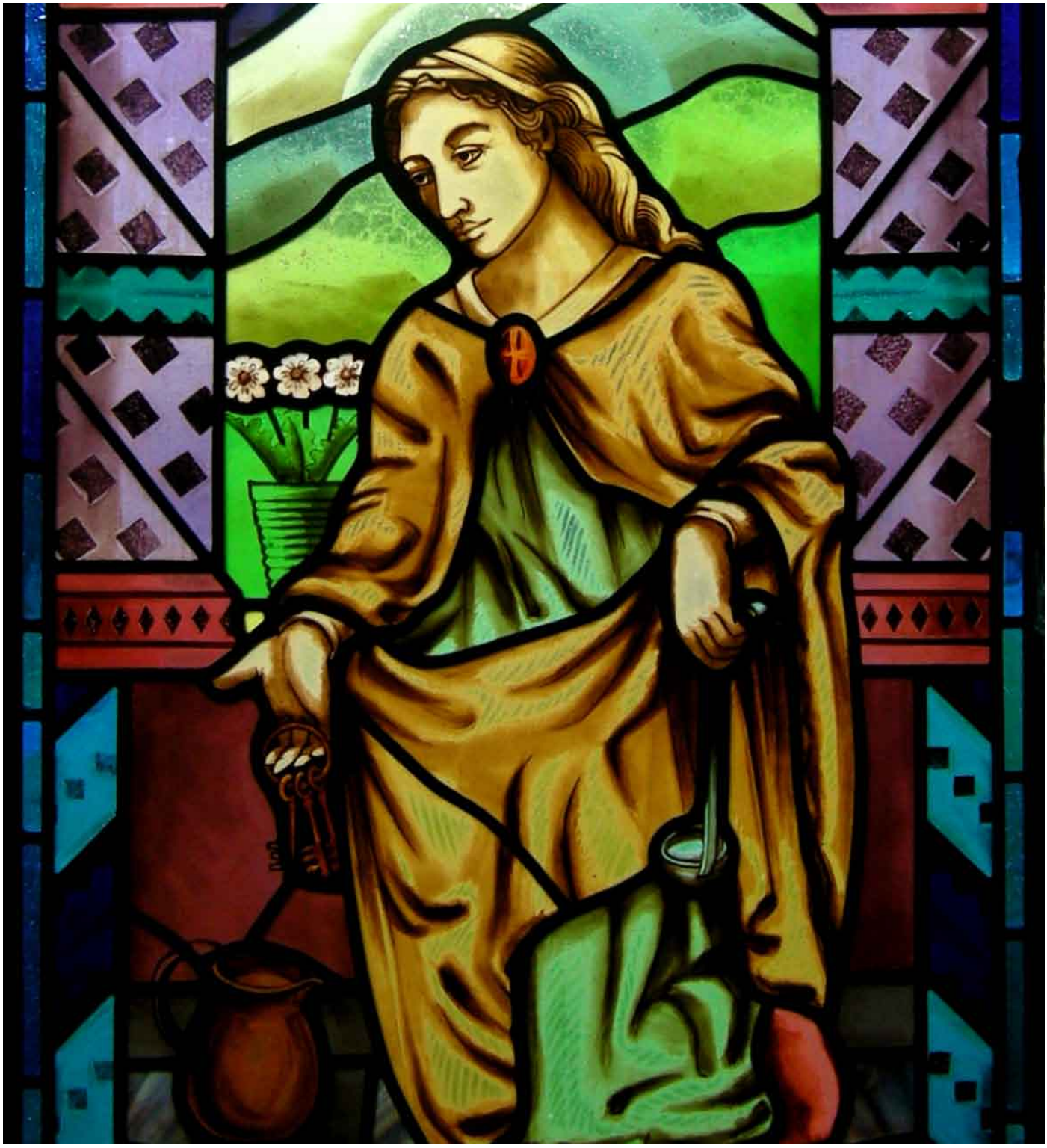
WILLIAMS & BYRNE

Glass Painting Techniques for Painting a Stained Glass Head

by

David Williams & Stephen Byrne

St. Martha



Large badger blenders for smoothing and blending water-based paint.

A large haik (left) is wonderful for the undercoat and overcoat. Or a medium squirrel (right).

Various tracing brushes, some for water-based paint, some for oil-based paint. Especially note the large one in the middle. This is used for water-based half-tones.

