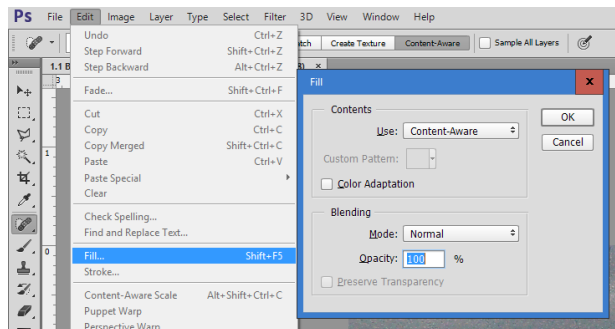


Nearly all images can benefit from some tidying up and the removal of blemishes such as cars, telegraph poles, people, etc. Pre-digital, there was no choice but to leave them in. In the digital age, they can be removed.

To do this, most people's first port of call is the "Clone Stamp" tool. To my mind, this is not the best way as the changes which can be achieved with the "Clone Stamp" tool are fairly limited and there are always other tools which will make a better job of doing the same thing. Not only that, they will do it more quickly, more easily and more effectively. Furthermore, there are numerous occasions when the "Clone Stamp" tool doesn't work at all.

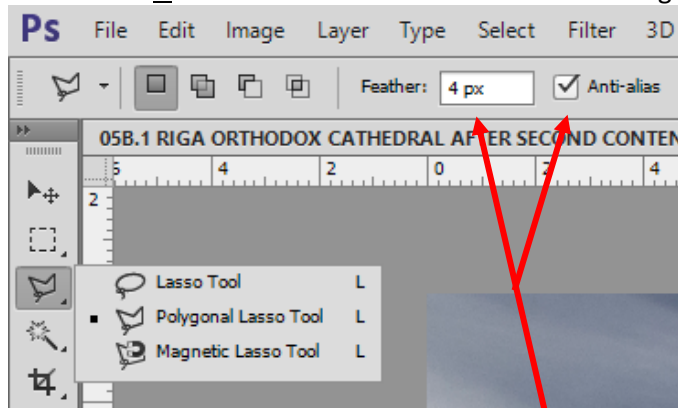
When tidying up images, my first two steps are to use the "Spot Healing" brush and/or the "Content-Aware" Tool. Both tools can make an extraordinarily good job of removing defects. Sometimes one works, sometimes the other works; sometimes you need both. The former is particularly good for smaller areas whereas the latter is better for large areas. Sometimes they do a brilliant job; sometimes they get it very wrong.



Content Aware

Select the part you wish to correct (normally NO feathering*) and then click: Edit → Fill (or **SHIFT + F5**).

Make sure "Use: Content -Aware" and the other settings shown are chosen.



*FEATHERING

Throughout this article I refer to "feathering". Feathering ensures the selection blends in more easily with the background. Anti-alias enhances the effect when using the Lasso tools. The values are set as shown above.

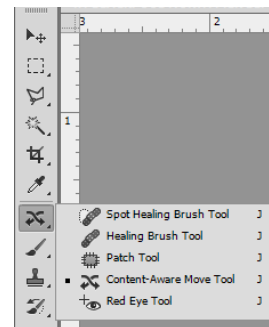
For Content-Aware there should normally be no feathering.

This tutorial may help: <http://www.photoshopessentials.com/photo-editing/content-aware-fill-cs5/>

KEYBOARD SHORTCUTS

Many people rarely use keyboard shortcuts in Photoshop or any other programme which is a pity as they can save a great deal of time. I've already referred to "**SHIFT + F5**" for Content-Aware and I refer to numerous others in what follows. Other useful short-cuts, common to most programmes are **CTRL + X/C/V** (Edit→Cut/Copy/Paste). Edit→Undo/Redo in most programmes is "**CTRL + Z/Y**".

Note: Photoshop, exceptionally, uses "**CTRL + Z**" to toggle undo/redo and "**CTRL + ALT + Z**" and "**CTRL + SHIFT + Z**" to further undo/redo.



Spot Healing Brush – see page 4



FIG 01
Part of a panorama with some of the sky and mountain missing and a distracting area on the bottom right.

