Adjustment Layers, Channels and Layer Masks

2 Click the Symbol XX 🖊 („Adjustment Layer") and choose „Channel Mixer".

3 Check the box „Mono-chrome" and choose the values R=30, G=60, B=10. Thus you'll get a grayscale rendering of the image's overall luminosity as perceived by the human eye.

One of the best things about Photoshop is that almost all essential image manipulations can be made on separate adjustment layers, enabling you to modify your settings as often as needed without affecting image quality. Here's a typical workflow using adjustment layers, alpha channels and masks. It's described using Photoshop CS2 on Mac OS X; Windows usually uses STRG instead of CMD.

1 Starting point is a scanned slide, not perfectly sharp yet nor satura-ted enough. A conservative approach to RAW processing in digital photography, where the aim is to use photoshop for fine tuning, would yield similar images immediately after conversion.
Palettes needed are „channels" and „layers".
First, we'll generate a luminosity channel from the basic image. It'll be useful later for automatically creating complex masks:

4 Select all (CMD-A) and copy redu-ced to one layer (CMD-Shift-C). Then discard the channel mixer layer by dragging it to the wastebin symbol in the lay-ers palette.

5 In the channels palette, click 🔲 to create a new channel. This one by default is named „Alpha 1", it's completely black. Paste your clipboard contents to the new channel (CMD-V), and rename the channel to something explicit like „luminosity".
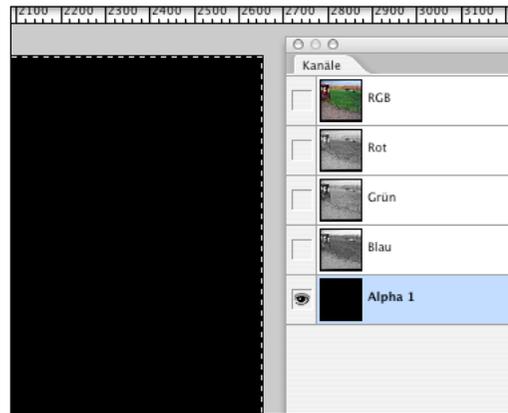
6 Click the RGB miniature in the channels palette to go back to the colour image. Your luminosity channel will be saved.

7 Let's heighten saturation now. We'll do it on an adjustment layer to happily modify the values ,til they're perfect. While you might as well use the „Hue/Saturation" option here, I prefer „Channel Mixer" again. Leave the „Monochrome" box unchecked this time, and use the following values for the individual channels (make sure that the sum per channel is 100%):