Various wooden sticks, needles and scrubs.

A small squirrel to paint a thin wash of oil-based paint and a large tracing brush to paint the oil mid-tones. We also used a medium tracing brush for the touching up and correcting for the second firing.

Round-headed badgers for smoothing and blending oil-based paint.

We also used a light-box, palettes, palette knives, paint covers, jam jars, Reusche tracing paint to mix with water, Reusche tracing paint to mix with oil, glass for painting, kiln and kiln controller.

For details of where to watch the online videos, please see the last page of this guide.

There are many different ways of painting stained glass heads – many different techniques which you can use in many different sequences. We mention this point because we do not wish you to think that the way you see here is something that you must follow. Our own plan of attack – and it's essential that you too must always have a clear account of how you plan to paint a particular piece; it doesn't usually work to *invent* things *as you go along* – was necessarily dictated by our own knowledge and tastes on the one hand, and by the design on the other.

Regarding our own knowledge and tastes, you may already be aware that we have little liking for the "trace-fired" line – the line that is traced onto glass, then fired, then supplemented with matting and highlighting, and fired again. Then possibly matted (and even traced) and fired a third time. It's not the multiple firings that we especially object to. (Indeed, as you'll soon see, we ourselves opt for two firings here.) Rather, where possible and fitting, we ourselves have a taste for working with softer lines than can be produced *directly* from a tracing brush. We also have the knowledge to indulge this taste. And here – but not usually – the design was prepared with this knowledge and taste in mind.

The qualification is important.

On most occasions we design with as little thought as possible for the manner in which the image will eventually be painted onto glass. It seems to us to be a better way of working, to prepare the *right* design for the building and the client, and only then give due thought to how on earth we will achieve the desired effect. But, in this case, as you can see, our brief was to design and make a triptych of *conventional* stained glass windows, depicting Saint Francis, a Celtic cross, and Saint Martha – the patron saint of housewives – this triptych destined for a funeral chapel in a South Wales mining town.

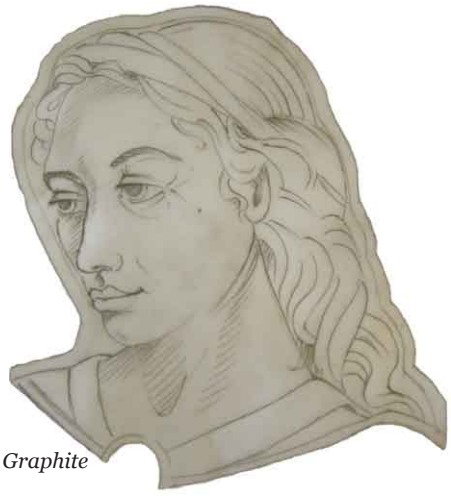
Now whatever anyone may think of the trace-fired approach to stained glass painting, we can all agree that it is *distinctive* to stained glass. This is an important consideration which you too must account for when you settle on the techniques that you yourself will use. The question therefore is, What degree of verisimilitude do you wish to aspire to?

And part of the answer is that stained glass painting is not photography. Nor is it printing onto glass. So it's possible to argue that there are degrees of "being life-like" which defeat the whole purpose of painting on glass. If you wish to create a perfect and unstylized likeness, then perhaps the tracing brush and badger blender are not the most appropriate means to do this. Therefore, with regard to the techniques and sequence we ourselves chose to use for Saint Martha's head, we always kept sight of the fact that the object was a *hand-painted* stained glass head, and that there was going to be just *one of its kind*. Otherwise we might as well have used various techniques described by Kevin Petrie in his useful book, *Glass and Print*.

But, having determined that the painted marks on glass would all be indisputably hand-made, we still did not feel at liberty to paint them anywhere and anyhow. Hence the labour-intensive water-coloured design that we prepared (as opposed to just painting an image straight away on glass, without working from anything else). Hence too a *graphite* representation of the design, prepared on *tracing paper*, which allows us to see key features pertaining to light and dark without the risk of distraction by colour. It's worth observing a small conundrum here. The water-colour design goes a long way to reassuring our client that we understand what they want, and that we have the artistic skill to make them an exceptional and lovely window. This means that the client is happy. And the water-colour design is also a great help to *us* when we eventually come to paint the image onto glass. The sheer labour involved its preparation somehow readies our mind for painting it on glass.

