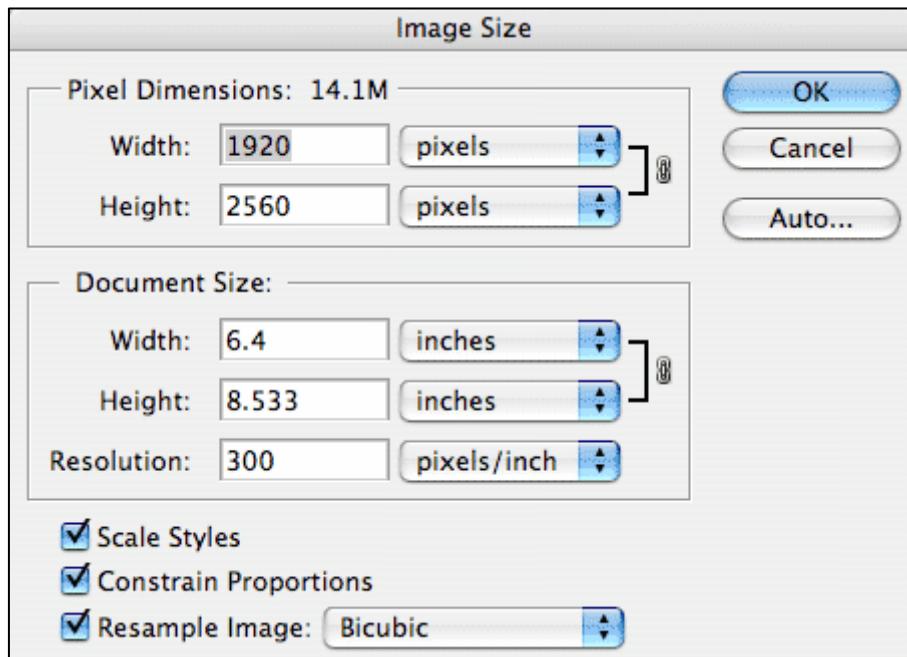# 9. Scanning and Resolution

Description

A simple exercise, this is designed to demonstrate several important concepts with bitmap images. First, some image acquisition, then some resampling, or changing the image size/print size, and finally what this looks like when it is printed.

Parameters

As single image will be resized in Photoshop to four different resolutions, then placed into an Illustrator document and printed on the color laser. For this exercise, you will just turn in the print—the files do not need to be uploaded to the server.

Technique

1. Scan an image, or import one from a digital camera. The image will need to start at a minimum of 300ppi at around 4 × 5".

2. Get the image open in Photoshop. Select Image Size… from the Image menu. This opens the Image Size dialog:

3. Using this dialog box, you will change the Resolution and the Document Size. Make sure the Resample box is checked. If your Document size is bigger than 4 × 5", change one of the dimensions to get it at or below 4 × 5". It does NOT need to be exactly 4 × 5, you just need to be able to fit four of the images on a letter-sized sheet. Make sure the resolution is at 300ppi. In the case of a digital camera image,

the image may open at 72ppi, and some rather large Document Size (mine will do 26 × 35'). In this case, first *uncheck* the Resample box, then change the Document size. The resolution will increase, as you are just cramming the same number of pixels into a smaller area. Then recheck the Resample box, and change the resolution to 300ppi, if it is more. If it is less, don't change it.

4. Now do a Save As… with the document, and save it to a new folder, adding 300 to the name of the image (image300.psd). This will remind you that this one is the 300ppi version. It's just a naming thing, and is helpful when you have different versions of the same image.

5. Now, simply reopen the Image Size dialog, and, with Resample on, change the resolution to 200ppi. Do another Save as, adding 200 to the name. Repeat this for resolutions of 120ppi and finally 72ppi. You should now have four images in the folder.

6. Move over to Illustrator, and open a new document. Save it to the same folder as the images, with the proper name.

7. Using the File > Place command in Illustrator, place the images into the document. To prevent Illustrator from trying to place one imge into another, deselect the image after it has been placed. (Illustrator shouldn't do this anyway, but it's a good habit to get into).

8. Once the images are placed, arrange them, then print to the color laser. Look closely at the print, noting the differences in the image quality form one resolution to the next.

Your print won't be quite as dramatic a demonstration as this, but it will look something like it: