the original layer. Holding *Option* while pressing one of the arrow keys allows you to duplicate the current layer and nudge it by 1 pixel. Holding *Shift and Option* nudges the new layer by 10 pixels.

Duplicate layer or selection via copy



Duplicate layer or selection via cut



Duplicate and nudge 1px



Duplicate and nudge 10px



Duplicating data from multiple layers can also be done more quickly using some keyboard commands. Using *Command + Shift + C* with an active selection copies the data contained within it to the clipboard. You can then paste it to a new layer (*Command + Option + Shift + N, Command + V*). If you'd like to create a flattened copy of the entire document, use the shortcut *Command + Option + Shift + E*: a composite of all visible layers will be added as a new layer to the top of your layer stack.

Copy merged



Create new layer without dialog



Create new layer via merge

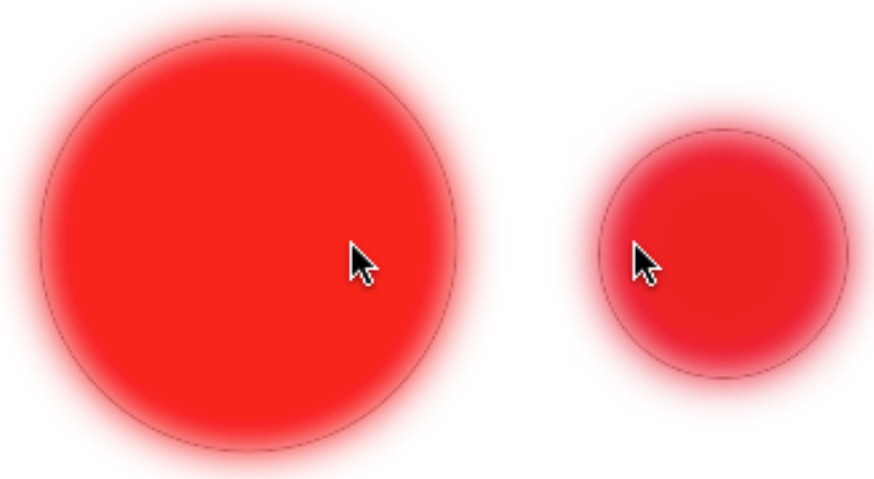


Brushes

Shape and Size

Being able to quickly adjust the brush tool is crucial to getting a swift workflow. Many know about using *[* and *]* to decrease and increase the

brush's diameter, as well as *Shift + [* and *Shift +]* to decrease and increase the brush's hardness. However, CS4 introduced an even more intuitive way to do this. By holding *Control + Option* and dragging on the canvas, you can change the brush's diameter with a visual aid. *Control + Command + Option* and dragging gives you control of the brush's hardness.



The on-canvas drag makes brush adjustments more intuitive.

If you would like to completely change the brush shape to a different preset, press *<* or *>* to cycle through them and *Shift + <* or *Shift + >* to select the first or last brush. Right-clicking inside the canvas also displays a condensed menu of brushes.

Decrease brush diameter



Increase brush diameter



Decrease brush hardness



Increase brush hardness



Change brush diameter with visual aid



Change brush hardness with visual aid



Previous brush



Next brush



First brush



Last brush



Opacity, Flow and Mode

The opacity of the brush tool can be quickly tweaked using the number keys: 3 = 30%; 3 + 5 = 35%; 0 + 3 = 3%; 0 = 100%. Holding Shift when inputting the numbers sets the flow of the tool. Note that if Airbrush mode is on, these two shortcuts swap (i.e. holding Shift controls opacity instead of flow). You can toggle Airbrush mode on and off using *Option + Shift + P*. The same numeric input method can be used to determine the opacity of a

layer when the Move tool (V) is active; pressing Shift allows you to alter the Fill of the layer.

Set opacity

0 = 100%

3 = 30%

7 **8** = 78%

Set flow

shift **0** = 100%

shift **3** = 30%

shift **7** **8** = 78%

Toggle airbrush

option **shift** **P**

Quick Fill

Instead of selecting the Fill tool (G), you can quickly bring up the Fill menu using *Shift + F5*. Even better, bypass the menu entirely using *Option + Backspace* to fill with the foreground color or *Command + Backspace* to fill with the background color. These keyboard commands can also be used to quickly set the color of a type or shape layer. To preserve transparency when filling, you could first lock the transparency of the layer by pressing / and then fill, but there's an easier way. Pressing *Option + Shift + Backspace* or *Command + Shift + Backspace* fills with the foreground or background color while preserving transparency.

