
Introduction- Conservation of Ancient Monumental Stained and Painted Glass

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Monumental glass painting is one of the most attractive, but at the same time a less well-known and one of the most endangered art forms. There are two reasons why it does not enjoy the status it deserves in art history as monumental painting: firstly, as an integrating part of architecture it is not easily accessible and therefore also more difficult to photograph and reproduce than for example panel painting; secondly, the facts related to material and technique and the assessment of the state of conservation are more complicated than in other disciplines of painting.

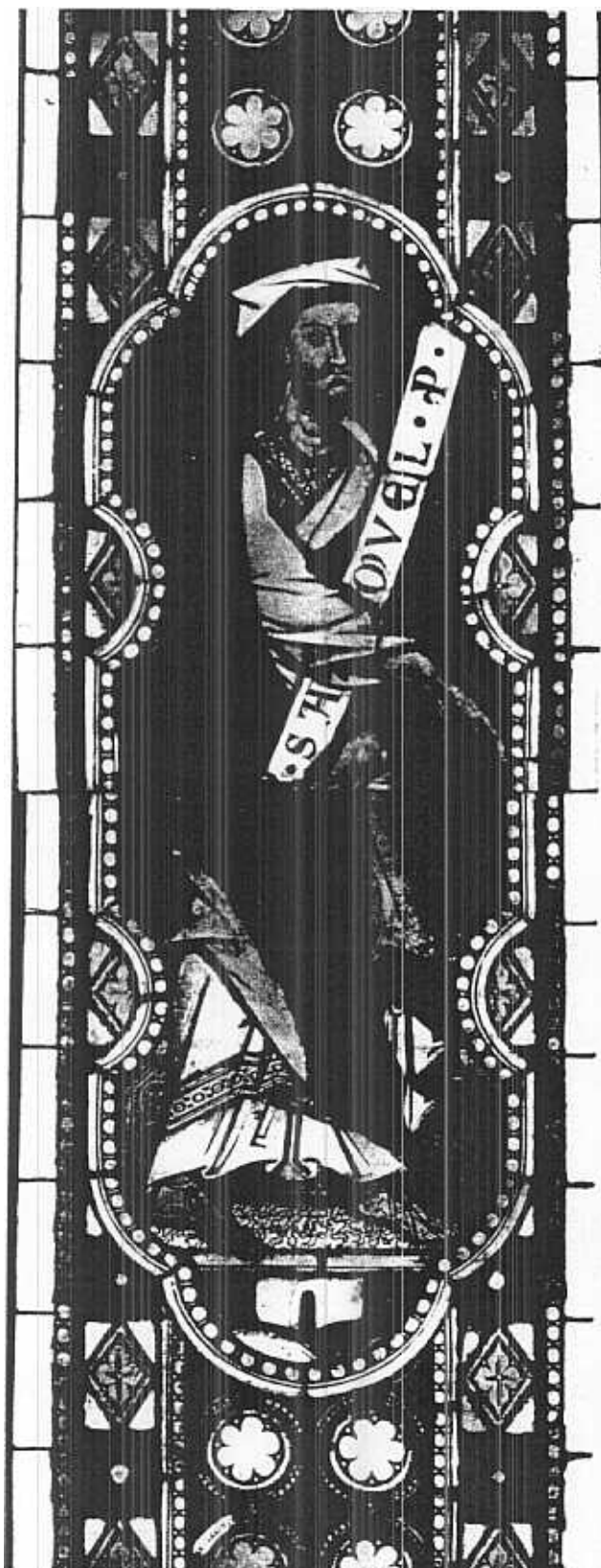
A glass painting is an ideally tuned whole, consisting of three components: Its main effect is due to coloured glass. Because of its function as a window it is a part of architecture, as a picture, its brightness in falling light makes glass painting a perfect example of artistic impact through the medium of colour. The thin comes, which keep the coloured glass-pieces together and combine them to form a picture, are not only a constructive framework, but also represent the graphic structure of the depiction. The painting finally consists of black lines, baked on the glass, and of grisaille layers, which serve for detailed painting and modelling and therefore also for the differentiation of the falling light. These technical prerequisites were present on a broad basis at the beginning of the 12th century, when western glass painting started to evolve, and hardly changed in the following centuries up to the 19th century. Picture windows dating from the Middle Ages and historicism are more or less of the same kind in their technical conception and are representative of their era only in terms of artistic language. Although the material of such a picture window must appear as something very fragile, the construction of a flexible sash fastener has proved to be a great technical and masterly performance despite its utterly fragile structure and the wear-and-tear caused by wind and weather, and has been preserved to a large extent over the centuries.

The fact that only a small percentage of the originally present medieval stained and painted glass has been preserved is due above all to the influence of man, who for reasons of taste again and again changed and destroyed what was handed down to him. In the case of painted glass this is especially true for the centuries following the Middle Ages, the Renaissance, the Baroque period, and Classicism eras which replaced the Romanesque and Gothic style with their own creations. But the process of aestheticizing interventions has not even stopped in our century, if one thinks of the glass paintings of Historicism in our churches or of the secular structures of the "Gründerzeit" (the years of rapid industrial expansion in the second half of the 19th century in Europe) which in many cases were considered to be of artistic value and destroyed until well into the post-war period.

Despite all these losses medieval stained and painted glass played for a long time an important role in architecture and painting in terms of artistic value, although it was discovered rather late by art-history for the reasons mentioned above and included in research. This was done on a broad basis after the Second World War, when the picture windows, which had been saved during the war were used again and on this occasion were documented by art history. The foundation of CORPUS VITREARUM in this connection which follows illustrates the importance of this art form and the scientific interest for it on a broad international basis.