Yet we often find that the water-colour design cannot express everything that needs to be expressed *if* it is to guide us while we paint it onto glass. The truth is, there are two objectives here: reassuring the client on the one hand and guiding our own brushes on the other. Sometimes the single water-colour is sufficient both to convince them *and* to guide us. In other cases, as here with us, you will find that you, the glass painter, need a representation that is useless for the client – a representation that might indeed confuse them or make them doubt your understanding of their wishes. Whether or not this other representation looks like this graphite drawing here is not the point. What is the point is that, no matter the time and labour, it must be done, or the glass will probably fail.

Water-colour



Graphite

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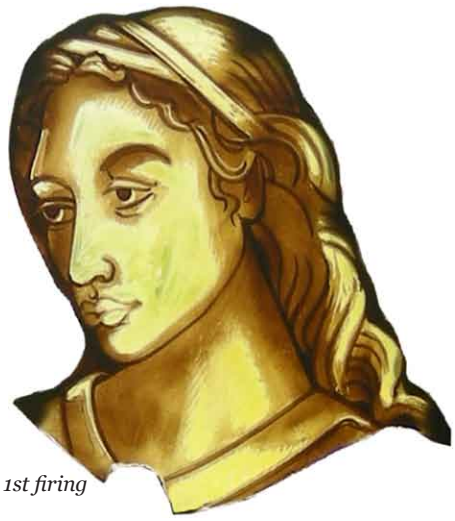

1st firing

2nd firing

Overview

This is a long procedure, so let's begin with a summary.

Sometimes you fire a piece of painted glass because you're *absolutely certain* you've finished painting it. Equally, smetimes you fire it because it would be fool-hardy to go further without fixing the work that you've already done – you know the glass needs further shadows, for example, but you have a notion that you couldn't add them now without damaging the unfired lines and shadows underneath. Here, you regard the piece as *definitely* unfinished. A third scenario is when you fire it because, unfired, it's just too difficult to be certain whether or not it's finished. Maybe, maybe not – only the kiln will let you tell. If you were to go any further, you might just "tip the balance". That's something you don't want to do in glass painting, for, whilst you can always fire and add another layer of paint, you cannot generally fire and then remove a layer of paint. Timidity and over-cautious firing has cramped the style of many a stained glass window, but this might seem the lesser or two evils when compared with the labour involved in re-painting a piece that you had taken too far. Such was also our reasoning when we chose to fire Saint Martha twice. But we also resolved that the techniques we used would *not* leave us open to the charge of being timid.

Thus, before the first firing, *we softened traced lines and half-tones into shadows: we reinstated and re-modelled particular lines and tones: we picked out highlights: then we worked with oil, briefly losing the highlights but adding yet more shadows: and finally we selectively reinstated the previous highlights*.

Then off to the fire it was for this patron saint of housewives. She was definitely unfinished – any fool could see there was much more make-up needed, but now was not the time to take that risk because it would have been easy to go too far that afternoon and then feel bad about it in the morning.

The next day we arose with a clear conscience and set to work. *We added more half-tones and softened these: picked out yet more highlights: oiled Saint Martha up again: and then, without any further highlights, bustled her off to the kiln for what we confidently judged to be her last firing*.

Thus, all in all, a diverse set of techniques, performed in one particular sequence with which we were comfortable. However, *even with a saint*, you'll find that the Devil is always in the detail.

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From bare glass to first firing

Remember this, that *by the time of the first firing*, we will have established all the principle lines, shadows and highlights. Then, like a cautious gambler who banks his chips and take a rest, *we will stop before we go too far*.

So, from the cut-line, we cut the glass (1). Once cleaned, front and back, we use a large haik to paint a light-coloured undercoat on the front of the glass, and let this dry (2). This undercoat serves several uses:

- It guarantees the whole surface of the glass is grease-free
- It reminds us not to touch the glass and accidentally dirty it – this is particularly devastating in the case of labour-intensive pieces, because you do not want to come to add a detail to the lip, for example, and find that the paint will not adhere where a careless, greasy finger got there earlier
- It provides a "key" (a rough surface) for subsequent painting, which is especially useful for the initial tracing
- It allows us to build up density step-by-step, which is easier than trying to do it in one go

But consider also this point. Imagine that you omit the undercoat. Thus, imagine that you immediately begin to trace the main lines on bare glass. When you've finished, you will place the glass in a well-lit window, stand back, and take a look. With bare glass as the "canvas", and bright light shining through, then, when you step back past a certain point, the traced lines will go to nothing. So imagine, next, that you strengthen the traced lines to try and make

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them hold their own. But you'll soon see that, *no matter how much you strengthen them*, there will always be a distance from which, with bright light shining through, they will go to nothing. Indeed, it is the pure light of the unpainted glass which is *playing tricks* on you. However, with an undercoat (or even with a light coat of paint on the *reverse*, though that's another story which you'll read about in a while), you will find that, as you step back, your traced lines remain much the same at each distance. The undercoat prevents the light from deceiving your eyes, which is useful.

