Simplifying images

I guess the first question is why would you want to simplify an image? Well, there are a number of reasons and we'll look at a few in this tutorial.

Simplifying the colours in an image:

Perhaps you want to use a digital photo as the basis for an embroidery. Many embroidery designs are made up of little blocks of each colour rather than the continuous tones you find in photographs so your image needs to be simplified.

Posterize

The posterize filter is probably the one most often mentioned for simplifying the colours in an image. Posterising reduces the number of colours so you end up with a series of more abrupt changes giving a blocky effect, rather than the smooth transition of colour you usually get with a photograph.

Filter > adjustments > posterize
Then select the number of levels you want to use.

This filter certainly does the job but its choice of colours is sometimes a bit strange. Try it out on a variety of images and you'll see what I mean.

Cutout

Another way of simplifying colours, that I usually prefer, is to use the cutout filter which mimics the effect of a paper collage.

Filter > Artistic > Cutout

Again you can vary the number of levels. You might also like to play with the Edge Simplicity slider – sliding this to the right can give some wonderfully spiky results.

When you are playing around with a lot of settings it's sometimes difficult to remember where you started from. Remember that holding the Alt key down

when you click on Cancel will reset everything back to the default settings. This applies to pretty much every dialogue box in Elements. Very useful!

Crystallize filter
The Crystallize filter splits the image into irregular shapes of simple colours.

Filter > Pixelate > Crystallize

You have a slider at the bottom of the dialogue box that allows you to vary the size of each element (cell) so you can have big patches of colour or smaller patches of colour.

By the way, the plus and minus buttons on the dialogue box refer to the amount of zoom, not the size of the patches. So they are the equivalent of Ctrl+ and Ctrl- that you use to zoom in and out of an image in the main work area of Elements.

Mosaic filter
If you're into cross stitch or you're a quilter you might like to have a look at the Mosaic filter. This splits the image up into squares of colour that you could then print on to fabric or use as the basis for a quilt design based on the proportions of colour in an image.

Filter > Pixelate > mosaic

You can change the size of the squares by using the slider or inserting a number into the size box.

Line drawings/Black & white images
This section contains techniques that I use a lot in my own work. I do a lot of screen printing and I often use digital images, whether they are photographs or scanned images, as the basis for screens for screen printing.

If you think about it, each bit of a screen is either blocked so the paint/dye can't go through or open so the paint/dye can go through - a section of screen can't be a 'bit' open. So an image you are going to use for a screen needs to be simplified to black and white. Greyscale isn't what you want.

Before we start with the techniques I just want to make a few points.

> ➤ There is no 'one size fits all' for this – each image is different and it will often take some experimentation to find the best method/combination of methods which will give you the result you want.
> ➤ I would very rarely start with a whole image as I don't usually want a screen design that is rectangular. So I'd usually cut out the main elements that I want by using an appropriate selection method and removing the background.
> ➤ For this purpose, I nearly always finish a conversion by applying a threshold filter as an adjustment layer. This takes out any shades of grey that are left and leaves you with a strictly black and white image.

For demonstrating these techniques I've taken one of Lesley Houghton's lovely flower images and have cut out the two flower heads from the bottom of the picture, using a combination of the Magic Wand and the Quick Selection Tool with a little tidying up using the Polygonal Lasso and the eraser.

We'll start with a couple of simple filters – these both work but have little adjustment so if the image is suitable you'll have a good result but if it's not then there's not much you can do about it:

The first is Photocopy:

Filter > Sketch > Photocopy

You have two sliders on this filter, one for the degree of detail and one for the darkness. I usually set the detail first and then decide if I need to adjust the darkness. This filter gives a greyscale image so you then need to apply a threshold adjustment layer.

The second one is the Stamp filter

Filter > Sketch > Stamp

This filter's main adjustment is the Light/Dark Balance slider, which does exactly that. This filter inherently creates a black and white image so you don't need to apply the Threshold filter.

Combination method 1

As is often the way, I came across this combination of a filter and two adjustment layers while I was trying to do something completely different!

To create a line drawing from a coloured photograph you need to be able to find the edges of the image's component elements. So we use a filter to do that and then apply two adjustment layers – the Invert adjustment that we saw in the Layers tutorials and the Threshold adjustment that you've just seen.

> ➢ Filter > Stylise > Glowing Edges
> ➢ Adjustment layer > Invert
> ➢ Adjustment layer > Threshold – move slider to the right until you like the result.

There are two other methods for finding edges, the aptly named Find Edges in the Stylise section of the Filter menu and Trace Contours, in the same place.

Once you've applied one of these then you just need the Threshold Adjustment layer. Each of these will give you a different result. My personal preference is usually for Glowing Edges but if you don't like the result with that one, try one of the others.

Filter > Stylise > Find Edges
Adjustment layer > Threshold
Or
Filter > Stylise > Trace Contours
Adjustment layer > Threshold

Combination method 2

Here I want to introduce the idea of a recipe. By this I mean a set of instructions that achieve a particular result. I had used a number of different ways of converting images for screenprinting but I found a brilliant technique in John Beardsworth's book, Photoshop Fine Art Cookbook for Digital Photographers which he uses as the first step to producing Pop Art images. I've converted part of it to Elements and the sequence goes something like this:

- ➢ Open the image.
- ➢ Duplicate the layer from the Layers panel – right click and select 'duplicate layer'. You can give it a name if you wish, then click on ok.
- ➢ Set the blending mode to 'Colour dodge' – this is found in a drop down list on the Layers panel next to the word 'normal'.
- ➢ Invert the image - Filter > Adjustments > invert
- ➢ Apply a gaussian blur - Filter > Blur > Gaussian blur. Use the slider to control the line width, using a low number to start with.
- ➢ Add a new adjustment layer to apply a threshold filter - Layer > new adjustment layer > threshold – use the slider until you have as much detail showing as you want.

