

# Reconstruction of two 18<sup>th</sup> century rose windows in the Cathedral of Girona, Spain

Fernando Cortés Pizano  
February 2001

---

The Cathedral of Girona in Catalonia, Spain, beholds one of the richest collections of stained glass windows in Spain, ranging from the 14<sup>th</sup> century to the first half of the 20<sup>th</sup> century. The two monumental rose windows, placed in the Presbytery (Illustration 1) and in the West Façade (Illustration 2), were designed and made in 1704 and 1732 respectively by the glazier Francesc Saladriga, from Barcelona. Apart from a few windows in the Presbytery and Ambulatory with elements from different uncertain periods, these two rose windows are the only ones from the Baroque period conserved in the cathedral and probably the ones with the clearest monumental character and bigger dimensions in Spain.

Sometime during the 18<sup>th</sup> or 19<sup>th</sup> century, many windows in the cathedral, including the aforementioned rose windows, suffered from a very peculiar and selective brutal destruction, the reasons for which still remain unclear, resulting in the loss of many original glass pieces, especially at the carnations of the human figures, like faces and bodies. During a later restoration on all the affected windows, these important missing areas were filled in with clear colourless glass (Illustration 3). On these new clear glasses and also on many other added new coloured glasses, the faces of the figures and other lost parts of the windows were reintegrated with cold paintings, probably oil-based, at the inner side. As the time passed, these cold paintings have almost disappeared. This has caused a serious loss of the general legibility, especially at the rose windows, where the amount of missing areas was greater.

After a preliminary study, in December 2000 these two rose windows were dismantled for conservation and restoration work at the Glasmalerei Peters workshops in Paderborn, Germany (Illustration 4 and 5). A close inspection of the state of conservation of the windows, once in the workshop, allowed us to diagnose the following main deterioration pathologies: a very weak and fractured lead net, a high number of glasses chemically attacked by extreme crizzling at the outer side, fractured glasses and glasses partially or totally missing, dramatic flaking and almost total loss of the cold paintings (Illustration 6), thick crusts of different dirt depositions and a loss of the general legibility caused by the presence of many “white glasses” at the missing areas.

It is important to point out that although this brief description of their state of conservation is, in broad outline, valid for both windows, there are also important differences between them which should be mentioned in order to understand the slightly different approaches undertaken in the restoration of the two windows.

The first difference between them concerns their authorship. The archival research carried out by Marquès i Casanovas<sup>1</sup> seems to indicate that the rose window at the Presbytery, depicting Saint Michel and the dragon, was designed and carried out by Francesc Saldriga in 1704, whilst the one at the West Façade, depicting the Ascension of the Virgin Mary, although it was also designed by Saladriga, was carried out by Aloi Xifreu in 1732. If these records are reliable, they could explain some of the material differences existing between both windows, like the quality of the original paintings in the Presbytery window (Illustration 7) and the total lack of fired paintings and the lesser quality of the glass in the West window.

This worse condition of the West window raise two important questions for which we still have no convincing answers: was the West window originally cold painted, and during later restorations new cold paintings were applied? In that case we would have cold paintings from different periods. On the other hand, if the original paintings were fired and now they are all lost without trace, are all the present glasses, most of which are heavily attacked by crizzling, original or are they a result of later restorations? If the present glasses are mostly original, that would mean the original paintings in the window were not fired. However, if all the present glasses were later introduced, that means we are dealing with a window with no “original” material whatsoever.

While the general resemblance in their composition, especially at the border band, supports the authorship of Saladriga as the designer of the cartoons, the great material differences between them, could eventually explain a probable carrying out of the West window by a completely unknown artist like Aloi Xifreu. Curiously, these differences in quality are also applicable to the various restorations carried out on both windows in the past. An example of this is to be found in the lead net which, in both cases, is not original but a result of later interventions, again being the one at the Presbytery window of greater quality.

In general, the conservation and restoration schedule for both windows included the following interventions: reinforcement of the lead net by soldering the cracks and replacing the missing comes; fixing of the cold paintings with Paraloid B-72 (10%), only where the remaining material made it feasible; a very light dry mechanical cleaning with soft brushes where there was crizzling or cold painting and a wet chemical cleaning with a solution of ethanol and distilled water (50/50%) for the remaining pieces; local replacement of missing glasses where there was clear evidence of the original colour and shape; bonding of the broken glass fragments with epoxy resin (Araldite 2020); reinforcement of the panels with new U-shape messing frames and horizontal bars; retouching of the small areas of missing glass, filled with epoxy resin, with cold reversible pigments.