On!

With the glass on top of the *graphite tracing*, we trace the main lines (3). In view of the following two steps, it's important that these traced lines, *without the aid of reinforcement*, already have a definite presence on their own. We wait for these lines to dry thoroughly, then, using a large tracing brush (a "goose"), we lay down broad bands of half-tone where the shadows lie – here, more or less anywhere except for the left-hand side of the face and neck, which is intended to present itself as being nearest to the onlooker. The whole effect is somewhat crude (4) but – what would you expect? – this is always the case with work-in-progress. It is truly said that you need skill on the one hand, and, on the other, the courage of your own convictions.

From now on, the water-colour and tracing are on one side where we can see it. As we turn the glass to paint it, we also turn them both so that their orientation is the same.

We let the half-tone bands dry thoroughly. Note this: the greater the number of unfired layers of water-based glass paint, the longer the paint will take to dry. Also – the more those layers will *suck and drain* water from your brush as you paint the subsequent layers, which is point to bear in mind for the next step. Now we use the large haik once again and paint an overcoat which covers the entire surface of the glass. While this overcoat is wet, we take the badger blender and soften

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the traced lines and mid-tones (5a). But we don't want to soften them to the point of obliteration: see the close-up (5b).

In the next step (6), with a medium-sized tracing brush and far darker paint than has hitherto been used, we reinstate the main traced lines and re-model them to their desired shape. Then we flood the area around the head and hair.

When the paint is dry, it's time to start making the highlights. It was helpful, here, to create a rough impression of all the specific areas that would be highlighted, such as the left-hand cheek, the near-side of the nose, the left-hand eye-lid and so forth (7). So that's exactly what we did with a pointed wooden stick. Note this: highlights must not encroach on mid-tone shadows (step 4). It's a good rule of thumb that, if you ever want to place a highlight where a shadow is, either the shadow or the highlight is in the wrong place. So, if the highlight must go there, it follows that the shadow is in the wrong place. Then maybe the whole piece must be re-painted. But better that than making something unsatisfactory. Once the broad areas of highlight have been established, it's easier to bring them all along at the same rate until we get to the point at which we don't want to risk going any further (8). What is this "risk" here?

The risk is that, looking at this piece in isolation, we will take the wrong decision. The point therefore comes where it's essential to see all the pieces in their proper relationship to one another. Here, by way of context to this narrative, we need to mention two points:

- Everything except the figure was *already painted and fired*.
- Each component of the figure was at *the same stage* as the face whose development you are exploring with us here: hands, ladle, drapery, brooch etc.

Taking care not to bruise the unfired

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paint, we use Plasticine to attach the glass to the easel. This allows us to get a better sense of the overall relationship between highlight and shadow across the entire window. We were unsurprised that, against the day-light, and surrounded by fired glass within the canopy, the face looked washed out and bleached (9 and 10). But you must make allowance for the fact that here you see the face against daylight, not against the light-box (which has a different colour spectrum). Always keeping the face in context on the easel, we apply a light oil-based wash to the entire surface of the glass, and we use a round-headed badger to blend the wash until it's smooth. Note that the easel is now flat. If it were vertical, the oil would run and drip.

After we've applied the oil-based wash, we turn off the light-box and make sure we've covered the entire surface. As you


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can see, we missed a few places (11), so we touched them up before proceding. With a *very* large tracing brush, loaded with medium-dark oil-based paint, we paint a series of half-tones (12). Then we use the small, round-headed blender to soften them (13).

