About Mirror Tiles

At their simplest, these mirror tiles mimic the ME technique that you can use in-camera whereby you take the first image, then turn the camera upside down, take the second and get the camera to blend them. I've heard both Valda Bailey and Glenys Garnett talk about this – but I've never achieved their level of success. So I tried using Photoshop instead – and in a lot of ways, I found it was much easier than doing it in camera; I had far more control and more opportunities.

For example, with the image below, I was able to flip it vertically – as with the basic technique – but I could also flip it horizontally to balance the sides better. Otherwise the mirrored image is quite 'heavy' on the left-hand side (with the building and the reflection), compared with the flimsy tree on the right.

And, as you can see, I could easily ensure that the tower itself is exactly vertical, as well as adding a colour wash and a border.

Mirror Tiles: Before and After

The brief outline overleaf is based on using Photoshop on a Windows PC.

I've also added a list of commands at the end aiming to ensure that the text is more readable e.g. where the text says 'flip horizontal' the full Photoshop command is Edit: Transform: Flip Horizontal.

How I Create a Geometric Mirror Tile

Step 1: Setting Up the 'Basic Unit'

I start by selecting a photograph or digitised print, cropping it square and then making any necessary adjustments to colour, tone etc. (Note: I always edit 'non-destructively' i.e. leaving my original image as a 'locked-layer' and working on copied layers).

I generally crop the image so that one element of the subject touches an edge – it means that all of my geometric patterns have this feature in common – but this isn't essential.

Hence in this example, I chose one of my cyanotype prints (Fig. 1), made a square-crop so that the stalk touched the bottom edge and intensified the colour and texture of the blue background (Fig. 2)

Fig. 1: The original cyanotype print

Fig. 2: The 'basic unit' i.e. the working image, with the stalk touching the bottom edge

Step 2: Setting Up the 'Basic Tile'

Next, I set up the 'basic tile' by increasing the size of the working-canvas so that it's exactly twice as wide as the 'basic unit', and twice as high (Fig. 3).

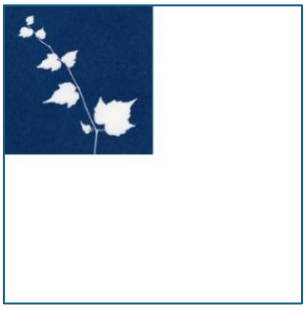


Fig. 3: Creating the 'basic tile' by increasing the working-canvas.
It's exactly twice as wide and twice as high as the basic unit

Step 3: Creating the Mirror Effect

To create the regular mirror effect:

> Firstly, I duplicate the 'basic unit' and flip it about a vertical axis (the command is 'flip horizontal', Fig. 4) and move it into position top right (Fig. 5). This creates the top row.

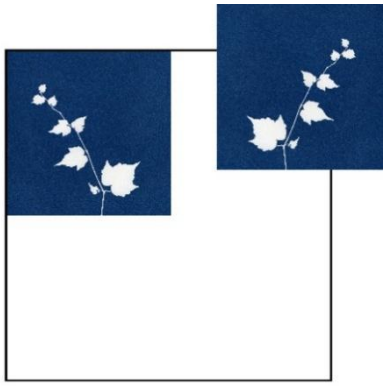


Fig. 4: Starting to make a mirror image of the 'basic unit'

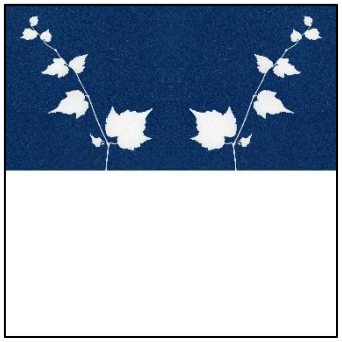


Fig. 5: The top row of the 'basic unit' is now complete

Then I duplicate the ‘basic unit’ on the top left again, and flip it about a horizontal axis (the command is ‘flip vertical’) and repeat the same with the unit on the top right (Fig. 6).

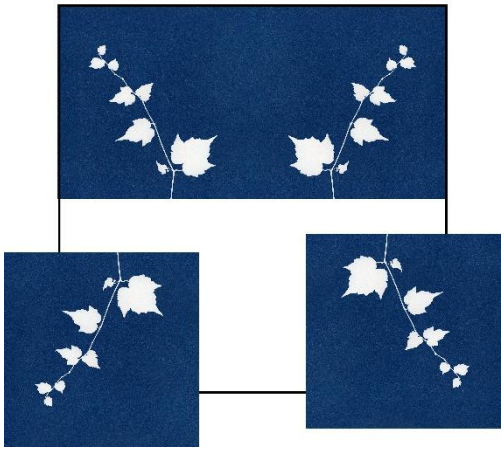


Fig. 6: Flipping the top unit in the top row to make the bottom row

Next, I move the units on the bottom row into position to complete all 4 quadrants of the tile (Fig. 7).

Finally, I ensure these 4 layers are visible and then ‘stamp’ them together, and thus the basic mirror tile is now complete.