Apart from those interventions carried out, the main challenge in this conservation and restoration program has been the treatment of the missing areas, especially the human figures and clouds, filled in the past with clear glass which, as we have pointed out, has lost almost all trace of cold painting. After a

---

<sup>1</sup> MARQUÈS I CASANOVAS, J., Els vitralls de la Seu de Girona, in “Revista de Girona” (1981), p. 273.

detailed evaluation and a series of long interesting debates and discussions with different authorities on the field, we all felt that there was a need to intervene on the present state of the windows.

Since there is not an unique right solution for the problem of filling in missing areas but a series of different interpretations on the topic, focused from different perspectives, the problem we faced was not a simple one. We started by evaluating the state of the art and the possible and acceptable options of intervention. A first thought was the fact that any man-made product, considered as a “work of art” by society and history, originally contains a series of values that justify this denomination. From our present perspective, the main original values of most works of art are the following: artistic, historical, material, social, cultural, scientific, propagandistic, pedagogical, iconographic, economic and so on.

Today, some of these original values, especially the artistic, iconographic and pedagogical values, have been drastically reduced due to the particular history of these windows. This fact, as aforementioned, has led to a dramatic loss of legibility which seriously hinders the aesthetic enjoyment of the windows. On the contrary, since these windows are two of the few works preserved from Saladriga, and also two of the few monumental stained glass creations from the Baroque, and besides they reflect the particular restoration attitudes of a period, their value as a historic document is increased. Similarly, since the windows have preserved much coloured glass from a period when the production of which was quite uncommon and, since those glasses show a very interesting chemical composition and deterioration pathology, their material and scientific values are also very important nowadays. In short, we were actually dealing with two historical windows whose present state of conservation was mostly pitiful, and their resemblance with the “original” state, especially by the west window (Illustration 8), had been seriously altered.

Considering the complexity of this problem, it was obvious that the final decision on how to intervene on the missing areas had to be focused as an interdisciplinary work. Nevertheless, the ethics and the deontology of the restoration of works of art, obviously, do not offer any clear and conclusive solution to the filling of missing areas. They just propose different alternatives where, applying something as ambiguous as the “common sense”, different ways of intervention can be acceptable. Besides, any option has its pros and cons, its proponents and detractors. In between the purest conservation option, where the present state of the work of art remains unaltered, and the option of the total reconstruction of the missing areas as they were originally, there are many nuances and alternatives which can be defensible or justifiable depending upon our point of view.

Among all the many possible options of intervention, the three main ones which were carefully evaluated were the following:

- Option 1: conservation of the missing areas without any reintegration
- Option 2: subtle and evocative minimal reintegration of the missing areas
- Option 3: creative, innovative and artistic reintegration of the missing areas

- *Option 1. conservation of the missing areas without any reintegration*

The starting point here is the consideration that since we have no documentation on which to base a possible reconstruction of the missing areas, the most ethical and coherent attitude would be to leave the work of art as it is now (Illustration 9, picture 1). Its present state, a result of the passing of time, is a valuable document of its history and therefore should be preserved without any additions. This option basically implies accepting the effects of time, decay and ageing on the work of art, without trying to back to a hypothetical original situation.

- *Option 2. subtle and evocative minimal reintegration of the missing areas*

In this case, the main consideration is that the missing areas draw too much attention, hindering the enjoyment of the work of art, becoming therefore obvious that they can not be left as they are. Since we have no documentation describing or representing the original appearance of these missing parts, we cannot try to reconstruct them in detail, because all we would achieve would be an unacceptable product of invention. The main goal of this option should be to blend or tone down the presence of the clear glasses, to soften its brilliance and, as far as possible, to recover part of its “original” state and legibility. In order to avoid falsification, the new intervention should insinuate and suggest, rather than offer, a too explicit new hypothetical legibility. This could be done by means of plain colours (Illustration 9) and, eventually, discrete and subtle painted lines or shades (Illustration 10, picture 2).

- *Option 3. creative, innovative and artistic reintegration of the missing areas*

This option is supported by the conviction that there is no sense in trying to restore a work of art which has lost so much of its integrity and original values. The most coherent approach or alternative of intervention would be to give the lost images a new contemporary legibility. This third option, certainly controversial in the present context of the restoration of art works, implies an important alteration of the legibility of the window, accepting the losses caused by history and the passing of time. It also implies not trying to falsify the present by adding a pretended reconstruction of the original state without solid arguments. All in all, it implies to integrate, with great respect for the remaining materials, a new contemporary layer or “second skin” with the previous layers, using a new vocabulary, more appropriated to the present times. For this purpose, the most logical attitude would be to commission the reintegration of the lost figures to an artist with proven sensibility as to respect and appreciate the previous work, blending and integrating it with his/her new creation.