It's time for highlighting. Here are the points you should consider when you yourself come to make highlights on oil-based paint:

- When you highlight straightaway, the surrounding oil will often spread back, thus removing some of the initial effect
- Whether or not this happens will depend on how wet the oil still is, and on the temperature in your studio
- An interesting feature of highlighting straightaway is that you can also soften your highlights with a blender, making them gentler than they usually are e.g. by comparison with highlights made water-based paint
- You can wait until the oil has dried, then take a screwed tip of kitchen towel and now create a truly sharp (but smaller) highlight

We ourselves picked out highlights straightaway (14) and softened them (15). Then we left the oil to dry for a few days *before* we put the easel up again. There never was a question of risking any further painting at this point. Much more work was needed, but only after we had used the kiln to make firm the lines and shadows thus far established – it would have been too easy to go too far and thus to ruin the piece. Therefore all that was necessary was to be absolutely certain that we had removed as much paint as we wished to. Comforted by the knowledge that, after the first firing, it would be possible to conceal an erroneous highlight but impossible to add a missing one, we lightened Saint Martha a bit more, then placed her in the kiln for the usual slow firing that works best when oil has been used on top of water-based paint.


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From thin lines and shadows to the second firing

Remember this: now that we have used the kiln to fix the principle lines, shadows and highlights, we will, by the time of the second firing, use further layers of water- and oil-based paint to create a sense of depth and *volume*. Yes, it's volume that we're all after, and this takes *layers and layers* of paint.

Heaven knows what happens in our kiln as it cools down! We surmise it is inhabited by a greasy-fingered goblin who, whilst the lid is shut, strokes and begrimes our glass. At any rate, we always find that fired painted glass takes an age to clean before we can proceed. Perhaps your kiln also has a kindred goblin? If so, you'll need to clean your fired glass, back and front, as thoroughly as you did before.

Now we start again in earnest. We begin by doing something which might initially strike you as peculiar, but you'll soon appreciate the reason.

We turn the glass over, and we use the large haik to paint a temporary undercoat on the reverse (16). Like the very first undercoat, this is a way to stop pure light from playing tricks on us: remember, after all, that there are large areas of Saint Martha's face which have no paint on them at all. We paint this undercoat on the *reverse* precisely because we want to be able to remove it later on.


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When this undercoat is dry, we turn the glass face-up and, with the small haik, we paint bands of half-tone (17 and 18).

What determines where we place these bands? Here we must consult both the cartoon and the graphite sketch, and we decide for ourselves where greater depth is needed. Again, the result is superficially crude, but, if we don't like what happens next, we can simply rub things out and begin again. With the large haik, we cover the whole surface of the glass with a light wash. While this paint is wet, we take the blender and soften the half-tones (19 and 20).

Once dry, we use a tracing brush to strengthen the occasional line that was "fired out" in the kiln. We also take this opportunity to modify some shapes (21 – shown with light-box turned off).

"Highlights next!", you're thinking. Yes, highlights, but not in isolation: the strength and placement of the highlights must agree with everything else within the whole window. Therefore the face is once again


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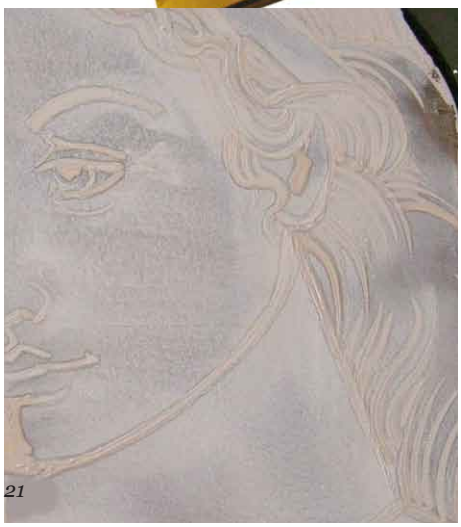
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attached to the easel, where we work on it in its proper context (22). (By this point in time, all the other pieces were twice-fired and finished.) You can see in picture 23 where we cut back to the bare glass.

Now is the time to remove the temporary undercoat from the reverse, precisely because we are about to apply an oil-based overcoat on the front. The oil-

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based overcoat will contain just the tiniest amount of pigment. As before, it's not there to darken the glass (although, covering the entire surface, we think it has a unifying effect) so much as to create a slippery surface on which we can then paint and soften a collection of oil-based half-tones.

So we clean the back, paint a light oil-based wash on the front (24) and blend this smooth. Then, with a medium-sized tracing

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brush, we paint some dark, oil-based lines (25) which we blend and soften with a round-headed blender (26).