Fill dialog



Fill with foreground color



Fill with background color



Fill with foreground color and preserve transparency



Fill with background color and preserve transparency



Pressing Command + Shift + Backspace to preserve transparency while filling.

Blending Modes

You can cycle through blending modes or jump to a specific one by using just the keyboard. By pressing *Option + Shift + (+)* or *Option + Shift + (-)*, you can cycle forward or backward through available modes. Alternatively, you can set a specific mode using the shortcuts below.

Next Blending mode



Previous Blending mode



Set Blending Mode



N = Normal	O = Overlay
I = Dissolve	F = Soft Light
Q = Behind	H = Hard Light
R = Clear	V = Vivid Light
K = Darken	J = Linear Light
M = Multiply	Z = Pin Light
B = Color Burn	L = Hard Mix
A = Linear Burn	E = Difference
G = Lighten	X = Exclusion
S = Screen	U = Hue
D = Color Dodge	T = Saturation
W = Linear Dodge (Add)	C = Color
	Y = Luminosity

Typesetting

Setting type is a delicate and time-consuming process, but shortcuts speed it up. First off, hiding the inversed block that is created by selecting text is extremely beneficial. *Command* + *H* allows you to toggle the visibility of both the highlight and baseline stroke, making it easier to see the final result. When finished editing your text, you can commit changes by pressing Enter on the numeric keypad or *Command* + *Return*. Pressing *Esc* discards changes.

Hide/Show text selection



Commit changes



Discard changes



Variants

There are six shortcuts for changing the font variant, but they should be used with caution. If the appropriate variant or character does not exist within the currently selected font family, Photoshop creates a faux variant. These fake variants are frowned upon within the typosphere and are extremely easy to spot. So, if you use these shortcuts, make sure that Photoshop has selected an actual variant and not faked it. Now, onto the shortcuts:

Bold



Italic



Superscript



Subscript



All Caps



Small Caps



Underline



Strikethrough



Justification

To set the justification, use one of the commands below. Note that a selection must be made within the target paragraph for these to work.

Left align



Center align



Right align



Justify last left



Justify all



Small Caps



Spacing and Sizing

Properly sizing and spacing type is a tedious task, but Photoshop does provide some handy—albeit broad—shortcuts. Unfortunately, there is no way to fine-tune the increments by which they adjust. Note that these shortcuts will work only if a text selection is made; selecting a type layer is not enough. To change the type size by increments of 2, press either *Command + Shift + <* or *>*. To bump the increment up to 10 points, use *Command + Option + Shift + <* or *>*. Leading can also be modified by 2 or 10 point increments using *Option + Up* or *Down arrow* or by *Command + Option + Up* or *Down arrow*.

Decrease type size by 2 pts



Increase type size by 2 pts



Decrease type size by 10 pts



Increase type size by 10 pts



Increase leading by 2 pts



Decrease leading by 2 pts



Increase leading by 10 pts



Decrease leading by 10 pts



The arrow keys can also be used to adjust kerning and tracking. Pressing *Option + Left* or *Right* either kerns or tracks 20 units depending on whether or not a type selection is active (i.e. if the cursor is between two characters, kerning is applied; if multiple characters are selected, then tracking is adjusted). The increment can also be changed to 100 units using *Command + Option + Left* or *Right* arrow. Finally, the baseline can be shifted by 2 or 10 points using *Option + Shift + Up* or *Down* arrow or *Command + Option + Shift + Up* or *Down* arrow, respectively.

Kern or Track -20 units



Kern or Track +20 units



Kern or Track -100 units



Kern or Track +100 units



Shift baseline +2 pts



Shift baseline -2 pts



Shift baseline +10 pts



Shift baseline -10 pts



Resets

Sometimes, we have to return to the defaults. Below are some shortcuts to get you back on track.

Removes Bold, Italic, Superscript, Subscript, All Caps, Small Caps, Underline and Strikethrough