Interim result looks something like this now (the smaller image being the „before" version):
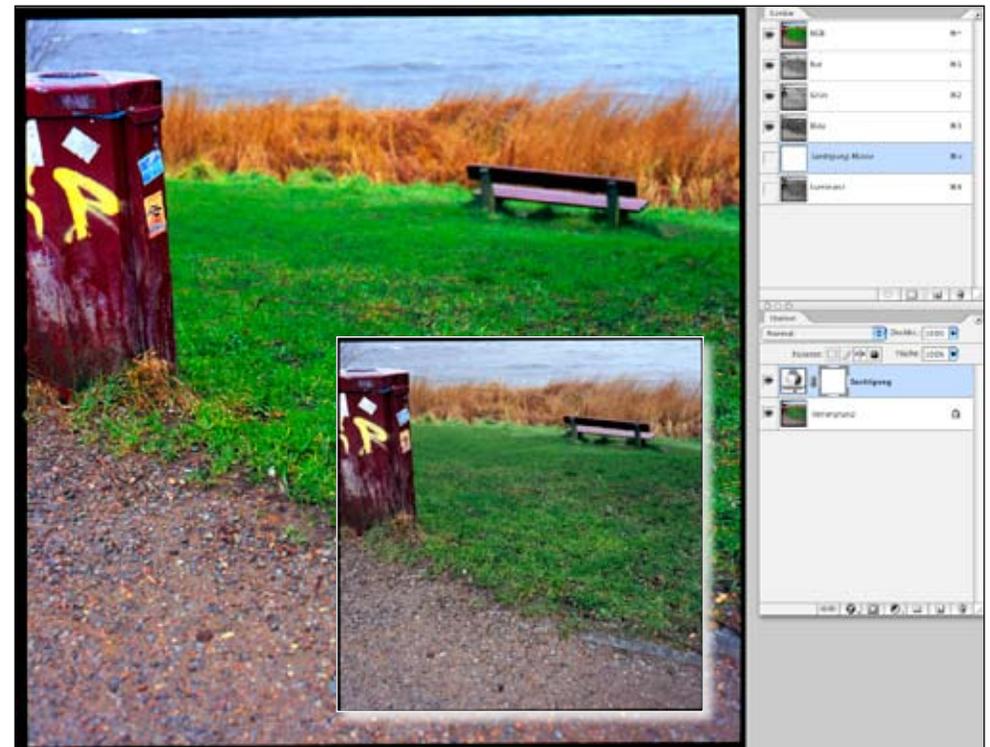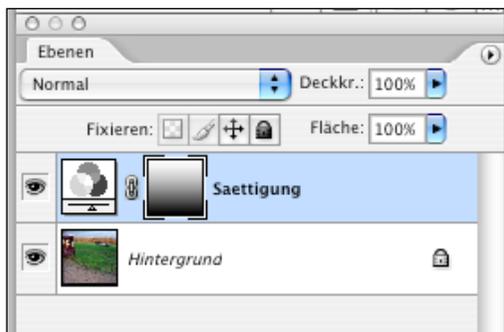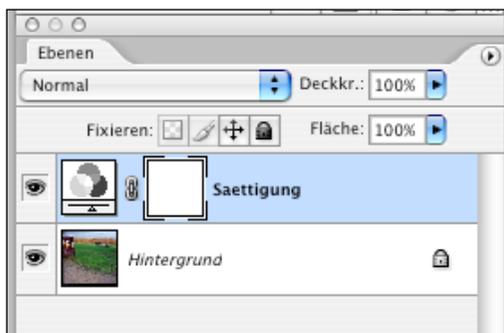
8 Now have a look at the layers palette:

I renamed the just-generated saturation layer for what it is. It consists of two symbols. Double-clicking the left one opens the values dialogue again – no matter how often you use it, it'll never affect the actual image pixels unless you'll merge the adjustment layer with a pixel layer.

The right symbol is white by default, white meaning „not masked at all". When it's active (stronger frame, see above), you can paint into the mask with all the painting tools to selec-tively reduce the layer's impact. Use, for example, the gradient tool to reduce saturation in the foreground as shown in the lower palette. The differences may be subtle (right picture after application of the layer mask), but then subtlety is just the point of working with masks…
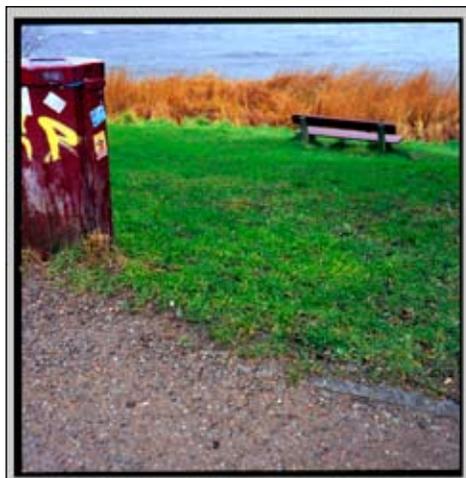
9 If overall saturation is too strong, you can reduce the adjustment layer's opacity – that's the upper of the two 100% values. The drop-down menu left of the opacity box gives you control over the layer blending modes; try using options like „multiply" or „soft light" for special effects.

If your image requires additional contrast manipulations, use a „Levels" or „Curves" adjustment layer just like I described for saturation in step 7.

Once tonality is as you want it to be, click on the uppermost layer and press CMD-Alt-Shift-E to generate a dupe of all visible layers combined.