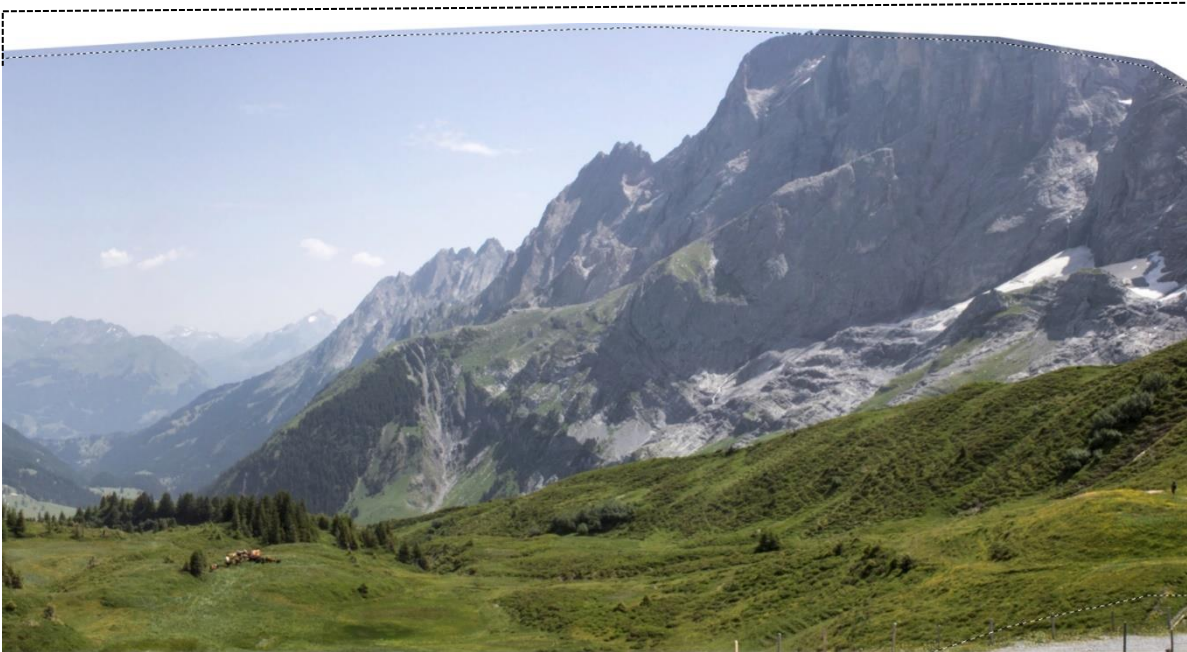
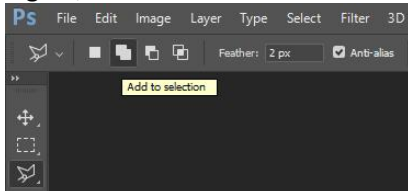


FIG 02
Using the Polygonal Lasso Tool, make an approximate unfeathered selection of the problem areas (select the first area then **EITHER** hold down “SHIFT” **OR** make sure the second box in the screenshot below is highlighted **THEN** select the next area. In Fig 02, the selection includes both areas.



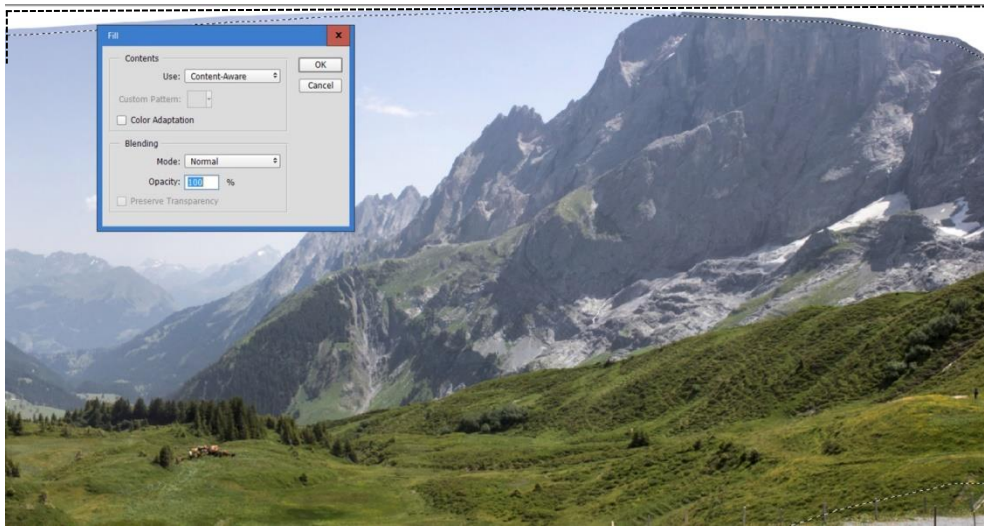


FIG 03.

Go Edit → Fill (or, more simply, SHIFT + F5) and ensure you use the settings shown including “Use: Content-Aware”. Then Click “OK”.