Resets vertical scale to 100%



Resets horizontal scale to 100%

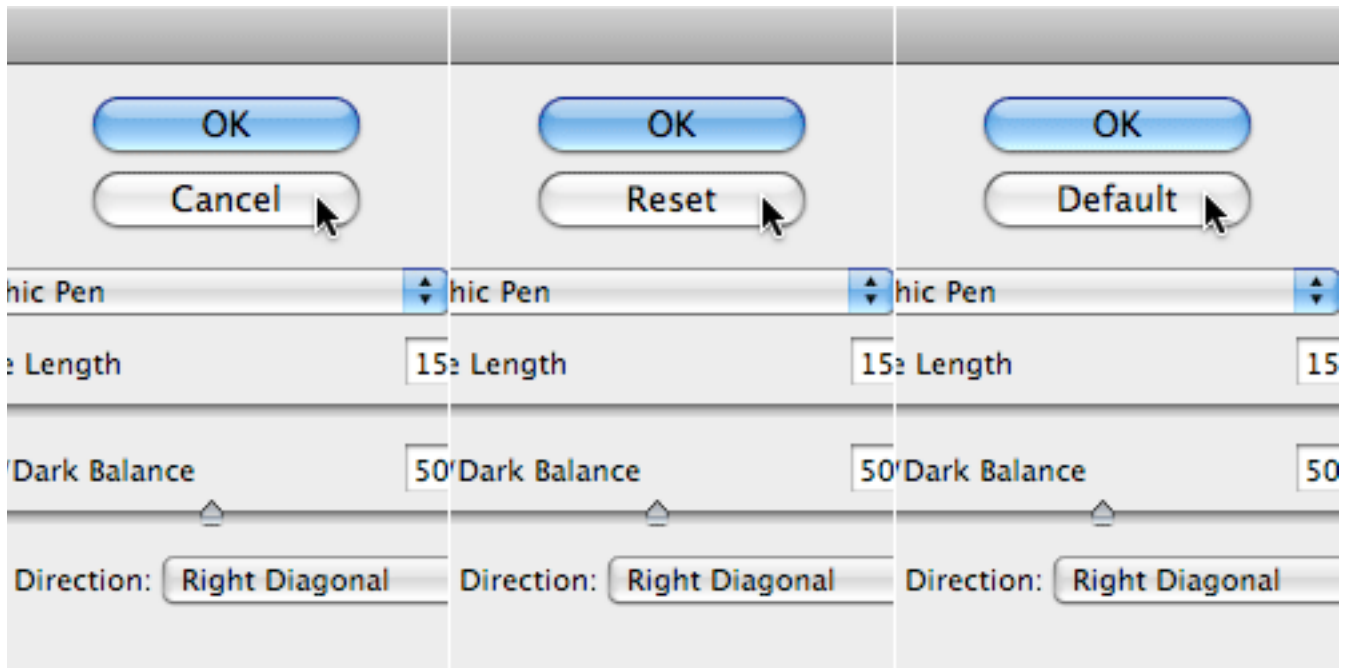


Sets leading to (Auto)



Menus

Hidden within many of Photoshop's menus are a number of shortcuts that make adjustments faster and easier. Just about every menu—whether for Adjustment, Filter or anything else—allows you to revert to the original settings; by simply holding Option, the Cancel button will turn into a Reset button. Depending on the menu, holding Option might even change some of the other buttons (e.g. the Done button in the "Save for Web and Devices" menu will change to Remember). Certain menus, such as the Filter Gallery, also allow you to hold Command to turn the Cancel button into a Default button.