We, the glass painters of Saint Martha, must always remember this: the triptych will always be brightly lit and seen from a distance. Therefore we require a particular boldness which would be wrong if the face were in fact to be seen close-up.

Here we leave things.

Specifically, we remove *no further highlights*.

Thus the whole surface of the glass has some paint on it, even if this is just the thinnest layer of oil-based paint.

And so to the kiln goes Saint Martha for the final time.

Conclusion

As we said at the start, this is just one way to paint a stained glass head. When you come to paint one for yourself, you will have your own design to copy. It will be your own knowledge of the architectural context that will inform both your choice of techniques and your decision about the order in which to use them. The possibilities. whilst not endless, are definitely legion. As always, the main thing is to observe and think for yourself.

Many of you will already be familiar with the details of the processes described here, because you will have come to us through our e-book, *Glass Painting Techniques & Secrets from an English Stained Glass Studio*. There, in plentiful detail, you will find full details about the right way to mix glass paint, how to shade and soften lines, how to trace and highlight, how to paint with oil. As always, when you have questions, please write and say.

It was because one such question – from Ivo de Croock in Antwerp, Belgium – that we came to write this guide. So we send our heartfelt thanks to Ivo, our colleague and friend.

Forum and Online Videos

You can also log questions and we will always do our best to answer them.

You can also watch various online stained glass painting demonstrations.

Just go here:

http://www.realglasspainting.com/stained-glass-painting-videos/saintmartha/

Password: *housewife*

Please note:

1. We will add videos *from January 2010*. Not before.
2. We cannot guarantee website 100% availability. Sometimes, due to website maintenance work, the videos will be temporarily unavailable. Please let us know of any problems, and we will always do our best to help.

Final Thoughts

Now please consider this.

Just as David Williams can paint faces that Stephen Byrne can only dream of, so it may be the case that this particular method and level of detail is not for you.

All the same, take a good, objective look at the *sequence* of stages.

We're sure there is a lot there for you, *whatever your level and interest*, to adapt and adopt.

Maybe you won't end up using these stages to paint faces ...

Maybe it's trees or waves or shells or cats ....

The point is, now that you know the techniques, *the choice is yours*. And perhaps this is a freedom that you didn't have before.

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1. Use a large haik to paint a light-coloured undercoat. Softened with a large blender.

2. Use a medium tracing brush to copy-trace the main lines. We copy-traced them from the graphite tracing (rather than from the water-colour design).

3. Use a large tracing brush to paint light bands of mid-tone.

4. Use a large haik to paint a light-coloured overcoat. Use a large blender to soften the traced lines and bands of mid-tone.

5. Use a medium tracing brush and medium-density paint to reinstate, strengthen and re-model earlier traced lines.

6. Use sticks to delineate main areas of highlighting.

7. You can use sticks, scrubs and softeners to make further highlights. But often the best tool of all is your forefinger. Make sure it's always clean and dry.

8. Look at glass in context and adjust the highlights. Note: this is against a window that looks onto a lawn. *She isn't really green.*

9. Use a medium squirrel to paint a light wash of oil-based paint. Blend smooth with a round-headed blender. (Light-box turned off.)

10. Use a large tracing brush to paint medium-density bands of oil-based paint.

11. Blend with a round-headed blender.

12. Make initial highlights with scrubs and stubs of paper kitchen towel.

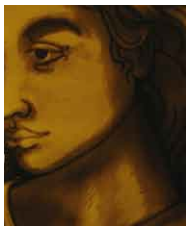
13. Use a round-headed blender to soften the highlights.

14. When dry, reinstate some highlights as necessary with scrubs and paper kitchen towel.

15. First firing.

16. After firing, clean thoroughly on both sides. Use a large haik to paint a light wash on back of glass.

17. Working again on the front of the glass, use a medium haik to paint mid-tones bands.



18. Use a small haik (or similar) to paint a wash of light-density paint. Soften everything with blender.

19. Use a medium tracing brush to reinstate and re-model some traced lines. (Light-box turned off so you can see.)

20. Remove paint from back of glass. Examine in context and restore some highlights (not all) with sticks, scrubs, softeners. (Light-box turned off so you can see.)

21. Use a small squirrel to paint a light-density oil-based wash, then blend smooth with round-headed blender.

22. Use a medium tracing brush with medium-density oil-based paint to reinstate and strengthen some traced lines.

23. Blend with a round-headed badger.

24. Make highlights as needed (we chose not to).

Second firing.