Toggling “CTRL + H” enables you to show/hide (**not** delete) the selection. If the selection is hidden, it makes it easier to see Content-Aware in action.

Note: if you are working on the Background Layer (SHIFT + F7 toggles the Layers palette) then pressing (counter-intuitively) DEL/Delete brings up the “Content Aware” dialogue box.



Fig 04

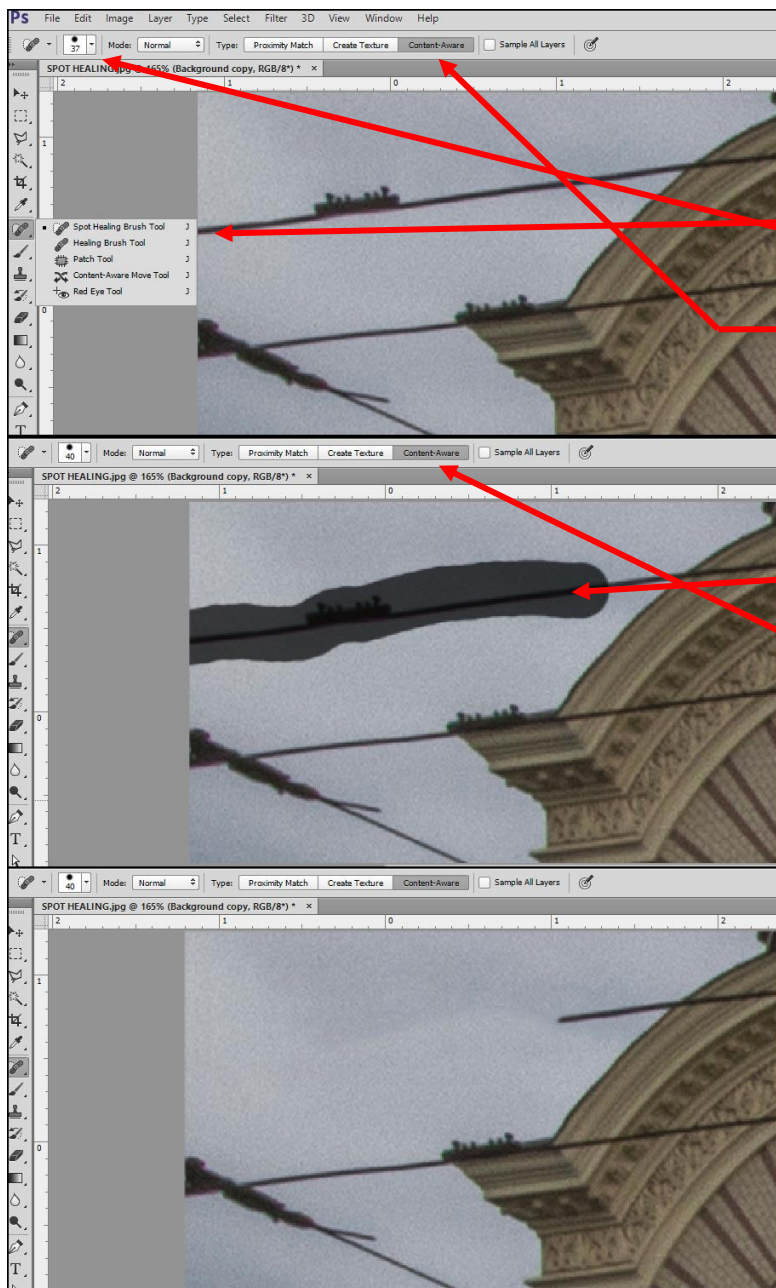
“Content-Aware” makes an impressive job of correcting the image. However, there is at least one obvious error circled in red.

In this case, it can be removed by using either the “Spot Healing Brush” of a suitable radius or Content-Aware on just the circled area.

FIG 05 shows the final image



Fig 05



SPOT HEALING BRUSH IN ACTION

- 1 Select the Spot Healing Brush.
- 2 Choose a radius which is similar to the thickness of the area to be removed.
- 3 Make sure "Content Aware" is enabled
- 4 Drag the brush over the offending area. It leaves a grey shape to show where you've brushed over.
- 5 Release the mouse.
- 6 The offending areas will be cleaned up.



Before – Kew Palace



After – Kew Palace

Both Content-Aware and Spot Healing (with content-aware ticked) made an equally good job of filling the top corners and removing the rope.

Content-Aware is usually easier to use for larger areas.