Standard Cancel button

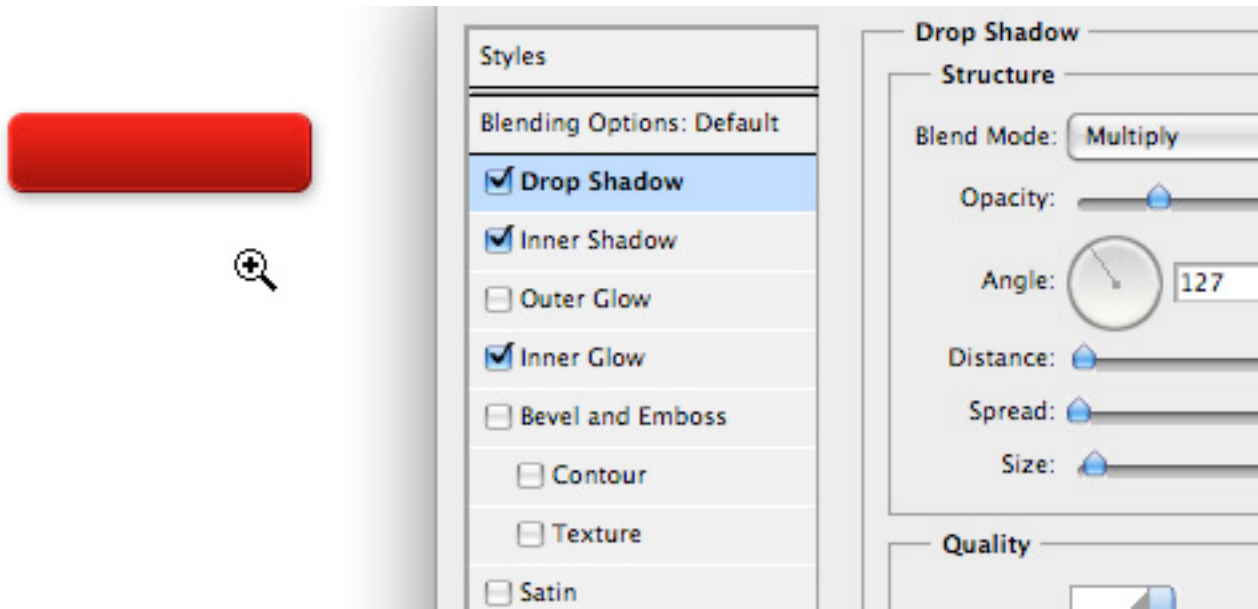
Option = Reset button

Command = Default button

Using modifier keys to uncover in-menu options.

Spring-loaded Commands

By default, most menus transform the cursor into the Hand tool or Move tool. These tools can be used on the canvas while the menu is open to pan the document or to adjust settings, such as the Angle and Distance settings for a Drop Shadow. More tools, however, are available via spring-loaded shortcuts. The zoom tools can be accessed using either *Command* (to zoom in) and *Option* (to zoom out) or *Command* + *Space* (to zoom in) and *Command* + *Option* + *Space* (to zoom out). The hand tool can also be accessed by holding the space bar.



Holding Command + Spacebar to access the zoom tool within the Blending options.

Adjustment Menus and Layers

The Curves adjustment, like most other adjustments, contains some handy shortcuts. Similar to how you can cycle through the Channels in a document, you can cycle through the adjustment's channels using *Option + 2, 3, 4, 5*, etc. You can also cycle through the points on the actual curves using *-* and *=*. With a point selected, you can nudge the points in increments of 2 in any direction using the arrow keys. Holding Shift in conjunction with the arrow keys moves the point by 16 units. When working with an adjustment menu, you can toggle the Preview option on and off by pressing P. Adjustment layers don't have a Preview option, but you can temporarily disable it by pressing and holding **.

Set Channel



Select previous Curve point



Select next Curve point



Toggle preview within Dialog



Toggle preview of Adjustment Layer



Summary

Hopefully, reading this has taught you a few new tricks and uncovered for you some of the more obscure options within Photoshop. While memorizing shortcuts can be a chore, integrating them into your daily workflow saves you an incredible amount of time.

Preparing Photoshop Files for Web Developers

Brian Rhinehart

Whether you're a freelance Web designer or part of a team at an agency, handing off Photoshop files to a client, developer, development team or even another designer is part of the process of building websites.

Whereas the development process is generally more structured, by contrast, the design process is quite often spontaneous and full of experimentation. This can lead to a host of unused and unnamed layers that don't end up as part of the final approved design. For developers, sifting through a quagmire of unnamed layers (Layer 1, Layer 1 copy, etc.) can be confusing and time consuming.

Designers can help their counterparts or clients before the design hand-off by taking 10 to 15 minutes to prepare files in a consistent and organized manner that can potentially save developers hours of production time. As an added bonus, an organized Photoshop file will save designers time by minimizing development questions after the file has been handed off for coding.

1. Prepping the File

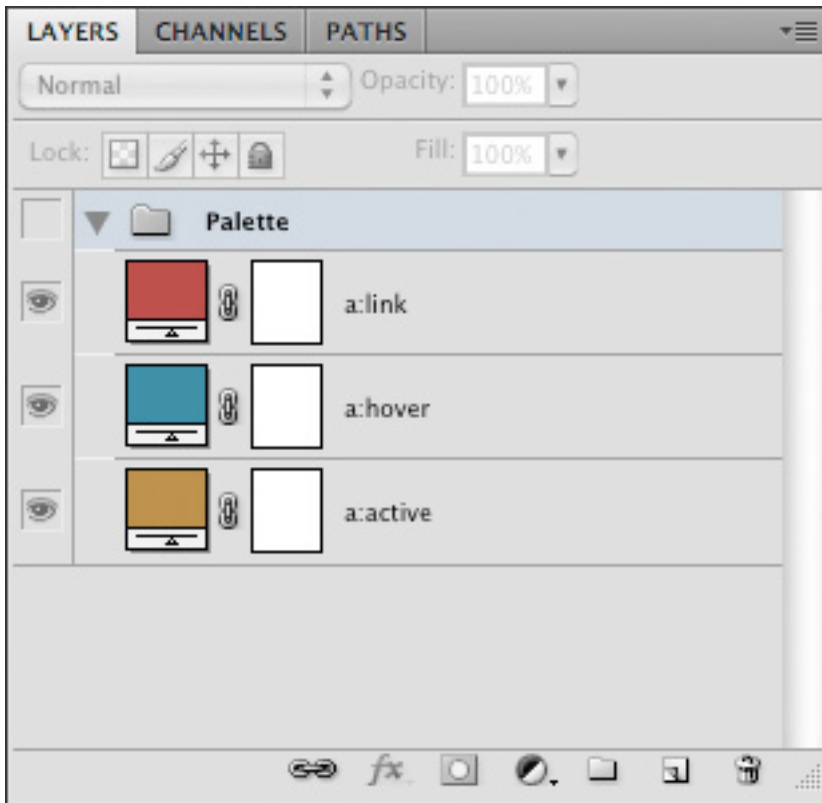
First and foremost, make a copy of the Photoshop file that contains the approved design and add the suffix -prod to the file name. This way you can recognize a production file immediately and know that this file type is for development use only and not for further design refinements.