This new layer will be used for shar-pening, hence I rename it to „USM".
Note: Earlier Photoshop versions require that you create an empty top layer manually before pressing CMD-Alt-Shift-E, otherwise you'd merge them all in the upper adjust-ment layer!
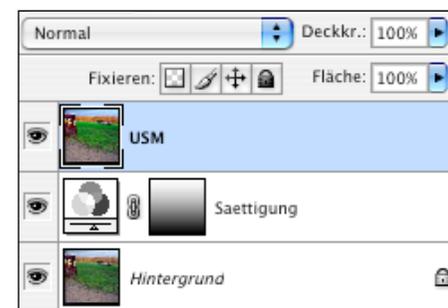
10 Back to the channels palette to create a selection based on our luminosity channel: You can either

click the luminosity channel, then
⇨click for „load channel as se-lection", then click RGB again
or
⇨press CMD while clicking the lumi-nosity channel's thumbnail.

Either way, you'll get a graduated selection based on luminosity: from bright-white image areas, which are 100% selected, to blacks, which are not selected at all.
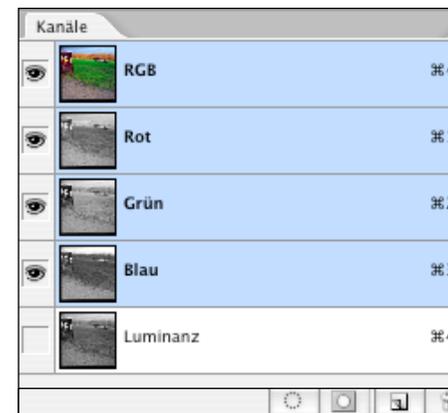
11 In the layers palette, clicking ◻ turns the selection to a mask for the USM layer. For the moment, this does not affect the actual image.

Press Alt while clicking the right (mask) symbol of the USM layer to make only the mask visible.