CLEANING-UP IMAGES WHEN CONTENT-AWARE OR SPOT HEALING BRUSH FAIL

If these tools fail – which they often do – or are quite inappropriate for the task, the methods I’m about to describe are quicker, more effective, and enable changes to be made that couldn’t possibly be done using the “Clone Stamp Tool” – a tool I never use.

The problem with the “Clone Stamp” tool is that although it is in essence a “copy and paste” device, it is not a very good one. When you use the “copy and paste” facility in a programme such as “Word”, you can select what you want to copy with absolute precision, you can paste it exactly where you want it to go and, furthermore, you can modify it: change the font, its size and colour, italicise it, underline it, etc. With the “Clone Stamp” tool, it’s extremely difficult, if not impossible, to select precisely, to paste precisely and to modify what you’ve pasting. Apart from that...

The techniques I prefer to use are based on carefully selecting of the areas to copied, and then placing them in the correct place, modifying the selections if necessary.

Using one of the selection tools, you select the part of the image you want to copy from, feathering it by an appropriate amount. You then drag a copy of the selection (“**CTRL + ALT + drag**”) to the place where you wish to “paste” it. If necessary, you can use the Up/Down and/or Left/Right arrow keys to manoeuvre it to the exact position required. You can also, of course, copy a selection from one image and paste it into another.

When the marching ants obstruct what you’re doing, toggle “**CTRL + H**” to hide/view them. They don’t stay hidden next time you make a selection.

I normally use the “Polygonal Lasso tool”, “Lasso Tool” (Fig 6A), “Rectangular Marquee” and occasionally the “Elliptical Marquee” tools (Fig 6B).

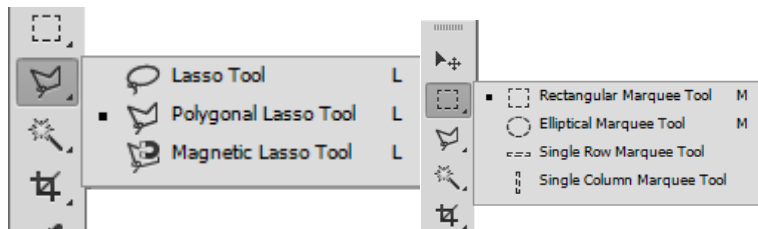


Fig 6A

Fig 6B

I feather about 99% of my selections, but the amount varies. With a 24 megapixel camera (6000 x 4000), I feather by about 2 – 5 pixels on small selections and by about 4 – 10 pixels on larger selections – always ensuring that anti-alias is enabled. However, this is only a guide – on a couple of occasions, when dealing with a tricky sky area, I have feathered by the maximum possible amount; on other occasions when “fine-tuning” a high-contrast edge, I have used very small selections feathered by 1 or even 0 pixels. If in doubt, try a feather of 4 pixels to begin with.

If necessary, modify the pasted selection as appropriate. There are a number of reasons why selections may need to be modified, particularly if you’re copying from a different image.

- If the selection is somewhat darker or lighter than the area you’re pasting into; you can often easily resolve it with a quick tweak of the middle slider in “Levels” (“**CTRL + L**” or Image→Adjustments→Levels). All the Adjustment tools are available, of course.
- Slight differences in perspective, such as those caused by taking a number of pictures from the same spot without using a tripod, as well as more major differences, can easily be corrected using the “Transform” Tool and/or “Free Transform” tool (Edit→Transform). In fact, all the editing tools are available.
- If you end up with areas which are an obvious copy, using the same technique to copy small sections from other parts of the image over the problem area. Alternatively, try “Content-Aware”
- Sometimes flipping and/or mirroring the selection disguises areas that are obviously copied (Edit→Transform→Flip Horizontal or Vertical).
- Sometimes, the results look unsatisfactory because the wrong amount of feathering was applied.

Finally, deselect the selection (“**CTRL + D**”) to merge it.

Note:

“**CTRL + H**” hides/unhides the selection(s) and/or grid/guide lines but doesn’t deselect it.