Guides and layout

Properly align and remove any unnecessary guides in the document. Keep guides to a minimum and only section off the major regions of the layout by outlining blocks of page content such as the masthead, content area, sidebar and footer so that the developer understands what basic structure the page should follow. Keeping the number of guides to a minimum also allows the developer to then add guides where needed to aid them in visually mapping out layout details in the code such as nested divs and navigation menus.

Include a color palette

Create a layer group with its visibility turned off at the top of the Layers panel named "Palette." Populate this group with layers using Layer > New Fill Layer > Solid Color... which are named to correspond to elements that will be colored using CSS. This allows developers to simply Double+click the layer thumbnail to get the color values they need from the Color Picker while coding.



The added "Palette" Layer Group.

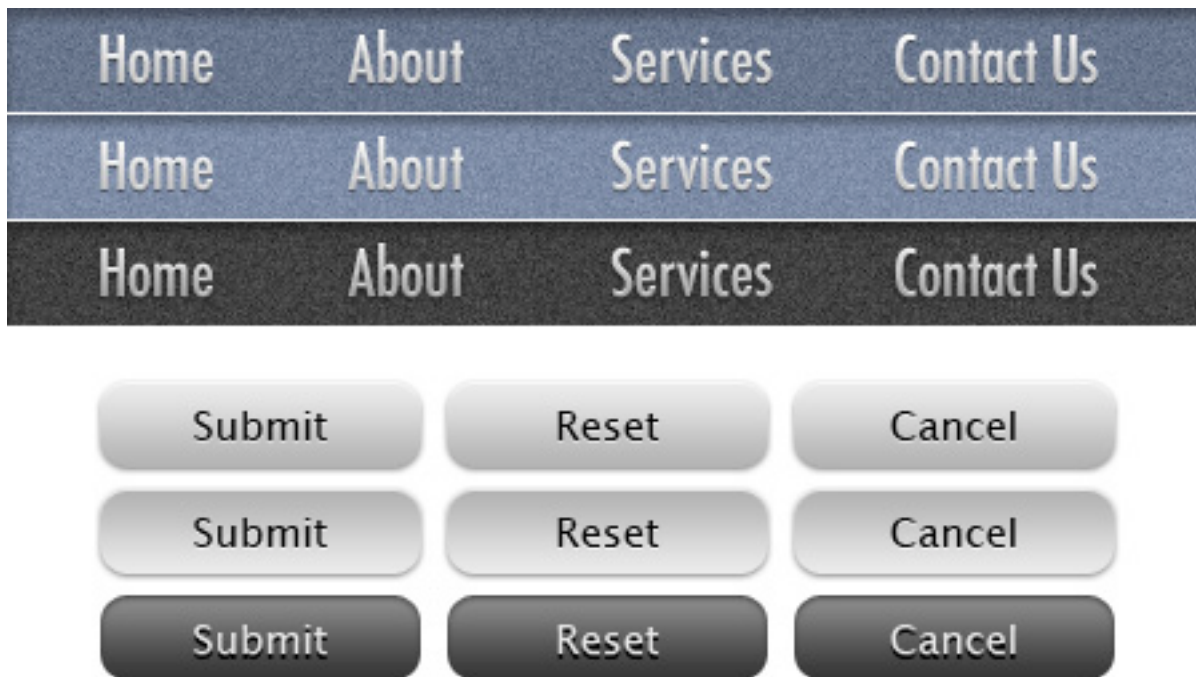
2. Navigation and Button States

During the design process, it's easy to overlook that navigation graphics should have at least three states of user interaction that will need to be defined in a stylesheet. Place each state on its own layer and name that layer to correspond to its function. As an example, using the following for the layer names of a top navigation element (topnav, topnav:hover, topnav:active) will help to establish a common naming convention and language that both the designer and developer mutually understand and recognize.

