# Editing an Image is Photoshop CS5

There are many ways to correct an image and with each new version of Photoshop these options increase. Starting with CS3 Adobe introduced Smart Objects. In Photoshop CS5 this feature has become a powerful tool for editing images, and we will discuss the use of objects in a future newsletter or on the SCAMIT website. For now, we only want to make you aware of its existence. Because most members are using older versions of Photoshop the following demonstration will use more mainstream methods.

For this demonstration we are going to edit an image of *Calliostoma gloriosum*. We start by opening the image in Adobe Camera Raw. Do this from the Adobe Bridge editor use File→"Open in Camera Raw" or from the Photoshop menu (CS3 – CS5, or Elements 8 or 9) using File → Open As → Camera Raw. The image is first rotated counter clockwise by clicking on the second to last icon.
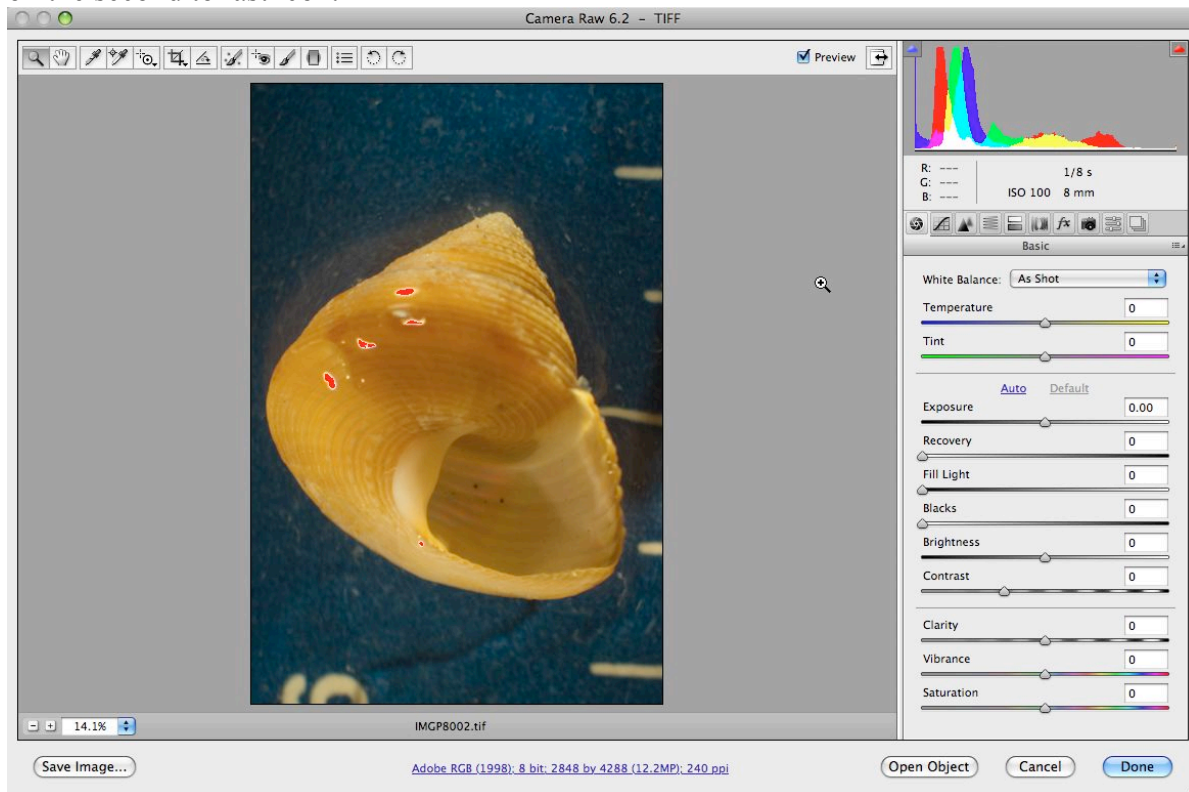

The most obvious problem with the image is the color temperature. It is too yellow. Even the blue background has an obvious yellow cast. Select the first icon on the far left that resembles a camera aperture. This activates the Basic menu. The first slider is the Temperature slider. Move this slider to the left until the lines turn white. Or, click on the White Balance Tool on the top toolbar above the image preview. The pointer will turn into an eyedropper. Click on one of the white lines. If the color still appears a bit yellow the Temperature slider can be adjusted further.