“**CTRL + D**” deselects everything

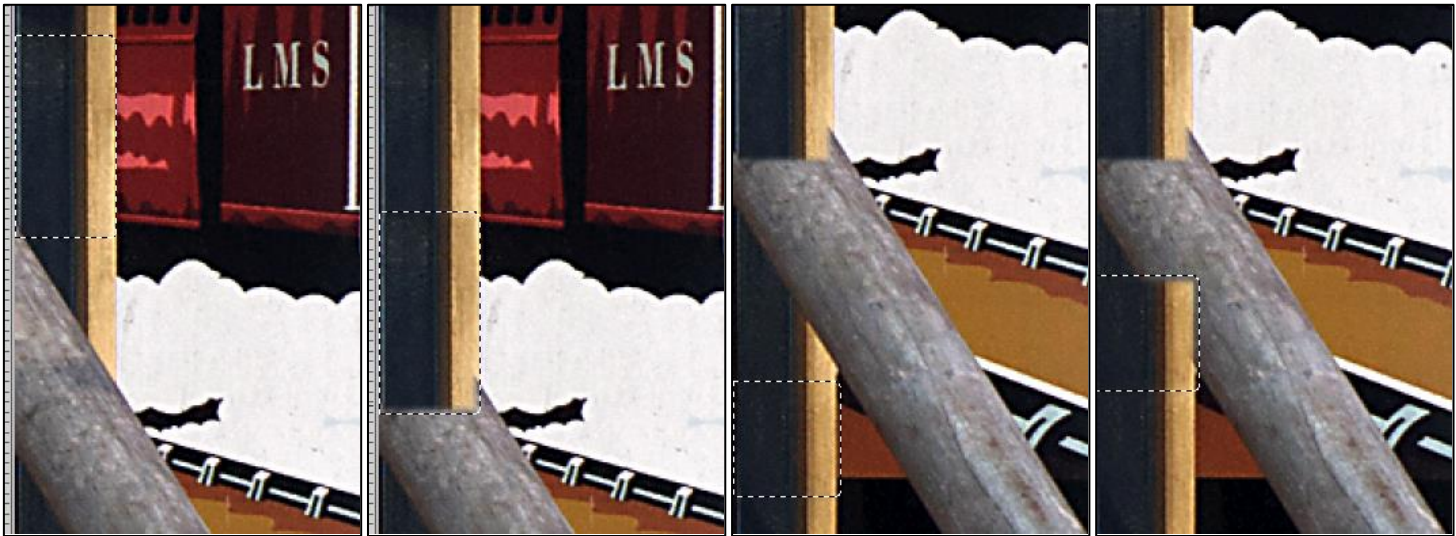
Images 7.1 –7.11 show the technique in the image of a pub sign “The Euston Flyer”.
Note: Both Content-Aware and Spot Healing were incapable of creating 7.2 from 7.1



Images 7.1 (before) 7.2 (after)

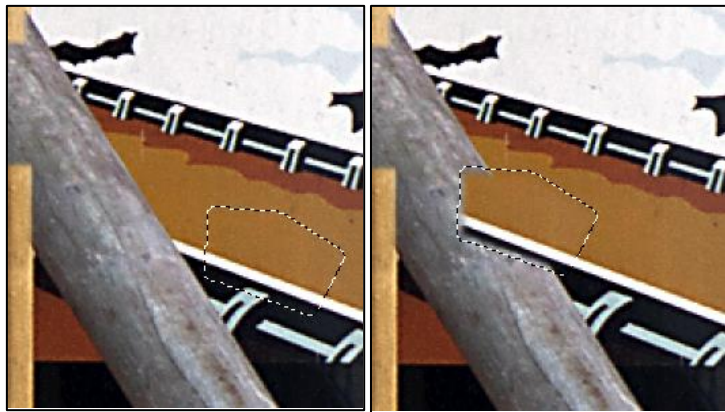
In the final image, 7.2, the scaffolding and the reflections have been removed and missing bits of track have been recreated. The word “THE” has been recreated, too: the “T” and “E” in “THE” were copied from the word “EUSTON”; the “H” was created from bits of other letters. Creation of letters using these techniques is quite easy but time-consuming.

In the images that follow (7.3 – 7.11) you can see the selected areas and their “marching ants”. To view more closely the images in this document, hold the CTRL key and zoom using the scroll wheel on the mouse.



7.3 7.4 7.5 7.6

Part of image selected using the rectangular marquee tool, feathered by 4 pixels “CTRL + ALT + Drag” selection to new area Similar to 7.3 and 7.4 but from a different part of the image



7.7

7.8

As in 7.3 and 7.4 but using the “Polygonal Lasso Tool”. Useful for irregular shapes and certain perspective effects such as where lines are converging or diverging. The Transform tools enable such selections to be resized if desired.

When you need to paste into an irregularly shaped area, or an area which is particularly difficult to get right (such as where the vertical woodwork needs to be sharply delineated from the track as in the images below), one particularly useful technique is to create a selection **in the area to be pasted into** (image 7.9 below) and drag the selection to the place from which you wish to copy. **N.B. By just dragging a selection, you move it but not its contents (image 7.10 below)**. Release the mouse and then “CTRL + ALT + drag” to move a *copy* of the selection to where it’s to be pasted i.e. where the original selection was created. (image 7.11 below) You have thus filled the original selected area with content from elsewhere in the image and, because the selection was created using the edge of the area to be filled, the edge won’t have any gaps or overlaps.