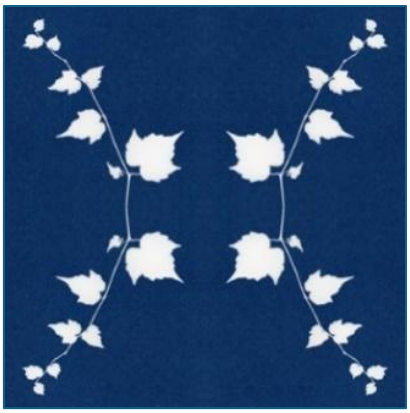


Fig. 7: Creating the complete, basic mirror tile

Step 4: Having Fun!

Now that I've created the ‘basic mirror tile’ I can start to have fun – duplicating it, turning it and merging it with the original as many times as I choose.

For example, I created the most simple, fully symmetric geometric pattern in Fig. 8 by simply duplicating the basic mirror tile and rotating it by 90 degrees.

Then I merged the two versions (i.e. the rotated tile and the original) by using one of the standard blending modes in Photoshop – in this case the 'Lighten' mode.

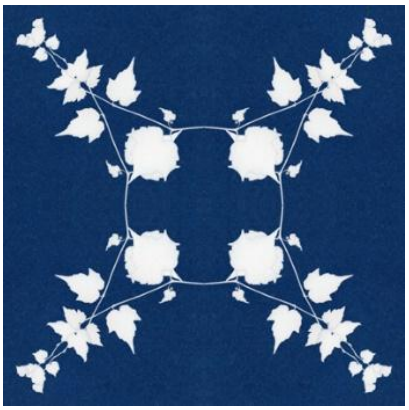


Fig. 8: The most simple geometric pattern,
comprising one stage of rotation

With stylised images, I usually repeat the process – hence duplicating the new version, rotating and blending it – but this time I rotated the copy by only 45 degrees (Fig. 9). However, I often omit this with subjects from nature.

Fig. 9: A more complex pattern,
comprising two stages of rotating and blending

Step 5: Tidying Up

Back in Step 2, I had increased the size of the working-canvas to exactly twice the width and height of the 'basic unit' because that's the easiest way of ensuring the precise alignment of all the units when I come to Step 3. But, in fact, the canvas is not big enough for the 45-degree rotation. As you can see in Fig. 9, the pattern is truncated at the 'cardinal points' i.e. at the mid-point of all the edges.

So I now increase the size of the working-canvas a second time, so that the complete geometric pattern is fully visible (Fig. 10). This is something of a trial-and-error stage (with a splash of the Goldilocks principle) – I simply want to ensure that the space around the pattern looks 'just right'! And often I need to in-fill the background, using the clone technique, a fill-layer etc.

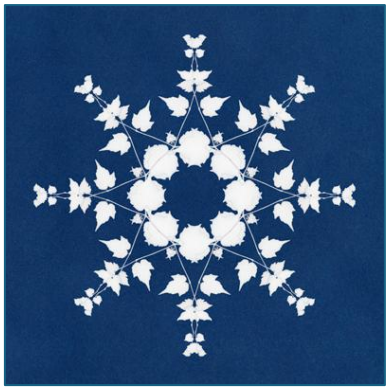


Fig. 10: The size of the working-canvas is increased again, so the complete pattern is now visible

The middle of the pattern can often look empty – as is the case in Fig. 10 – and so, with a final flourish, I often make a copy of the completed pattern, reduce it by 85% or more, and place it dead-centre, like the bull's-eye of a dartboard (Fig. 11).

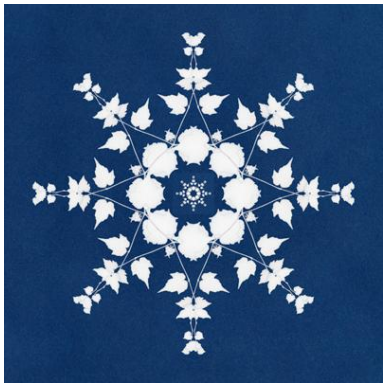


Fig. 11: Filling the bull's-eye with a tiny copy of the complete pattern

Step 6: Adding a Border

Then, in the final stage I create a narrow black edge around the tile and a white border. Job done!!

Fig. 12: The finished mirror tile

Other Notes 1: Doing it wrong!

The general process of making a mirror tile is so well-defined that I could probably do it in my sleep, (or create an automated Photoshop-Action and let the software do it!) but there's always a problem with over-confidence, isn't there!

Yes, I made a mistake! I missed out the first stage of Step 4 on one occasion, and instead of rotating the tile by 90 degrees I went straight onto the second stage, rotating it by 45 degrees (Fig. 13). And that's the genesis of my series, 'Perfect, Imperfect'.