When evaluating these options, we felt that we could not just limit our intervention to a pure conservation treatment, leaving the present state of the work of art untouched. Neither could we reconstruct the missing figures in detail (Illustration 10, pictures 3 and 4), considering the total lack of any written or graphic documentation. We only had the certainty that the clear colourless glasses, since they let much more light through, were drawing the attention of the visitors in a greater extent than the rest of the

glasses from the general composition, and therefore they were disturbing the legibility and enjoyment of the work of art.

We agreed that the clear glasses should be respected and left untouched, since they bear irreplaceable information and document the history of the windows. This means that when choosing for a new addition, in whichever form, this should be visually blended with the original but it should not physically interfere with the original materials. It should act as a “second skin”, as a product of the modern times.

After interdisciplinary debate, we opted for a final solution based on the two main argumentation lines from options 1 and 2: accepting the decay of the work of art, without trying to reconstruct the missing areas (option 1) and tone down the presence of the clear glasses, reducing their loud effect on the whole composition, but avoiding any addition which could not be documented, that is, a historical falsification (option 2).

Since we felt that the use of discrete and subtle lines or shadows of painting to suggest the presence of faces and other parts of the figures could not be justified, we decided to use only plain painted colours to tone down the presence of the clear glasses and soften its brilliance (Illustration 8). These fired enamels were painted on the inner side of single clear, uncoloured, 4 mm thick glass panels, from the same size as the original ones.

These panels, reinforced with an U-shape lead frame, were placed behind the originals allowing a ventilation chamber of approximately 10 mm distance in between. The choice of the colour to reintegrate the carnations was based on the only original painted glass piece preserved from Saladriga, the right hand from Saint Michael in the Presbytery window. Likewise, for the missing hair of the angels in the West window we used a light orange-brown colour, based on the preserved unpainted glass pieces in the hair of Maria (Illustration 10), and for the clouds around the angels, where no original glass piece had been preserved, we opted for a rather neutral light grey-blue colour (Illustration 9).

At this point, we rejected the possibility of constructing those new panels in the traditional way, that is, by means of individual pieces of glass leaded up following the main lead line from the original panel, since those lead comes could project unwanted shadows on the original panel and interfere with its legibility.

The use of single glass panels from the same size as the original ones, was justified by the fact that often the missing areas were too large for the use of individual glass pieces, as used by traditional lamination. This option was certainly valid for most of the panels in the west window, while by the Presbytery window, where the missing areas were not so abundant, we opted mainly for a single-lamination system. That means individual glass pieces, framed with a thin U-shape lead came and attached to the original lead line on just a few discrete joints, in order to separate them from the original glass and allow a ventilation flow.

Apart from obvious aesthetic and ethic reasons, the use of a ventilation chamber in between the original panel and the new one, in combination with the use of isothermal protective glazing for both windows, has also some clear conservation functions, like avoiding the eventual deposition of dust particles, forcing a quick dry-out of the possible condensed water and preventing the formation of micro-organism colonies.

Besides, we decided to use uncoloured, modern float glass instead of antique mouth blown glass, firstly to clearly distinguish our modern addition from the original materials and secondly because of the fact that these glasses should act only as support for the paint layers, without provoking any extra interference with the legibility of the window.

A main principle for this intervention, which we had to bear in mind when designing the construction system, is the fact that any new addition should be completely reversible and distinguishable. This means that any new material applied on the work of art, apart from bearing the date of the intervention and the signature from the workshop, should be, if necessary, easily removed at any time without any danger to the original materials.

We are convinced that this whole conservation and restoration schedule, particularly concerning the solution adopted for the filling in of the missing areas, although it still might be an arguable solution, it fulfils the main present demands of the deontology of intervention in cultural heritage. It is completely reversible and distinguishable from the original elements, it softens the excessive attention drawn by the clear glasses at the missing areas and it partially recovers the original legibility of the windows by subtly emphasising the presence of human figures and clouds, so far hidden among unintelligible large areas of clear glass.

#### **Note from the author**

The lack of Illustrations showing the construction and installation of the new panels and single glasses as well as the final results of this intervention, is due to the fact that in February 2001, when this article was written, we still were in the middle of the conservation and restoration process. These pictures will be shown during the lecture presented at the ICOMOS Congress *Le vitrail comme un tout*, held in Troyes, France, during the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> of May 2001.