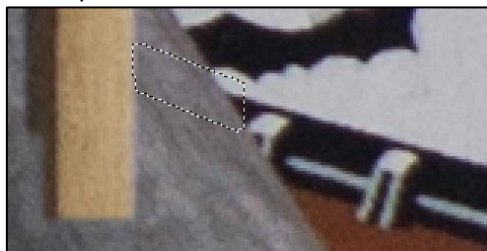


Image 7.9

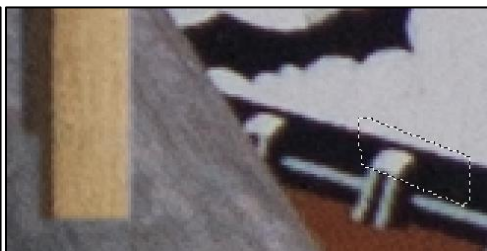


Image 7.10



Image 7.11

To summarise:

- 1 Select the area to be copied into but only feathering by one pixel (or possibly not at all) (Image 7.9)
- 2 Drag the selection to the area to be copied from – this moves the selected area but not its contents (Image 7.10)
- 3 Release the mouse
- 4 “CTRL + ALT + drag” the selected area back to its original position – this moves the selected area in 7.10 **and** its contents to cover up the area selected in 7.9 (Image 7.11)
- 5 Release the mouse and deselect (CTRL + D) to flatten the layer

Like all techniques in software, practice makes perfect. You’re unlikely to get perfect results the first time you try.

Pub signs are examples of images which couldn’t be photographed satisfactorily pre-digital. They invariably have to be photographed looking up and at an angle and the camera therefore records an irregular quadrilateral rather than a perfect rectangle. Software enables this perspective distortion to be easily corrected and cropping removes the extraneous details.

I first came across the principle in one of Scott Kelby’s books in which he suggested the idea of copying a rectangular selection of sky to cover a telegraph pole. Michael Freeman (I think) used the same principle to remove unwanted people who were sitting on steps at Chichen Itza. As far as I’m aware, neither writer extended these ideas. So, although the original principle is not mine, it’s *possible* that the extensions of the original ideas as outlined above are original to me. I’ve seen nothing in any of the books or magazines I’ve read which uses these techniques, but that’s not to say that there aren’t any, of course.

Everything described here refers to Photoshop and Photoshop Elements. PaintShop Pro uses similar methods but different short-cuts and keyboard combinations.

Image manipulation is sometimes described as “cheating”, usually by people who can’t/don’t use software. Of course, artists have always “cheated”: they have often painted idealised images of the scenes they saw before them – for example, they modified perspectives and moved, removed or modified buildings, people, skies, trees etc. I think “improving” is a fairer description. (It has been said, probably apocryphally, that the German painter Philip Ernst left out a tree when painting a view from his window because “it spoiled the design”; that night, overcome by remorse, he got out of bed – and cut down the tree.)

Although using software can sometimes become very repetitious, I do feel that it's worthwhile taking plenty of time over certain pictures – for example, I really enjoy working on challenging images such as the Art Deco Syon Clinic building shown below. Unfortunately, it's easy to get carried away and spend too much time improving images that weren't much good in the first place.

In the before-and-after images below, it would have been impossible to make the changes shown using the “Clone Stamp” tool.



Images 8.1 (before) and 8.2 (after)

At the Image Discussion Group, it was suggested that the figure should have been in the centre of the frame. After doing this, I extended the planks and building to fill the gap. I used the Polygonal Lasso tool to select sections of planking and railing and copied them into the gap, resizing them in the process. These images show only a small part of the original. Despite the changes, the picture still got a lousy mark. It might be worth exploring Edit → Content-Aware Scale as an alternative.



Images 9.1 (before) and 9.2 (after)

I moved the figure and recreated part of the damaged mural where there was a large white patch, using a heavily feathered rectangular marquee tool to copy pieces of existing mural, rotating, mirroring, flipping and resizing some selections in the process. To mirror or flip a selection go to Edit→Transform→Flip Horizontal/Vertical



Images 10.1 (before) and 10.2 (after) – Leadenhall Mark, London

I removed the vehicles and replaced bits of the buildings behind them using sections from elsewhere, resizing and altering their perspective with the Transform tools.



Images 11.1 (before) and 11.2 (after)

The changes were amongst the most difficult I've ever attempted. I have a separate image which shows what the obscured corner looks like. I made extensive use of both the polygonal lasso and rectangular marquee tools to recreate it, sometimes using feathering of 0 or 1 to get the corner correct. Unfortunately, there are still one or two areas I'm not completely happy with.