Create sprite groups of navigation or button layers or layer groups to ensure that what you envisioned as a designer will get executed in the

code. Position the default state as the topmost layer within the group with the hover and active states below.

When creating sprite groups, it is also recommended that a consistent height be used for all of the states so that it is easier for the developer to calculate the `background-position` of the elements while coding the CSS.



Sprite groups showing the different navigation states.

3. Flattening Artwork

The purpose of flattening artwork is to preserve the approved design and to combine multiple layered elements into single layers that are more readily digested. Examples of this would be a base layer which is being used as a clipping mask and the secondary layers that are being clipped by that base layer, photomontages or a group of layers that comprise the background of a site.

Merging layers

Merge (Command+E) layers and layer groups that won't require further editing by the developer. This not only reduces the visual impact of the Layers panel, providing a clearer road map for the developer, but also removes the chance of design elements getting accidentally altered during image slicing.

Fonts

Web safe fonts that are used for headings and copy should be left as editable text. This allows developers to easily check the Character panel to see what values need to be applied to font properties in the stylesheet.

In cases where image substitution is to be used for items such as navigation or stylized text treatments, flatten the type layers just in case the developer doesn't have a specific font available to them. Another method of preserving the appearance of a font would be to use Layer > Type > Convert to Shape in cases where the developer may need to resize a type treatment.

Smart objects

Smart objects are invaluable during the design process. They allow for resizing and styling with Smart Filters while remaining completely editable. However, once a design is approved these layer types should be rasterized or merged with other layers to reduce the overall file size as smart objects can often contain photos or other artwork that have a higher resolution (e.g. 300dpi) than is required for the final output of 72dpi. Another reason

to flatten smart objects is to prevent a “File Not Found” error message should the developer Double+click the smart object layer thumbnail.

4. Organizing the Layers Panel

First things first, clean house. This means deleting any layers that are empty or are not going to be used in the final design, especially all the duplicated layers that were used to test ideas during the creative process. By doing a little housekeeping you have already made the file easier to read.

Name all layers

Once you have flattened and merged all the layers that will not require editing, go through and name all of the layers and layer groups. Use a naming convention that is not only well recognized, but also common to your work environment. One example would be to assign layers names that correspond to the CSS that would be used for that layer such as “button:hover.” The point is to establish and maintain the nonverbal communication between the designer and developer through common practices and language.

Use layer groups

Group like elements into consistent layer groups. For example, when designing a WordPress theme, it would be logical to have layer groups with the names “Header,” “Content,” “Sidebar” and “Footer.” It’s also good practice to group like items that constitute a navigational element or other design elements that have multiple states such as icons, buttons and menus.

Mirror the layout

Start from the top of the page layout and work your way to the bottom, arranging the layers and layer groups in descending order to correspond with their position in the design. In this manner a developer can quickly scan through the layer names to identify where a particular design element is located within the Layers panel based on its visual location in the design. This is especially helpful should they need to isolate it for editing or slicing.

Use nested layer groups that reflect the hierarchical structure of the layout. A layer group called "Sidebar" might contain layer groups "search" and "advertising." Nested layer groups can also illustrate to the developer how elements are arranged structurally within the HTML.

5. Handing off the PSD

When the file has been prepared, don't just send the file in an e-mail or upload it to the development server. Schedule a hand-off meeting and take the time to go over the file(s) with the developer to ensure that they have a firm understanding of how the end product is supposed to not only look, but behave in terms of user interaction. In the end, both designers and developers will save valuable time.

In Defense of Photoshop

Thomas Giannattasio

Waves of change are currently rippling through every aspect of the Web. The iPad and other mobile devices are changing the way we access the Internet, while HTML5 and CSS3 promise to change the way we develop it. However, another storm is brewing that threatens Photoshop's throne as the application of choice for Web design. The battle suggests a fundamental shift in the design process from Photoshop to mark-up.

A militia of designers have assembled to launch this coup. Their propaganda is convincing, and their proposed successor is worthy, capable and sexy. Their cause is important, but their manifesto is flawed.



The Argument

The argument against Photoshop focuses on the effect of the final product. Photoshop can be used to create impeccable designs, but after hours of hard work, you end up with a static mock-up that is incapable of emulating the experience one gets when the design is converted to mark-up and viewed in the browser. HTML and CSS mock-ups require no explanation. They present the final product in the final environment. They also take full advantage of browser capabilities, such as fluid layouts, progressive enhancement and animation. These are things that Photoshop simply can't do.