Now the mask needs a little processing, first using the filter „Find Edges":
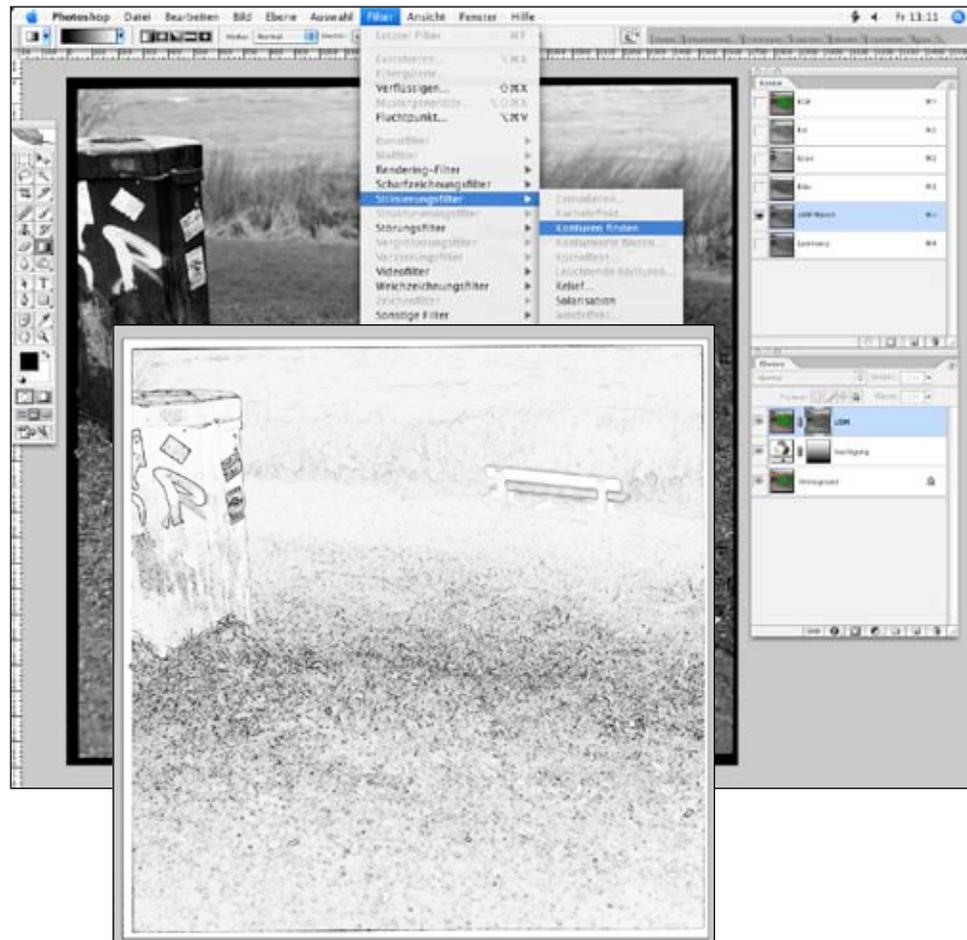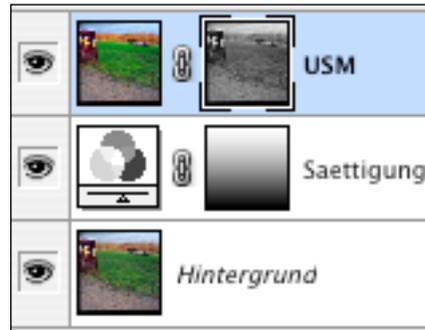
**12** The next steps are as follows (from left to right, top to bottom):
⇨Invert Image (CMD-I)
⇨Gaussian Blur with a radius between ca. 3 and 10px, depending on image resolution
⇨Levels (CMD-L): Push the white-point slider so the brightest areas are pure white
⇨Gaussian Blur again (quick access to the last used filter is via CMD-F).
Result should be a soft mask that's the most transparent where there are strong, sharp contours in the image (bottom right).
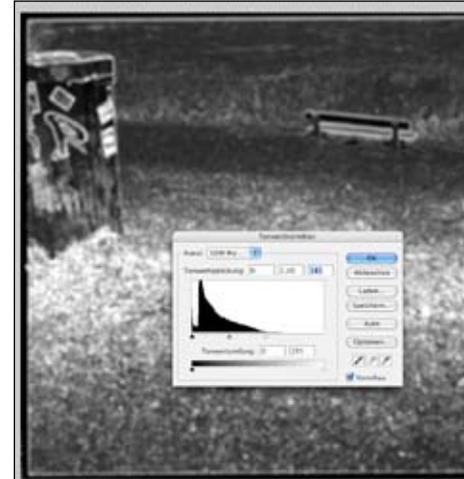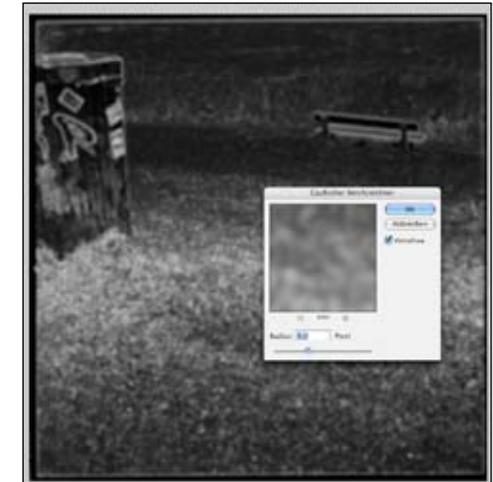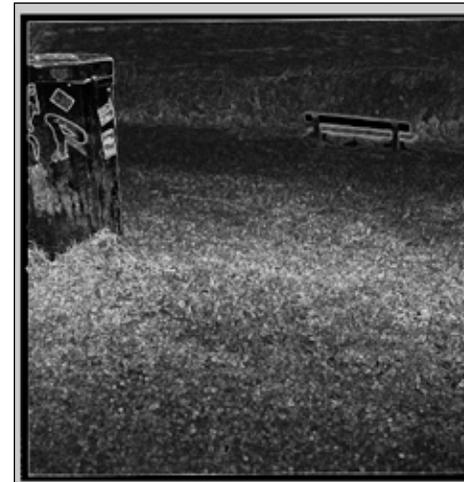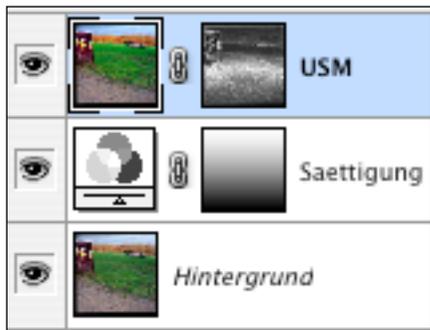
13 Now for sharpening: Select the coloured USM-layer thumbnail by clicking once; enlarge viewing size to actual Pixels (CMD-Alt-0 – that's zero), search a part of your picture where sharpening will be most important, then use the „Unsharp Mask" filter with high intensity values but small radius and threshold (left – before, right – after).