Images 12.1 (before) and 12.2 (after)

In "Landscape Photographer of the Year" Book 1, I'd seen an image of Battersea Power Station which featured a large sylvan mural in front of the building itself. When I went to the site to see if there were any other photographic opportunities to be had, I was faced with image 12.1 above: the mural had been heavily vandalised and was in the process of being removed completely; the building was – and still is – covered in scaffolding. Thoroughly disgruntled, I grabbed this shot and left.

Looking at the image later, I realised that it had some potential (not much, admittedly) and that I could probably salvage it. The image in LPPOTY-1 showed that the large mural was in fact just one image, copied and mirrored (hence the odd looking shadows facing in opposite directions) for its entire length. In my final image, I removed the scaffolding, the workman and a block of flats, and digitally restored the mural. In this version, I restored the workman.



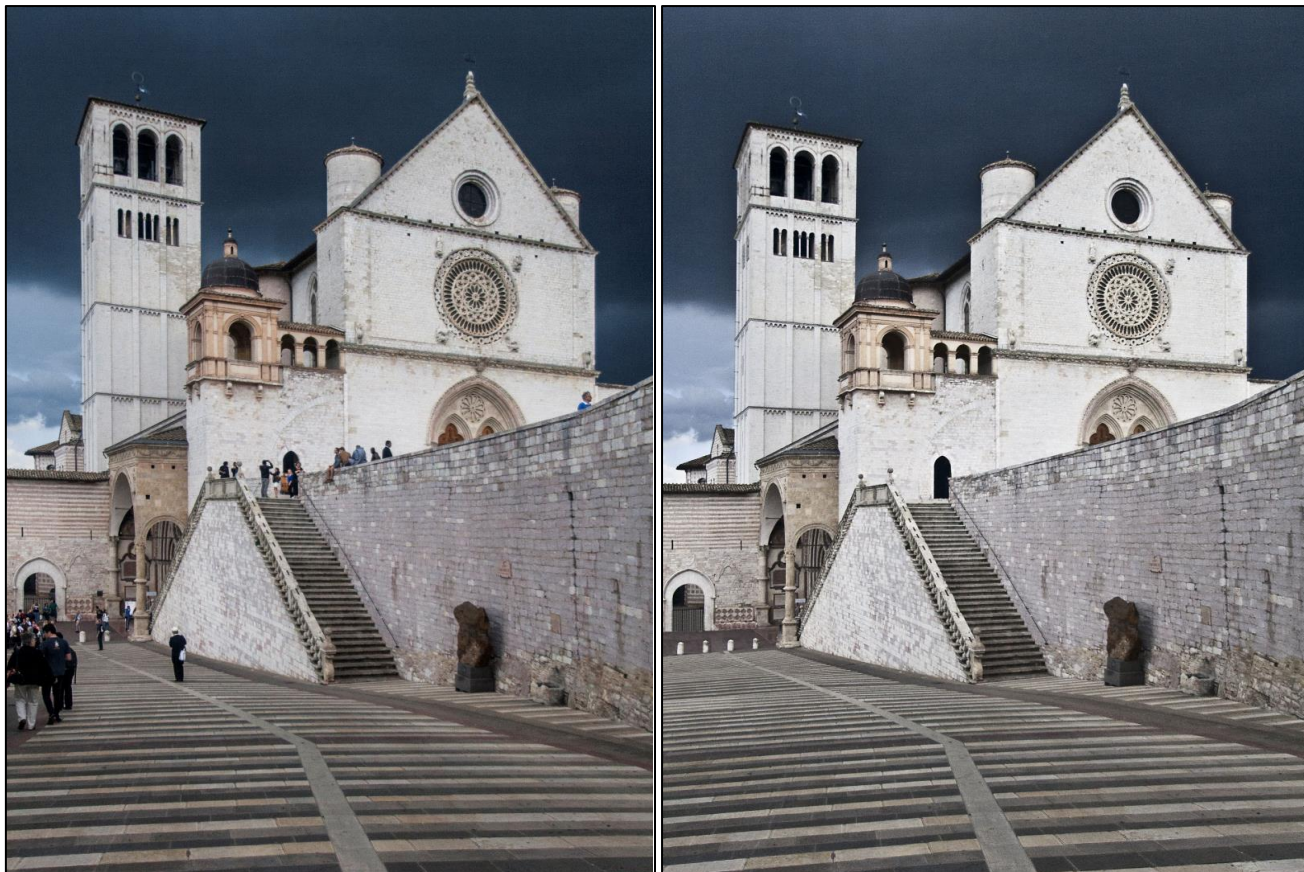
Images 13.1 (before) and 13.2 (after)