Next adjust the sliders for Exposure, Recovery, Fill Lights, and Blacks. Exposure and Recovery control bright values. Fill Lights and Blacks control dark values. Finally, set Clarity to maximum (+100). Clarity adds a subtle contrast to midtones.
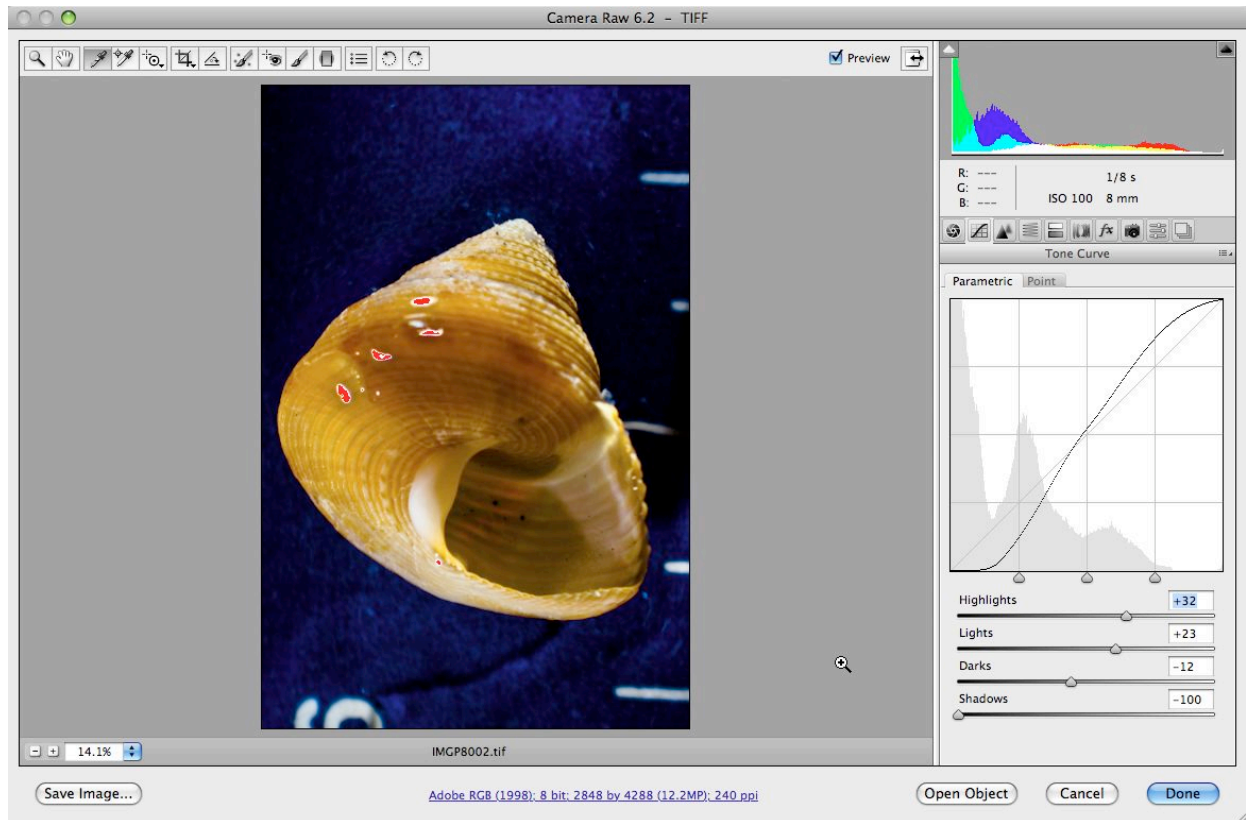
Click on the Tone Curve icon located next to the Basic icon (second from the left). Adjust the tone curve by using the Parametric tab. Pulling Shadows down generally removes background noise when the background is dark or black. Shadows were adjusted to -100 for this image. Adjust Highlights, Lights and Darks with positive values to add contrast. If you are using Photoshop Elements you do not have this option. You must open the image and use the Curves adjustment in the Edit menu. It is very similar to the Tone Curve in the full version of ACR.