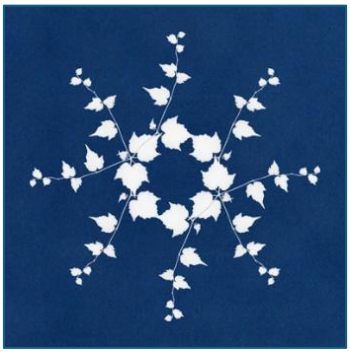


Fig. 13: 'Elegant but Imperfect',
A new pattern created by missing the first stage of Step 4

Other Notes 2: It can become addictive!

One of the issues – dare I say the problem – with these very stylised, geometric designs (ones based on cyanotype prints or other 'silhouettes') is that there are so many possibilities and variations based on one 'basic unit'.

In the 'basic tile shown on Fig. 7, for example, the basic unit (i.e. the stalks) are all pointing outwards. But what would the mirror-tile look like if I'd started with the stalks pointing inwards? Or if the top pair had pointed inwards and the bottom pair, outwards. Or if ….

You can try this out by imagining your hands are the 'basic unit'. With the palms facing down, the pair are pointing inwards (i.e. the thumbs are pointing inwards); with the palms up, the pair are pointing outwards.

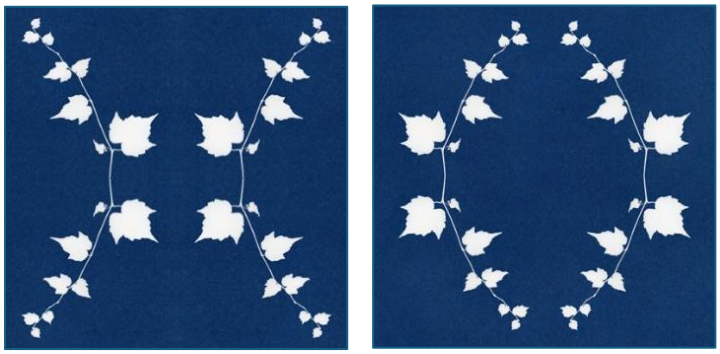


Fig. 14: The basic unit with the 'thumbs' out (left) and pointing in (right)

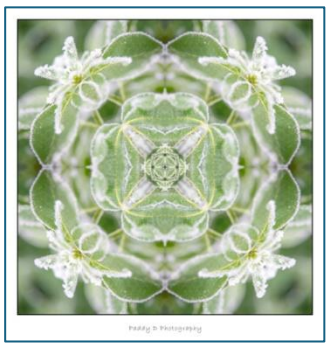
And I soon found that every starting-image (such as the cyanotype print in Fig. 1) led me to create at least five different mirror tiles – as well as any 'imperfect' ones – as shown in Fig. 15.

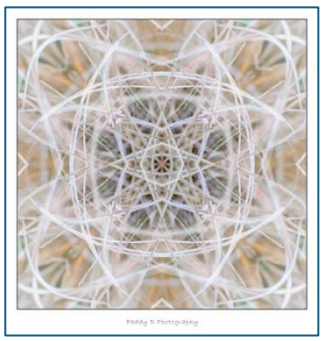
Fig. 1: The original cyanotype print

Fig. 15: An image from the 'Perfect, Imperfect' Series, comprising six different mirror tiles, all based in Fig. 1

I became addicted to these stylised, geometric designs – a fruitless quest for the optimum image. But fortunately Mother Nature came to my rescue with the calming influence of two nature-based tiles that I subsequently produced (in Figs. 16 &17). She convinced me that I should put my obsession down, and move on to explore the potential of grasses, flowers and bushes to create more soft, subtle, soothing images and mirror tiles.

Thank you, Mother Nature!





Figs. 16 &17: Mirror tiles from nature – frost on shrubs and grasses

Notes about using Photoshop

1. As I mentioned in the text, this outline is based on using Photoshop on a Windows PC.

2. Note: always edit 'non-destructively' i.e. leaving the original image as a 'locked-layer' and working on copied layers.

3. To create mirror tiles in the way I've described, it helps if you have a basic familiarity and confidence in using:

- Layers
  a. Duplicate layers
  b. Stamp multiple layers (Stamp Visible)
  c. Blend modes
- Transform Tool
  a. Flip horizontal
  b. Flip vertical
  c. Rotate
- Image: Canvas Size

4. The following list of commands helps translate the textual description (e.g. 'flip about a vertical axis) into the full Photoshop command (i.e. Edit: Transform: Flip Horizontal).

Textual Description	**Photoshop Action**
Increase size of working-canvas	Image: Canvas Size
Duplicate basic unit	Layer: Duplicate Layer
Flip about vertical axis	Edit: Transform: Flip Horizontal
Flip about horizontal axis	Edit: Transform: Flip Vertical
Stamp the 4 layers	Ensure only these 4 layers are visible In Windows, simultaneously press: **Shift** and **Alt** and **Ctrl** and **E**
Rotate Layer	Edit: Transform: Rotate
Blend	On the 'layer panel' select a new blend mode, changing it from 'normal'. In this example use 'lighten'

5. Finally, please note that Photoshop has a mirror brush, but I don't think it has a mirror tool.