There were a number of “before” images, taken a few seconds apart. I copied unoccupied areas from “before” images over occupied areas in the image I’d chosen as the master. The very slight differences in exposure were corrected by tweaking the middle slider in “Levels”; the slight differences in perspective caused by my position slightly moving during the time I photographed the sequence (because I didn’t use a tripod) were corrected with the “Transform” tool. I retained a couple of figures to give a sense of scale, and to act as focal points. In the very final version (not shown), I also removed the figure in red on the right. In an ideal world, I would have used a tripod but shopping centres in the UK are generally very unhappy about people taking pictures there in the first place, let alone using a tripod. This is an example of one image that I spent a lot of time on and, if I’m honest, it wasn’t time well-spent. However, it came in useful for an AV.

This technique is useful for group photographs when so often someone seems to be blinking or with an unnatural expression. Don’t just take one image of a group; take a number in quick succession. Then paste a “good” face from one image over a “bad” face in another image.

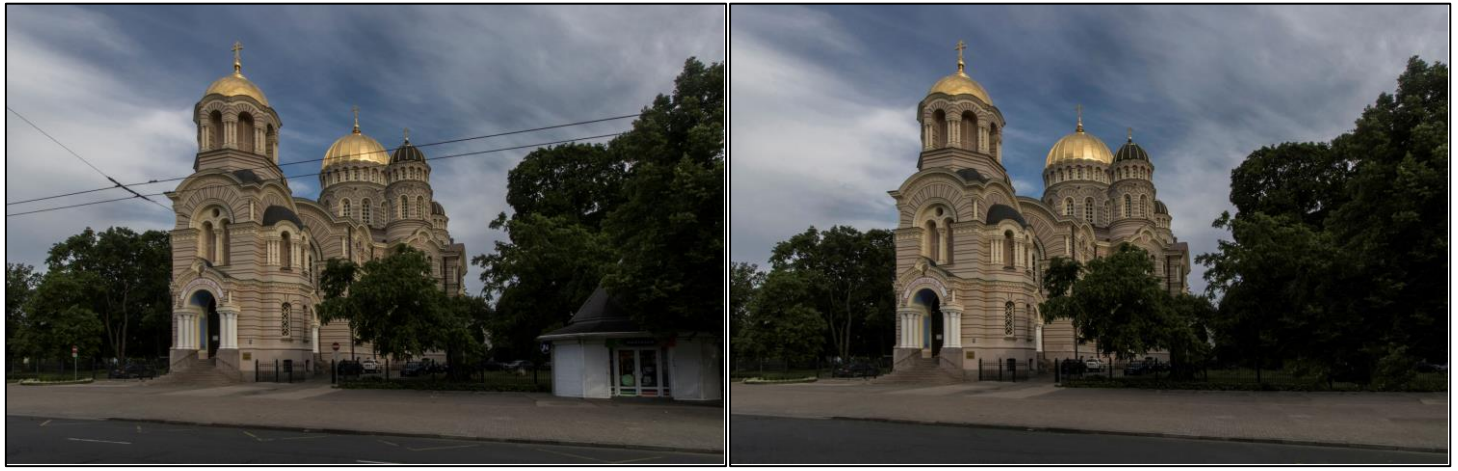
An alternative approach to removing people is shown on this YouTube tutorial:

<https://www.youtube.com/watch?v=pwYE3qhpQWo>. You may or may not find it easier than the technique I describe above.



Images 14.1 (before) and 14.2 (after)

Unfortunately, the Basilica at Assisi is always crowded so the people here had to be removed the hard way by moving and copying selections.



Images 15.1 (before) and 15.2 (after) – Orthodox Cathedral in Riga

The Content-Aware and Spot-healing tools easily removed the telegraph wires from the sky and foliage, but couldn't cope very well with the wires across the building itself. It also couldn't cope with removing the small building on the right, but made a good job of getting rid of the road markings.

I used the techniques outlined earlier to remove the wires from the building. This often involved making selections and then using the Transform tools to resize, reshape and rotate them because of the complicated curves of the brickwork. I used the same techniques to remove the white building. I used much larger selections, quite highly feathered. Repeating the process a number of times from different parts of the images got rid of obvious areas of duplication.

I hope you'll give these techniques a fair trial. I appreciate that it's often much easier to stick to what we're familiar with rather than practise new techniques. However, I think I've shown that they give far better results than the Clone Stamp Tool, and enable results to be achieved which wouldn't otherwise be possible.