Next, click on the Detail icon (third from left - triangles) for sharpening. Zoom in on the shell. There are four features to change, Amount, Radius, Detail and Masking. Amount is the amount of sharpening and the others determine how the sharpening is applied (Eismann and Duggan 2007). Radius controls how far out from an edge the sharpening is applied (in terms of pixels). Detail determines how fine details are treated. And, Masking creates a mask to allow you to target the sharpening more to the edges within the image.
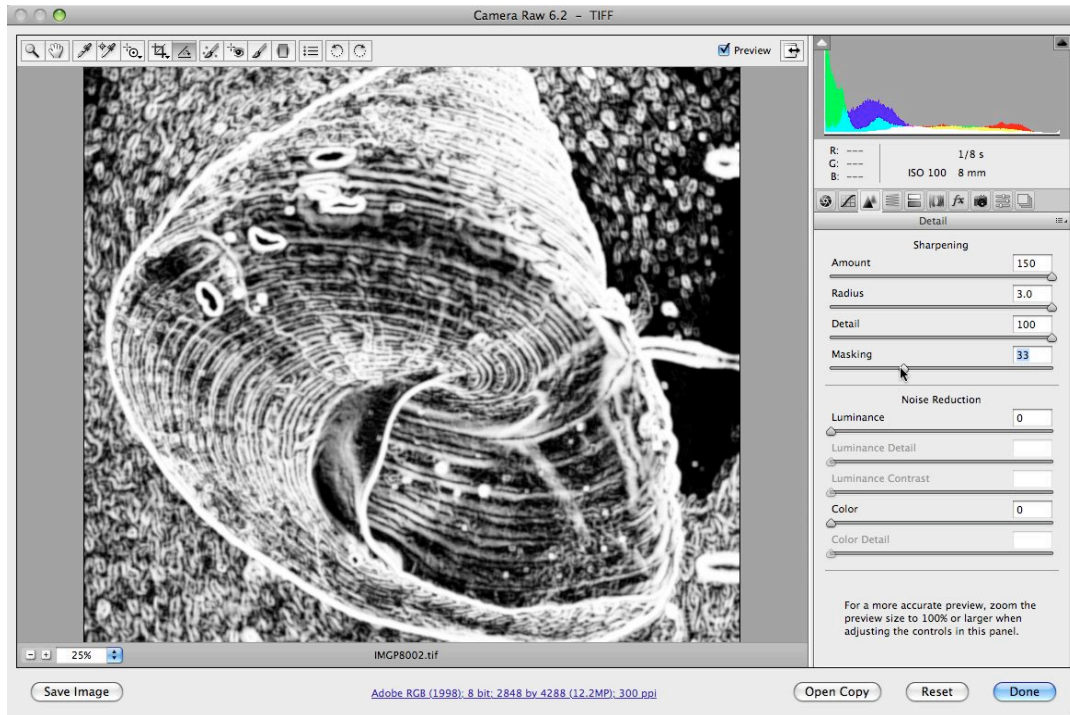
In this image the Amount, Radius and Detail sliders are set to maximum. By holding down the Alt/Option key while clicking on the Masking slider, the amount of change is revealed in the image preview as shown above. You must zoom in on Masking to see the effect. Masking at a value of 33 indicates that sharpening will not occur for areas without fine lines (dark black). The sharpened areas are white.

When done click on Open Image. If "Open Image" is not visible click on the blue underlined phrase below the image. This will open up a menu that allows you to change the command from "Open Copy" or "Open Object" to "Open Image."