If we compare the two methodologies even closer, we find a number of other disadvantages to the Photoshop approach. For example, Photoshop's text rendering is nothing compared that of modern Web browsers. CSS classes also make the process of updating similar elements easier than hunting down all instances within a Photoshop document. Even making certain structural changes to a website can be done more easily with CSS. Finally, I can't overlook Photoshop's propensity to crash, especially when opening the "Save for Web" dialog.

I admit: the benefits of mark-up are undeniable, and Photoshop doesn't offer any of them. In fact, the mark-up generated across the entire Creative Suite is rather atrocious and unusable. Why then do I think Photoshop is still the most important Web design tool available today? The answer lies in the creative process.

Process Makes Perfect

The creative process is exactly that: a process. Clients may think we simply snap our fingers to make creative goodness flow directly from our brains to the screen, but we know better. We know that it takes hours or days of deep thought to devise the perfect solution. And if you're anything like me, you often don't find the perfect solution until you've explored a number of dead ends. Essentially, we need time and experimentation to work towards the goals of a project and determine the best way to communicate what needs to be said.

Experimentation is the key to creativity. Without it, the brain simply follows what it regards as the safest route, and the result is as mundane as the thought behind it. Most of the designers I know start all of their designs on paper: creating thumbnail sketches in order to quickly experiment with possible solutions. However, these sketches serve as jumping-off points; the design process is by no means over once the pencil is traded for mouse and keyboard.

Photoshop is vital to good Web design because it extends the process that was started on paper. It gives stakeholders a direct connection to the visuals without regard for the technical execution of the product. In other words, it accommodates visual processing. The designer is given a blank canvas—a playground for experimentation—on which anything is possible.

EXPERIMENTATION: THE CATALYST OF CREATIVITY



As designers, our medium is in a visual language. It's a language of the subconscious, and it allows us to connect to other people through our work in ways that the spoken word cannot. Great design relies on an open dialogue between the artist and the medium. Interfering with that dialogue only impedes the process and distorts the message.

Designing with mark-up, however, creates a disconnect with the medium. Ideas no longer flow fluidly onto the screen. They must first be translated into a language that the computer understands. Like a game of telephone, this methodology requires a great deal of interpretation, which inevitably dilutes the idea and its potency. This chain of translation introduces a latency that kills experimentation and compromises the design.

The Foreman Or The Architect

Truth is often seen clearer in extremes. So, let's try a little thought experiment. Imagine yourself as an architect tasked with designing a large corporate skyscraper. How would you proceed? If you're like most architects, you would start by sketching, and then work your way into AutoCAD. Eventually, you'd end up with a computer-generated 3-D model. You'd probably take it even further by constructing a small-scale model. All of this processing gives you a better feel for the project without actually building it. It'd be preposterous for the architect to go out and start welding I-beams together as part of his design process; that is the foreman's responsibility, and construction begins only once everything has been designed.

Designing with mark-up is like welding I-beams without a blueprint. The client understands—or should understand with your help—that the mock-ups are not the final product and that this actually benefits them. They want to get an idea of what the website will look like without having the entire thing built first. It allows them to change the direction of the project before investing too much. Our responsibility is to explain the differences between the mock-up and the final product. Moral of the story: don't play foreman when you're the architect.

