

STAINED GLASS PHOTOGRAPHY

As promised in the last newsletter, here are the notes based on an afternoon presentation for members given at Saxby-All-Saints, North Lincolnshire last year by the Revd. Gordon Plumb.

The word "Photography" is derived from two Greek words meaning "drawing with light." Stained glass is a medium that relies on light transmitted through the glass - and its photography from within a church or other setting must also try to capture that transmitted light.

In considering the photography of stained glass it is necessary to consider the types of camera available and their varying merits for the task, the lenses that might be suitable, the support for the camera, and the films that can be used. There will also be a brief glance at some of the other equipment that might be useful when photographing stained glass.

I should say that I do not consider digital photography of stained glass. The greatly improved quality of digital camera performance means that they can now be considered for at least some applications - but this is an area in which I have no experience and I leave it to others to give guidance on it.

The Choice of Camera

The choice of camera depends to some extent on the potential uses of the photographs of stained glass being taken. Are they required for reproduction in books or articles? Or are the pictures being taken to document a conservation programme, recording the work being done on the glass in the studio? Or is the wish to produce slides for lectures? Or is the aim to provide a long-term, archival quality record of the glass? The answers to these questions will determine to some extent the choice of camera and also the type of film that is used.

The highest quality of image is achieved using a large format professional camera that allows movements to correct among other things for converging verticals. The equipment is quite expensive and very bulky. Each photograph is produced on a 5x4 inch sheet of film (it can be larger). The result is a very high quality image, but the downside is that the film costs are high. The resulting images take quite an amount of space to store and cannot be projected, even if they are taken on transparency film. Much of the Royal Commission's work has been taken on camera of this type.

A second alternative is the use of a medium format camera, taking for example pictures of the size 4.5cm x 6 cm or a 6cm by 6cm, which allows an image that can be projected with a suitable projector (in itself a very expensive piece of equipment). It produces a high quality result, but it does not have the movements which allow converging verticals to be corrected - except to a limited degree with very expensive special shift lenses which allow a measure of correction for converging verticals. Whenever possible I use a medium format camera if I am taking pictures for publication.

The third alternative is the 35mm SLR (single lens reflex) camera, with a wide range of interchangeable lenses and capable of producing high quality images that are suitable for most purposes. Depending on the film type used it is possible to get images that are capable of being used for reproduction for most purposes. When attempting to record glass in the studio or in situ on scaffolding this is often the preferred camera. When taking small details of the glass the 35mm SLR offers great advantages over any other type of camera.

There is a plethora of 35mm format cameras at all prices from around £150 up to several thousand pounds. You can buy good second hand bodies - I have only ever once bought a new camera body - at a considerable discount from new prices and in excellent, often near mint, condition. For almost thirty years I have used Nikon equipment. This is one of the big names in

camera equipment, but they make cameras at a range of prices, and suitable for the starter, the keen amateur and for the professional. Their lenses are superb.

I have four Nikon bodies that I use with some regularity when photographing glass. Two of them are older bodies built for heavy professional use. My Nikon F2 Photomic body has a 100% accurate viewfinder and I use it extensively when making duplicate copies of slides. I also have a Nikon F3HP body - which allows spectacle wearers to use it with ease. This is a manual body with a wider range of functions and was built 20 or so years ago to be a top of the range professional camera. It has given me some superb results. Not having the latest automatic camera is no hardship when photographing stained glass. Nevertheless I have in recent years acquired two autofocus bodies - Nikon F90X's. Despite my reservations about automatic exposure, I have to say that the cameras are rarely fooled and they can be used in manual mode and they give the option of over-riding an exposure if desired. Just about the whole range of Nikon lenses can be used with them and I have had some superb work from them.

The F2 camera has a mirror lock-up facility, which allows you to obviate any possibility of mirror vibration affecting image quality. This is especially important when using long lenses with a long exposure. The F3 and the F90X have a delayed-action that allows camera shake to die down before the picture is taken. I wondered at first if the lack of a mirror lock would be critical on long focal length lenses, but I am happy to report that provided you use appropriate support for your camera this is not a problem. When using a medium format camera, where the vibration from the mirror flipping up to allow the picture to be taken can be considerable, a mirror-lock up facility is highly desirable.

Support: the Tripod

Camera support is probably more important than the actual quality of the lens used for photography. Modestly-priced lenses can take very good photographs provided there is adequate support for the camera. A good tripod is an essential. I have two - both heavy pieces of equipment. but the secret of good stained glass photography lies in adequate equipment, a good solid support and good technique. In fact a good tripod and good technique can produce acceptable results with modest equipment. You sometimes hear photographers boasting about the low shutter speeds they manage to hand hold. My comment on that is simple - blow the images up a bit and then compare them with those taken on a tripod. You will be amazed at the difference in the sharpness of the images! With very long lenses an additional support for the camera is often useful - I have an arm that attaches to the tripod leg and screws into the base of the camera to give absolute rigidity to the set-up.

The tripod gives far more than added stability and sharper results. It also imposes a discipline on the method of working. Once the camera is set up on the tripod you can begin to think systematically about what you want to achieve. Also you can replicate the shot exactly if more than one copy of a shot is required. On a tripod you need to use either a cable release or the camera's delayed action mechanism to minimise vibration. Where you require detailed measurements of the exposure then a spot meter, which measures light from a small area, is useful. I have one that measures a one-degree angle (ie a very small area of the glass). This can be vital where for example you have glass of widely different densities and you need to arrive at an exposure that will give some detail in most parts of the glass. You need to choose areas of denser and very light glass and take readings and then choose an exposure some way between them. But this will necessitate a compromise, losing some detail in either highlights or in the darkest areas - eg drapery. I must stress the importance of facial detail - often the printing of colour films by processing labs lets you down on this score. Their machines are usually set up to give an average overall exposure for printing.