The image opens in Photoshop and is much improved. But, it needs more sharpening, and contrast.
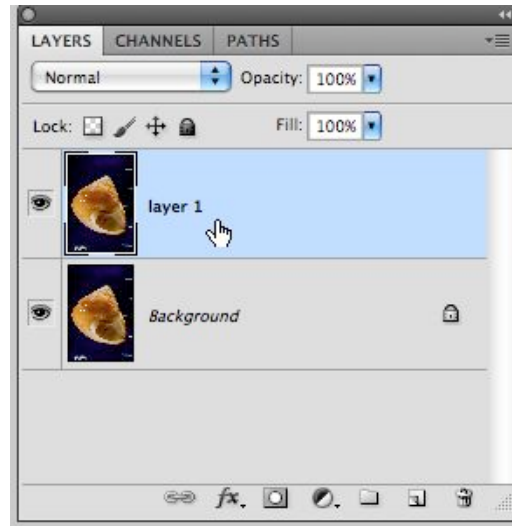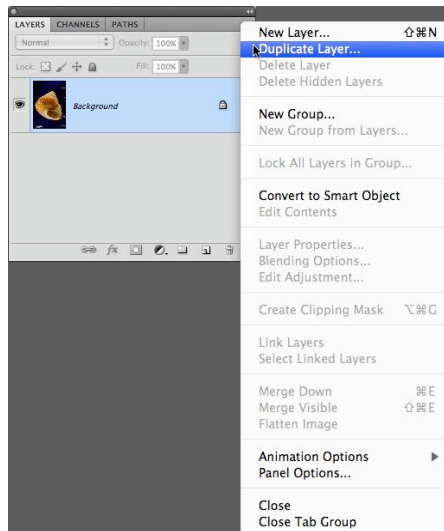
In the layers palette duplicate the Background Layer using the pull down menu or use the keys Command/Cntrl + J. Click on the new Layer to make it active.
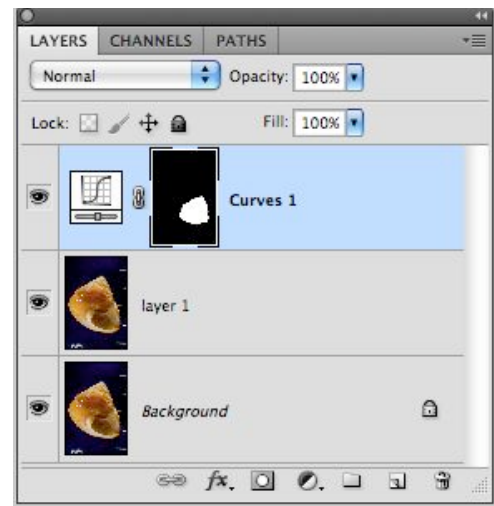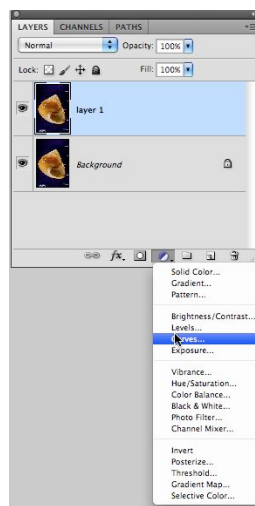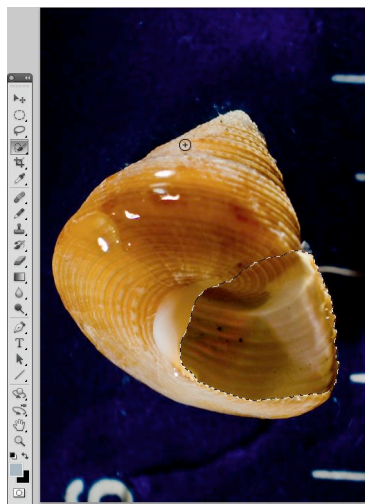

Use the Quick Select tool from the Toolbar Palette to select the operculum. With the selection active create a Curve layer from the Layers Palette adjustment menu. Note that a mask is automatically created with the curve layer or other adjustment layers when a selection is active. This is a black and white thumbnail located on the right side of the curve icon. Black hides a layer and white allows a layer or part of the layer to show on the image below. In this case the effects of adjusting the curve will only affect the operculum indicated in white on the mask thumbnail.
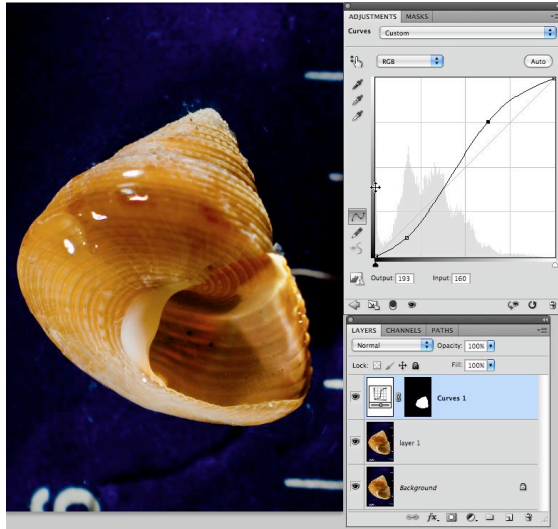
Adjust the curve into an S-shape that adds contrast to the nacreous layer of the operculum. The highlights are pulled up slightly and the dark values are pulled down. This adds contrast and shape to the overall image of the shell.