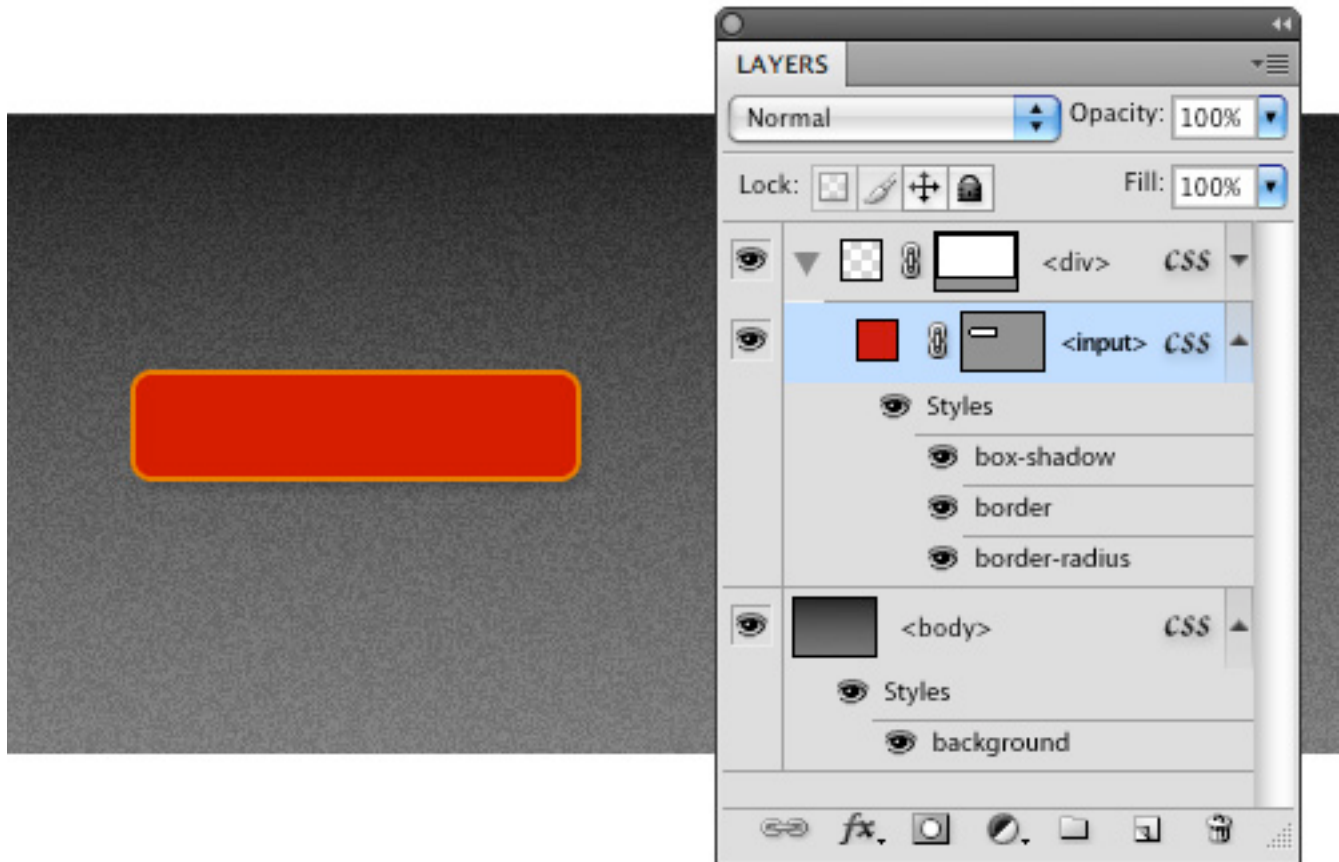


A Call To Arms

Although mark-up can provide a truer experience for clients, Photoshop is clearly an important part of the design process. Ridding it from our toolbox could prove disastrous. What we need is not to change our methodology, but rather to amalgamate our tools. We need a tool that supports the creative process but at the same time gives us access to the subtleties of our medium.

Modern WYSIWYG editors are off the mark. We need something more like Photoshop, but with capabilities that allow us to create DOM elements as easily as we can create shapes. John Nack seems to be on the right track

with his idea of [HTML layers](#), which would enable users to create and style HTML elements and render them with the WebKit engine all within a standard PSD file. While this idea is not completely practical, it gives us something to work with. Imagine opening the layer styles dialog and being able to add CSS3 styling to an element. What bliss!



An example of what HTML layers might look like with CSS styling.

Jeffrey Zeldman makes a number of valid points about why [creating such a tool is impossible](#):

HTML is a language with roots in library science. It doesn't know or care what content looks like. (Even HTML5 doesn't care what content looks like.) Neither a tool like Photoshop, which is all about pixels, nor a tool like

Illustrator, which is all about vectors, can generate semantic HTML, because the visual and the semantic are two different things.

I have to agree. Any tool that is meant to translate visual elements from canvas to code will inevitably fail in the semantic realm. Computers are monolingual: they need us to make that translation. However, do we need perfectly semantic code if we're only creating a mock-up? Why can't we accept the reality that we're not crafting the final product and simply spit out HTML and CSS that's "good enough" for mock-up purposes. Once the design is approved, we'll put on our foreman hat and begin the real construction.

Until our paradigm is rocked by some killer new app, Photoshop will reign as the best tool for designing websites. Although it doesn't currently speak to our medium the way we wish it did, it proves itself priceless when it comes to the process of designing. Photoshop is a virtual playground of experimentation; dropping it from the process only prevents your design from being fully developed. So, before you switch to the mark-up methodology, understand that you're sacrificing creativity for a few browser capabilities, which could be explained to clients anyway. For the sake of your client, creativity and work, stick with Photoshop.

The Authors

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The Lost Files (free eBook)

Initially, the Smashing Book #2 was supposed to contain more chapters, but because most of our contributors delivered (much) more content than the book's size could accommodate, we couldn't include them all. So, we release four chapters as a free bonus eBook, called "The Lost Files", for all of you who are registered at our Smashing Shop. Available as **PDF, ePUB, Mobipocket**.

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