Stärke: 500 %
Radius: 1,0 Pixel
Schwellenwert: 0 Stufen
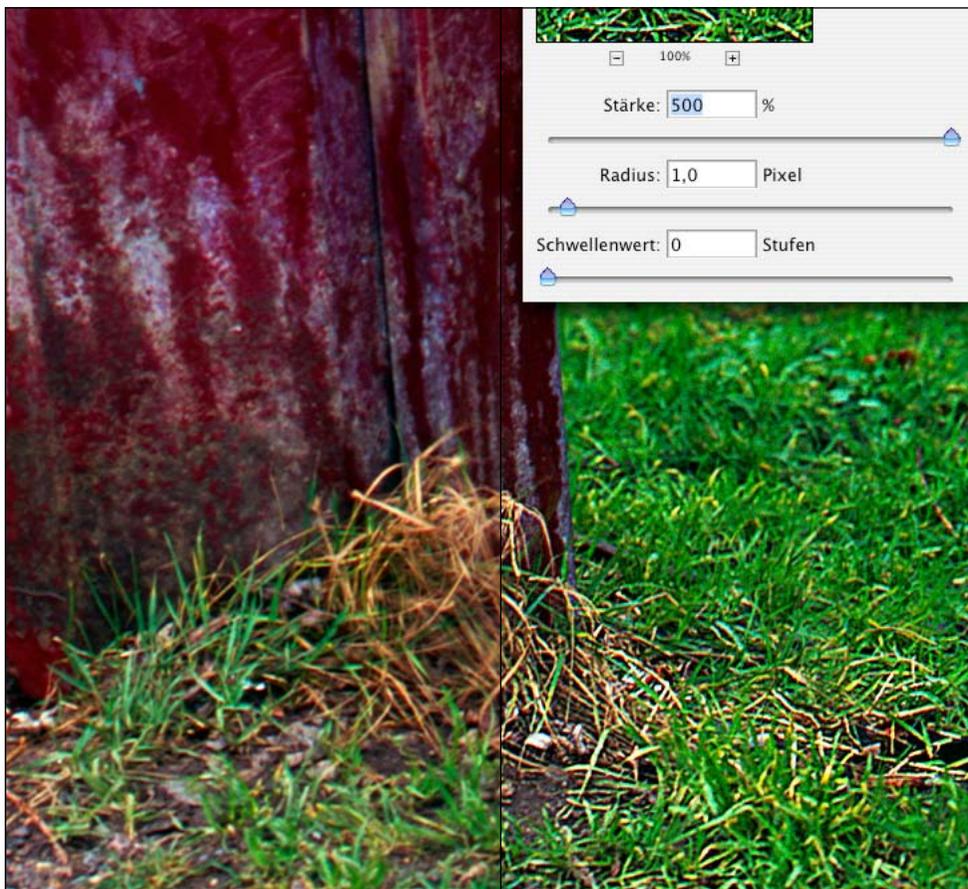
14 So why the mask? Go to a darker, blurred image area and temporarily deactivate the mask (right-click its thumbnail and select „deactivate" – you'll activate it again in exactly the same way): You'll see that overall sharpening would only enhance noise, which probably is not what you intended.

15 Finally set the USM layer to blending mode „Luminosity", so that any colour shifts which might be caused by sharpening won't affect the final image: „Luminosity" makes sure only the desired brightness/contrast effects of sharpening will be visible.