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Where you have excessively bright glass you can use a neutral density filter to allow a large aperture to be used and so reduce the depth of field (preventing objects beyond the window from being too sharply defined).

You may also find a spirit level useful on occasion to ensure that the camera film plane is parallel to the glass.

Lenses

A suitable range of lenses will allow almost any stained glass project to be covered. When I go to France to photograph glass I take what I regard as my minimum kit - two camera bodies together with a 28-70 zoom lens, a 120-600mm zoom lens, a shift or perspective control lens, and perhaps also a 70-200mm zoom lens. This can, with the exception of the big zoom lens, which has its own special case, be fitted into a relatively small camera bag. The heaviest individual item is the tripod.

The lens is important in that using a short focal length lens near to a window will mean some degree of convergence of verticals as the camera has to be tilted upwards. A longer focal length lens will allow you to move further back and thus reduce the effects of this.

If you have a modest budget then I would suggest you get a 28-70 or 35-70mm zoom lens along with a camera body. This should enable most subjects to be recorded adequately. A 70-200mm zoom lens will allow detail to be captured from inaccessible areas of the window. A longer lens of 300 or 400mm would be even better as well as allowing you to photograph from further away. This will reduce the obscuring effect of stonework on the lower parts of panels when photographing the upper parts of a window. A macro lens will be most useful if you wish to photograph small details either from scaffolding or in the workshop.

Film types

The choice of film type is very important, and is related to the final use of the photographs. Colour transparency or slide film is probably the most popular choice of film because stained glass depends on transmitted light for its brilliance. Slide film is viewed in the same way as the glass - by transmitted light. It has the added advantage of being capable of being viewed when projected by a large number of people, and of being stored compactly in large numbers in a relatively small space. If you are using a tripod it is rare that you will need to use a fast film. 100 or 200 ASA film is quite adequate. A colour slide is the primary record produced; it is not as is a colour print, a secondary reproduction, where the colour balance can vary considerably according to how it is processed.

This is a slide film's great advantage, and yet also its greatest weakness. For print can be replicated providing the negative is not damaged. But the slide is more easily prone to damage and deterioration than a negative. Because colour film is composed of dyes within each separate layer of the emulsion, the effect of light and of time will produce colour change and fading. Kodachrome is one film that has a proven history of stability - established from slides taken for the US Farm Security Administration in the mid 1930's.

You may imagine that different slide films will produce the same sort of result. This is by no means true. I have slides of the same window at Chartres taken on Fuji film and on Kodachrome and the colour balance is so different as to make one initially wonder if they are the same window. Fuji film produces a much warmer image - the Kodachrome slides are much cooler in tone. The fact is that no film will give you an exact reproduction of what you see. It is always advisable to use the same film type for the whole of a particular photographic project to ensure some degree of consistency of result. It should be noted that a window will appear differently according to the time of the day, the season of the year etc as well. Some days are almost impossible for photographing glass well - bright sunlight washes out the colours. A cloudy bright day is probably ideal.

Though stained glass is a medium that relies on colour to an enormous extent, nevertheless black and white prints of the glass are of great value both for long-term archival storage and also for reproduction purposes. Black and white film has one very great advantage in that it can be manipulated at exposure and by later development to show a very great range of detail - far greater than can be contained on a slide film. In the studio specialist techniques such as photography by reflected light can be used to reveal areas where the painted detail of the glass has been lost.

Storage

There are many possible ways to store photographs or slides. Slide trays or boxes - preferably with a cover to prevent the entry of dust - are one solution. My own preferred solution for slides is to keep them in clear plastic sheets suspended in filing cabinet drawers. Slides are arranged by place name and in window order within the church or other building with details arranged by panel numbers. Two drawers of a cabinet can hold nearly 10,000 slides with ease.

Prints are probably best stored also in a filing cabinet or in drawers. It is essential to ensure that they are not exposed to anything that gives off fumes - including newly painted surfaces. Photographic negatives also need to be stored properly in inert transparent sleeves and indexed properly as well.

Further Reading:

Buchanan, Terry. *The photography of stained glass. The Journal of Stained Glass*, Vol XVIII, No 3, 1988, pp308-313.

Coe, Brian. *Stained glass in England: 1150-1550*. W H ALLEN, 1981. Appendix III: How to Photograph Stained Glass pages 135-138.
Brown, Sarah and MacDonald, Lindsay. *Life, Death and Art: the medieval stained glass of Fairford Parish Church. A multimedia exploration*. Sutton Publishing, 1997. pp142-149 The Photography of Stained Glass [This includes some information also about use of digital techniques.]

👤 Gordon Plumb

Items from STAINED GLASS MUSEUM, ELY

Interpret Britain Awards

The Annual Award Ceremony of the Association of Heritage Interpretation was held at 'The Lighthouse' Glasgow, in early February. The Stained Glass Museum, re-opened in May 2000, won a major award for Heritage Interpretation presented by Loyd Grossman.

The judge who was highly impressed said, 'For those for whom stained glass does not seem the most exciting art this museum is a revelation, many will be converted to a long overdue wider appreciation of stained glass.'

Meet the Royal Ancestor

On 3 June the Stained Glass Museum is helping to celebrate the Royal Jubilee with a special event. Historians, professional artists and conservators will be in the Museum throughout the day interpreting four royal portraits - George III, Queen Victoria, The Duke of Clarence and Queen Etheldreda, the foundress of Ely Cathedral.

An unmissable opportunity to see real artists at work and to learn more about the history of the panels. Plus fun for all the family. Pre-booked tickets available from the Museum. Tel. 01353 660347/665025 for details.

👤 Susan Mathews

**Contributions for the next issue
to the Secretary by 14th May 2002**