Zooming in on the concentric lines indicates that the shell needs sharpening. There are several methods for sharpening in the Filter menu under Sharpen. Two of the most useful filters are Unsharp Mask and Smart Sharpen. At the bottom of the Filters menu is Other containing the High Pass filter. Unsharp Mask is generally needed for a strong sharpening while Smart Sharpen and High Pass allow for more subtle sharpening. For this image Unsharp Mask is used for a more aggressive sharpening.
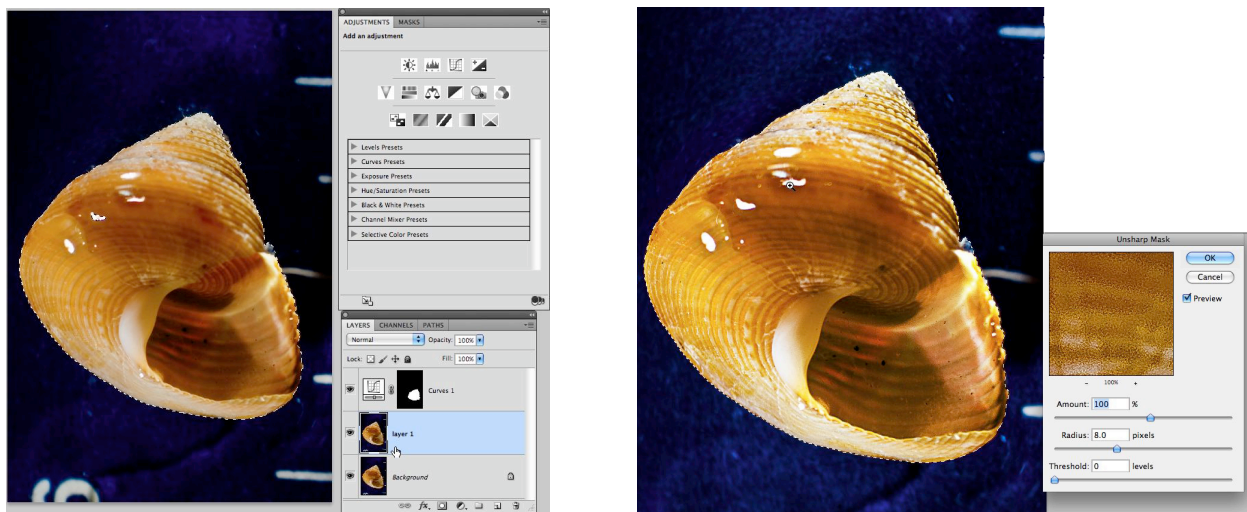

Make Layer 1 active (blue) and use the Quick Select Tool to select the entire shell. Go to the main menu and select Filter → Sharpen → Unsharp Mask. Set Amount to 100 and Radius to 8.0 and click OK.

Double click on the label for Layer 1 and change the name to reflect the filter used. In this case the name was changed to Unsh mask 100 8 to indicate the filter and the amount of sharpening. This is a useful way to take notes on the order and type of edits used.
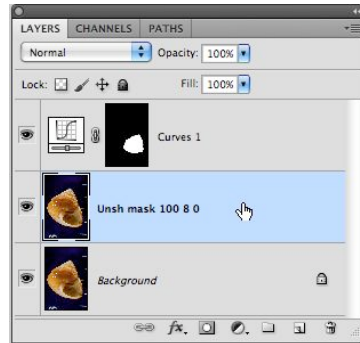

While the shell is still selected go to the menu for Select and click on Inverse or use the keystrokes Shift + Command/Cntrl +I. The black background surrounding the shell will now be selected.
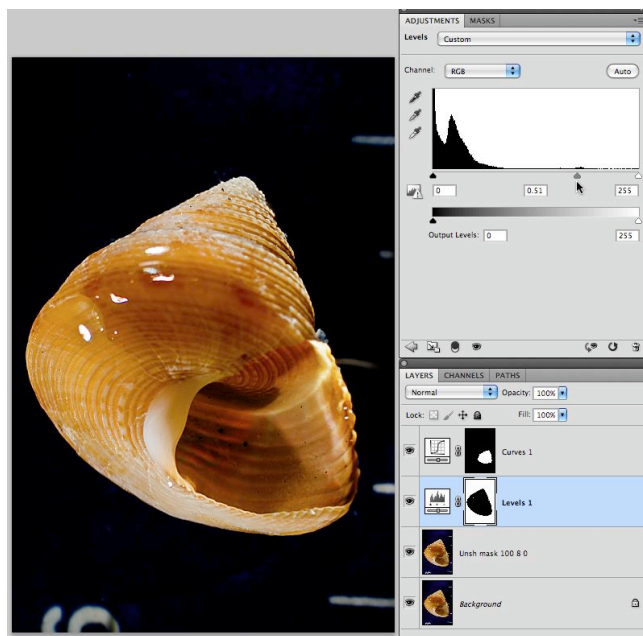

Create a Levels adjustment. Note that an inverse black mask is created for the shell. Only the background will be affected. Move the middle Gamma slider to the right until the background takes on a smooth, even, dark color.