It's the Gaussian blur setting that determines how much detail you are going to see in the final image. So, if you aren't happy with what you do go back to the Invert entry in the Undo History and reapply the Gaussian blur with a different setting and reapply the threshold filter. You can repeat that sequence as often as you like until you have result you are happy with.

I'll freely admit that I don't know EXACTLY what is going on in the middle section of the recipe but I know that I really like the end result so I don't worry too much about it. After all I don't know, at the chemistry level, what happens when I make a toffee sauce, I just know that I like the end result – yum!

Digital Negatives

These are used mainly for photographic purposes with techniques like cyanotyping or inkodye printing as well as making some forms of printing plates or screens.

- ➢ Convert the image to a greyscale one
    - o Enhance > Convert to black and white
    - o Select a preset
   - o Increase the contrast if needed

- ➢ Check that the image will fit on the transparency film
  - ○ Image > Resize > Image size
  - ○ Use a print resolution of somewhere around 150.

- ➢ Invert the image to make a negative
  - ○ Filter > Adjustments > Invert
  - ○
- ➢ Print on to transparency film
  - ○ Ctrl-P
  - ○ Select a suitable media option – see notes below.

Notes:
- ➢ Make sure you have the correct type of transparency film for your printer – inkjet ones for an inkjet printer, laser ones for a laser printer.
- ➢ If you are using inkjet film then print on the slightly rough side.
- ➢ Don't use the transparency setting in your print dialogue box as it doesn't lay down enough ink. Try something like Glossy Film or even the plain paper setting

Assignments

1. Create a design for embroidery including colour matching blocks along the lines of the dandelions shown here. You can use any colour simplification method you like.
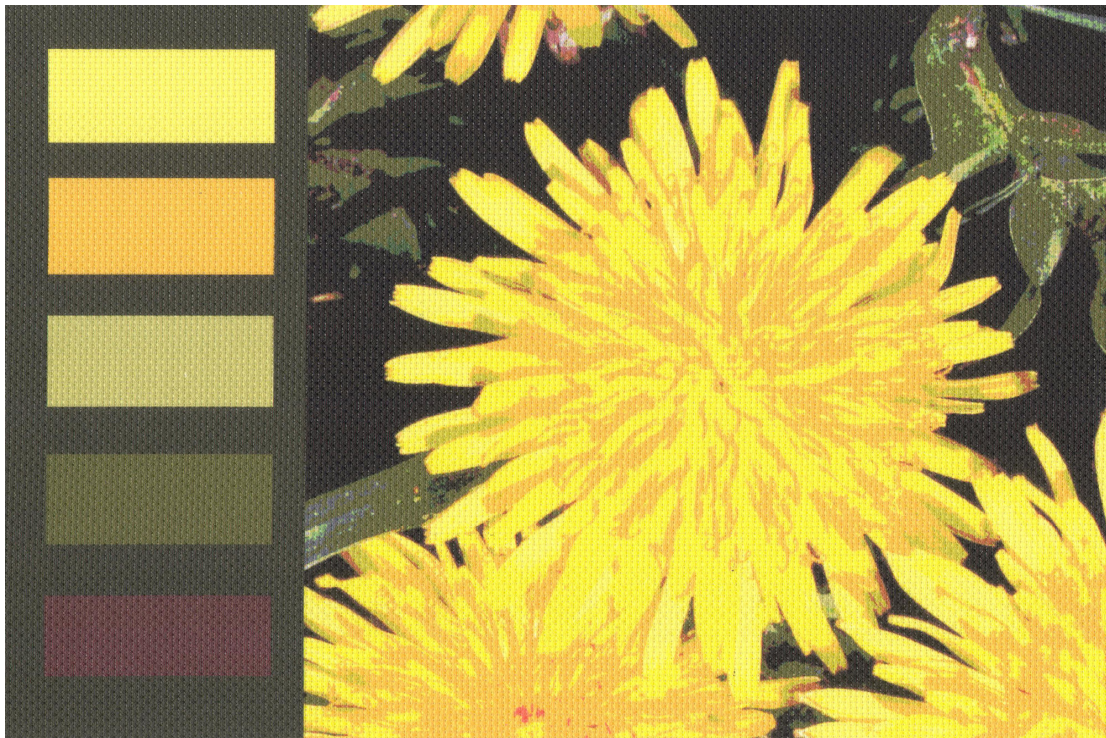
Hints:

- ➢ Once you have simplified your image then you'll need to create extra canvas to accommodate your colour blocks

➢ You could use the marquee tool to make a rectangular selection that you then fill with a colour selected from the image

2. Create black and white designs for a screen/stamp for use in creating a decorative border, based on digital images of your choice. Do as many as you have time for and let me see your three favourites - I'd like to see the original and the black and white version of each one plus a few notes on how you did each one.