#### **Acknowledgements**

The author of this article would like express his gratitude to all the people who have contributed, in one way or another, to the conservation and restoration process of these two windows:

- The Cathedral of Girona team members, in particular Gabriel Roura (Dean and President of the Chapter), Jaume Julià (General Vicar), Genís Baltrons (Prefect Canon), Joan M. de Ribot, Josep Ros, Joan Viader, Jordi Paulí, Josep Fuses, Josep M. Pla, Josep Pla, Montserrat Nogués, Carme Vich (Architects), Sònia Vergés, Jaume Vila (Master builders), Pere Freixes (Art Historian), Pere Rovira (Restorer) and Josep M. Nolla (Archaeologist).
- Joost Caen, member of the CVMA Belgium and Professor in Conservation and Restoration of Stained Glass at the Royal Academy of Fine Arts in Antwerp.
- Silvia Cañellas, Art Historian and co-worker of the CVMA Catalonia.
- Ignasi Domenech, Professor and Director of the Fundació Centre del Vidre in Barcelona.
- The people from Glasmalerei Peters, in particular Wilhelm Peters, Director of the company, Stefan Lücking and Frank Schüren, the restorers who have carried out most of the conservation and restoration work, Steffen Holtmann and Peter Adrian who removed and installed the windows and the protective outer glazing.
- The people from the French Section of ICOMOS, for offering us the opportunity to present the results of this work at the “4<sup>th</sup> international forum on the conservation and technology of historical stained glass”: *Le vitrail comme un tout*.

### **List of illustrations**

- Illustration 1. Cathedral of Girona, Spain. Rose window at the Presbytery, depicting Saint Michel and the dragon. Francesc Saladriga, 1704. State before the restoration.
- Illustration 2. Cathedral of Girona, Spain. Rose window at the West façade, depicting the Ascension of the Virgin Mary. Francesc Saladriga and Aloi Xifreu?, 1732. State before the restoration.
- Illustration 3. Four examples of the peculiar destruction of human figures in windows from different periods at the Cathedral of Girona, Spain. 1: window S-II (Master of the Presbytery, circa 1348); 2: window n-IV (Guillem Letungard, 1357-1358); 3: window S-II (Jaume Fontanet I, 1520); 4: window n-V (unknown artist, 17<sup>th</sup> c.).
- Illustration 4. General view of the interior of the Cathedral of Girona, Spain, during the removal of the rose window at the Presbytery in December 2001.
- Illustration 5. Cathedral of Girona, Spain. Detail showing the process of removing the rose window at the Presbytery, using two cranes of 34 m high, in December 2001.
- Illustration 6. Cathedral of Girona, Spain. Four pictures showing different stages of deterioration of the cold paintings. 1 and 2: rose window at the West façade; 3 and 4: rose window at the Presbytery.
- Illustration 7. Cathedral of Girona, Spain. Four details showing interesting examples of the fine painting technique and high artistic quality of Francesc Saladriga at the rose window in the Presbytery. All these original paintings were fired on the glass and show a relatively good state of conservation. No single piece with this technique and quality was found at the West rose window.
- Illustration 8. Cathedral of Girona, Spain. Photographic reconstruction of the central part of the rose window at the West façade before any intervention.

Illustration 9. Cathedral of Girona, Spain. Computer simulation of partial reconstruction of the legibility of the missing areas. Figures of angels at the rose window in the West façade. 1: original state; 2: after the installation, from behind the original, of new single panels with fired paintings. Although the colours and texture of the second picture have been computer manipulated, the final result roughly illustrates the aim prosecuted by the filling in of the missing areas.

Illustration 10. Cathedral of Girona, Spain. Different trial samples, on a back laminated glass, made as possible alternatives for reconstructing the legibility of the head of the Virgin Mary at the rose window in the West façade. 1: original state; 2: application of fired light subtle contours; 3: application of fired contours and shadows; 4: application of fired contours, shadows and a light carnation. These three options (2, 3 and 4) were rejected due to the lack of any documentation.

*Artículo publicado en "CVMA Newsletter" 48 (mayo 2001), pp. 79-87. Hors-série 2001. Bulletin "Le vitrail comme un tout". Actas del 4e forum international sur la conservation et la technologie du vitrail historique": Le vitrail comme un tout, histoire, techniques, deontologie des restitutions et compléments, Troyes-en-Champagne, Francia, 17, 18 y 19 de Mayo del 2001.*