If you need to further blur out the background duplicate the Unsharp Mask Layer and rename it Gaussian Blur. Hold down the Command/Cntrl key and click on the mask in the Levels adjustment layer for the Unsharp Mask. The background will be selected again. Make the Gaussian Blur layer active. In the Filter menu go to Blur → Gaussian Blur and select a Radius of about 30. All noise in the background will be removed.
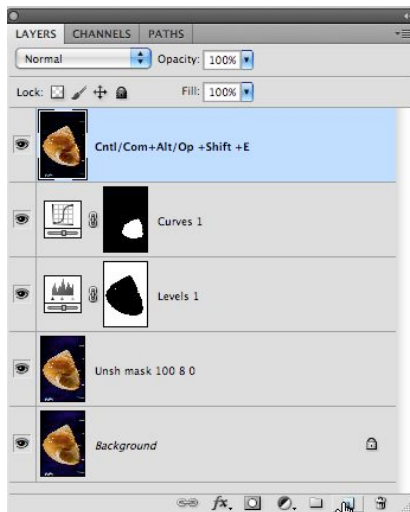
Make the top layer and all layers below active. In this case the top layer is the Curves layer with the mask for the operculum. Hold down the keys for Shift + Command/Cntrl + Alt/Option + E and a new layer of the shell containing the changes from all layers below will appear on top. The image in the new layer can be adjusted further. On this layer we want to remove the distracting bright highlight areas of the shell with the Clone Stamp tool or the Healing Brush.

The Clone Stamp was used to remove the white areas on the shell where texture has been lost, and to remove the 6 on the ruler. First, create a new empty layer above the image and make it active. Click on the clone stamp tool in the Tool Bar. In the menu for the Clone Stamp set the pull down menu on the far right to Current and Below. This will allow you to clone pixels from the image to the new overlying layer thereby leaving the image intact (non-destructive editing). Aligned Sample should also be checked. Opacity is set to 100% but it could be set lower for a less aggressive and more subtle results.
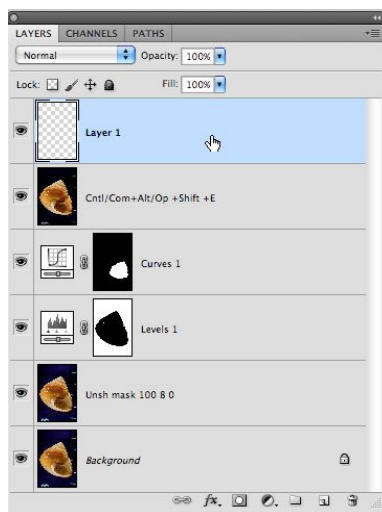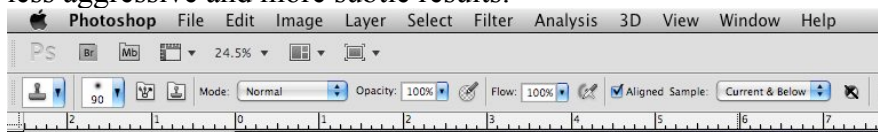
To use the Clone stamp hold down the Alt/Option key and click on an area near one of the white spots. Start painting over the white, shiny areas and texture from the shell will be cloned over the white area, but it will be done on the empty layer above the image. Do this until all the white areas are gone giving the image a much cleaner look. Next, remove the 6 on the ruler by cloning black over the number. Additionally, I used the Eyedropper tool from the Tool Bar and selected a white color from the ruler. The Brush from the tool bar was used to paint on the lines to make them whiter and more visible. The overall image is greatly improved. Save the image as a PSD file with all the layers. Afterwards, use the pull down menu on the layers palette to flatten the image and save it with new name. The file size is much reduced.
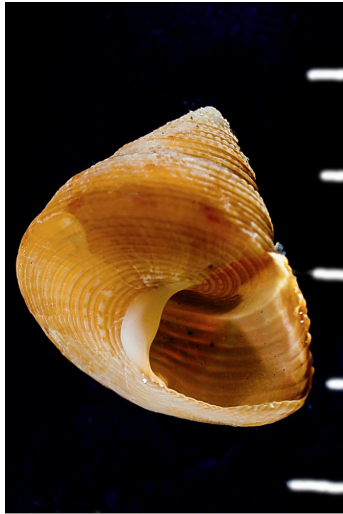

The original image was slightly out of focus. It is now much sharper and color balanced. However, additional sharpening of fine detail would still improve the image. In this case the High Pass filter can be used for subtle sharpening of the concentric lines and edges on the new file. Start by duplicating the Background layer and label the new layer High Pass.
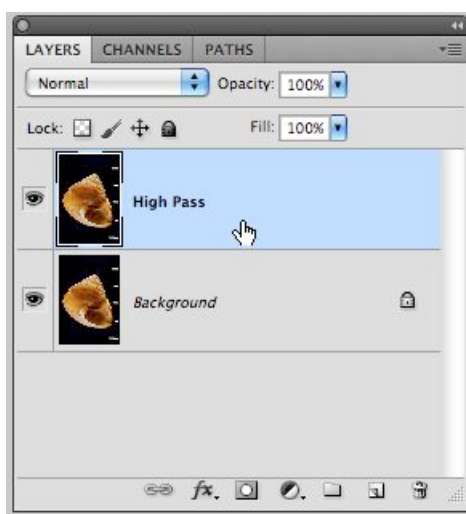
On the main menu go to Filter → Other → High Pass.
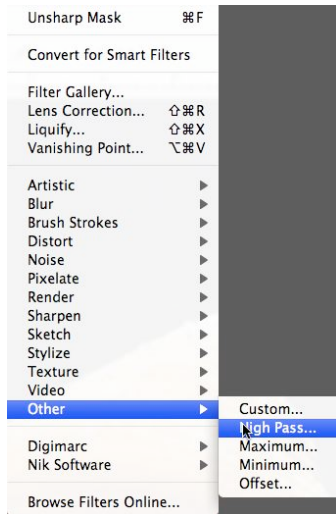
The filter is set to a value of 10 pixels. The image appears gray and the lines become more apparent with increasing value. After clicking OK the image will appear gray because the layer is set to Normal.
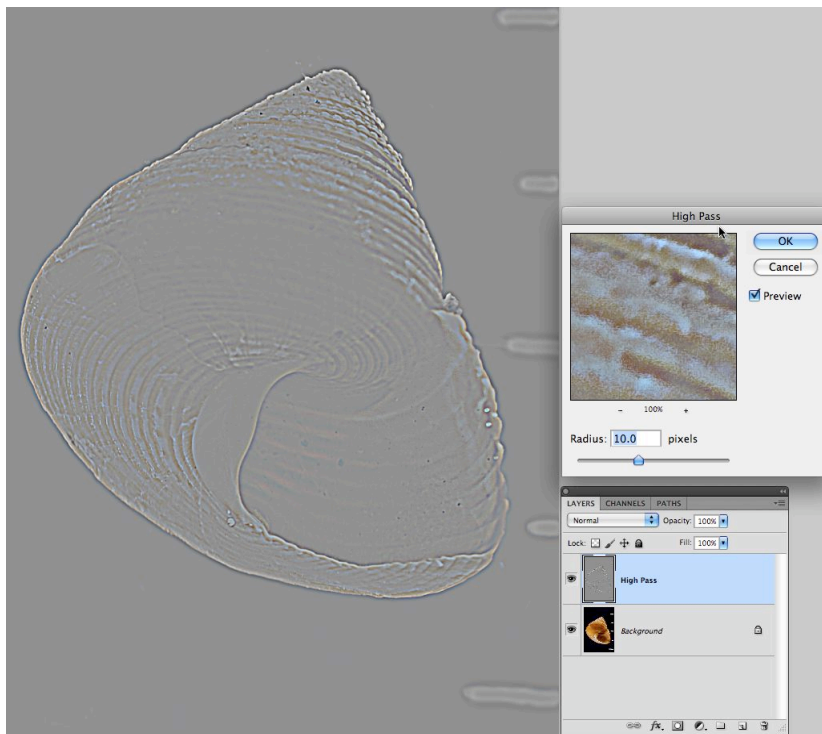
On the Layers pull-down menu select Overlay. The image will reappear in color and will be much shaper in those areas that were visible in the gray preview.
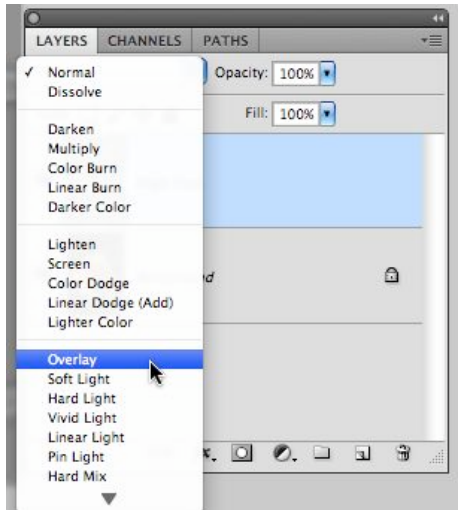
If you wish to paint the High Pass filter effects over specific areas you must add a black mask. Hold down the Alt/Option key and click on the Mask icon at the bottom of the Layer palette. Set the opacity to 100% for maximum effect.
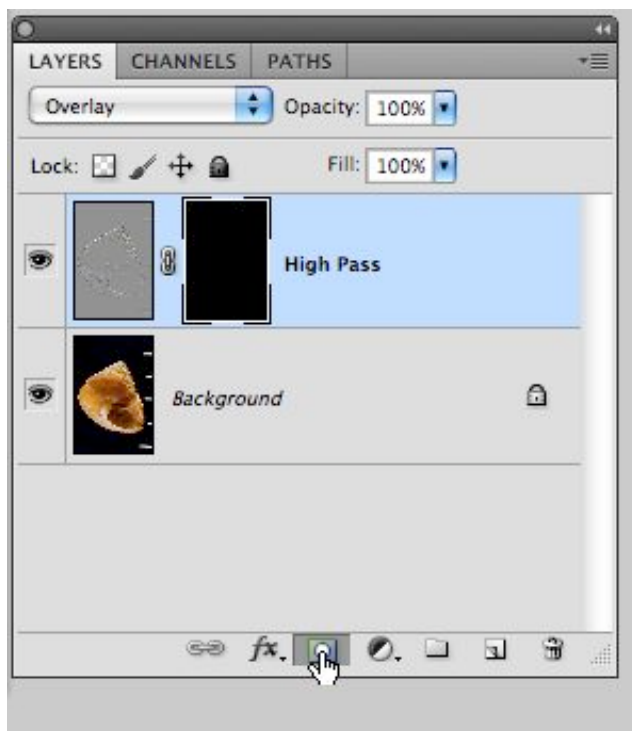
Select the Brush from the Tool Bar palette or simply click on the letter B. Next, click on D to set the default colors to black and white for the brush. Black paints "off" an effect and white paints it "on." Look for two little black and white squares at the bottom of the Tool Bar palette. Clicking on X will switch the square back and forth. Make sure that white is selected. The square brackets located to the right of P on the keyboard can be used for adjusting the size of the brush. Find a size that allows you to paint in the High Pass filter effects on the concentric lines of the shell.

As you paint on the lines of the shell the areas affected will turn white on the black mask. The result is a much sharper looking image.
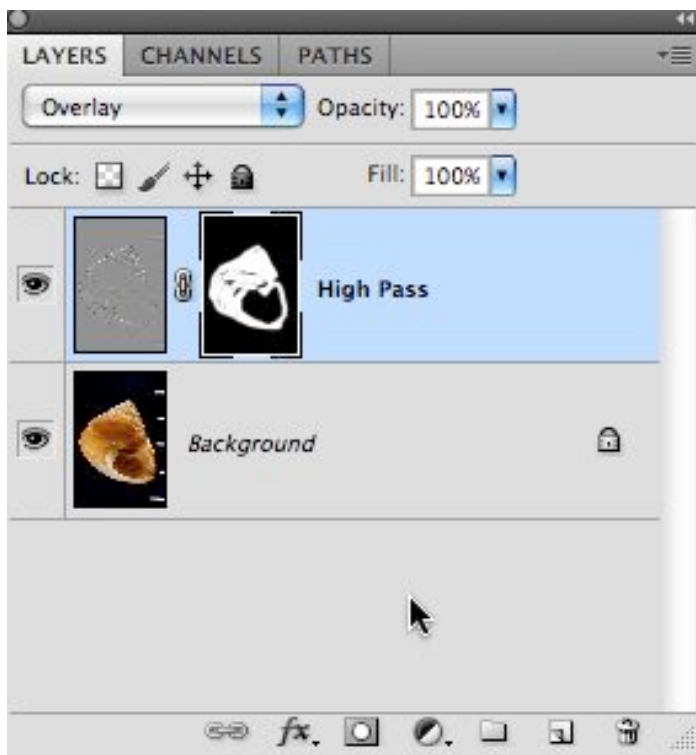
When the final image is compared to the original it is obvious that the new image has correct color, better contrast and much greater sharpness. There are many ways to achieve the same result, but this is a fairly simple method that can be done in Photoshop CS3 – CS5 and Photoshop Elements 8 and 9.