In the course of the systematic documentation of stained and painted glass by art-history, which has taken place since then a lot of technical questions concerning conservation arose, which had hardly been dealt with by art historians before.

As is the case in other disciplines, a detailed documentation and comprehensive understanding of



1. *Heiligenkreuz, Zisterzienserkirche, Prophet Samuel.*
1295

art history on stained and painted glass also requires a profound knowledge of all aspects of material and technique and above all of the state of conservation.

This state of conservation is of utmost importance in stained and painted glass as the factor of change plays an important part in the assessment of the artistic meaningfulness of these pictures. We have to assume that the medieval glass because of its different chemical and physical composition also reacted differently to rain, wind, and the weather from the window glass of today, that is to say it was not resistant to these influences and weathered. Environmental pollution, which has been increasing since the 19th century, and particularly the high levels of sulphur contribute greatly to this process of decomposition. The glass loses its transparency until it becomes completely tarnished. Works of art which have been preserved over centuries now threaten to perish if we are not able to preserve them. Decomposition of the monumental stained and painted glass of the Renaissance and the Baroque period and of the 19th century glazings is a much less serious problem due to the fact that the chemical and physical composition of the glass was improved from the 16th century onwards. However, the use of glass as a separation between the inside and the outside and the damage caused by condensation and humidity in particular have resulted in irretrievable losses of paintings and thus a destruction of artistic substance.

All these aspects and the responsibility for such questions were the reason why the CORPUS VITREARUM a few years after its foundation turned its attention intensively to the problems of conservation too. A "Comite Technique", a team which dedicates itself above all to problems concerning techniques and conservation, was founded and assigned its working programme to leading personalities of the CORPUS VITREARUM, such as Hans Hahnloser, Eva Frodl - Kraft, Louis Grodecki, and Jean Taralon, when they first dealt with the issue. Soon after the necessary cooperation with natural science became an important part of the work of this committee and since then has led to a perfect collaboration between the different disciplines. The News Letters, founded by Roy Newton in 1972, and many other publications that followed impressively reflected the cooperation of art history, natural science, and the preservation of monuments.

When in 1982 Michel Parent, the President of ICOMOS, taking up an initiative by Jean Taralon,

suggested drawing up a COMITE INTERNATIONAL POUR LE VITRAIL within the framework of ICOMOS, this idea was met with approval for two reasons: firstly because this international committee was expected to serve as a broad forum for the preservation of monuments, a multiplier for the results of the activities of the CORPUS VITREARUM in the field of Conservation and secondly because this initiative was expected to find a way to include the large and important stocks of stained and painted glass of the 19th and 20th century in art historical research and in the activities concerning conservation. The following "Guidelines for the Conservation of Ancient Monumental Stained and Painted Glass" which are a summary of the experiences in conservation and restoration over the past few decades in the field of conservation of ancient monumental stained and painted glass, are also one result of this initiative for the preservation of an endangered art form on a broad international basis.

When the President of ICOMOS, Dr. Roland Silva, on preparing for the General Assembly in Sri Lanka in 1993, made the proposal to issue a detailed publication on the subject of "Conservation and Restoration of Ancient Monumental Stained and Painted Glass" this idea was met with approval because in the past few years it had turned out that the efforts for the preservation of monumental stained and painted glass had become much more widespread due to the fact that the 19th and 20th centuries were included.

While the CORPUS VITREARUM basically deals only with Europe and North America the interest for the preservation of the stained and painted glass of historicism and the first decades of the 20th century is much more pronounced as the artistic evidence of these periods is present world-wide and therefore claims much more attention with regard to conservation.

A number of reports on the problems of the preservation of monumental stained and painted glass included here provides an example of the extensive and often controversial discussion about this subject over the past thirty years and about the right means and methods and illustrate the difficult questions that very often arise in connection with the preservation of picture windows. At the starting point, that is to say in the fifties, the restoration of medieval stained and painted glass took place almost exclusively in traditional stained-glass studios, where craftsmen according to their craftsmanship-tradition and their best judgement applied their more or less profound

knowledge to conservation and restoration measures. It was inevitable that their craftsmanship went hand in hand with measures which later turned out to be serious mistakes from the point of view of conservation. Among these were new leadings, carried out as a matter of routine without being really necessary and putting which does irreversible harm to corroded glass surfaces and porous scumbles etc. For the art historian associated with the CORPUS VITREARUM this meant that the learning process, which resulted from these negative experiences, was accompanied by the fact that he also had to deal with the conflicting results of former restoration measures, of the 19th century in particular when he examined stocks of ancient picture windows. Whether these measures were harmful or beneficial has become evident only now. All these experiences finally led to a better knowledge and better assessment of the use and value of traditional restoration measures. Another important step in this connection was to engage the help of natural science in assessing and solving the problems concerning restoration. Interested and committed colleagues from the natural sciences explained to us the phenomena of the process of decomposition and the damage caused by time and environmental factors, analysing lead and glass, and corrosion products, and investigating the mechanism of corrosion. A host of scientific reports and publications on this subject illustrates how important the contribution of natural science to restoration is and the perfect interdisciplinary collaboration in other fields of conservation within the framework of the COMITE TECHNIQUE and the COMITE INTERNATIONAL POUR LE VITRAIL of ICOMOS.

On the one hand this knowledge has been very helpful in taking the right decisions with regard to the problems of restoration, but on the other hand this collaboration also has brought about certain problems, particularly when the restorer, faced with difficult or insoluble problems, placed the responsibility for taking decisions on the scientist, who had no competence in this respect. This incorrect assessment is incompatible with one basic aspect of restoration, namely the fact that a work of art is always more than the mere sum of its technological aspects and that all artistic, historical and technological parts of the problem have to be taken into account. when a decision about restoration measures is taken.

As was to be expected, these different positions also resulted in problems of understanding and as a

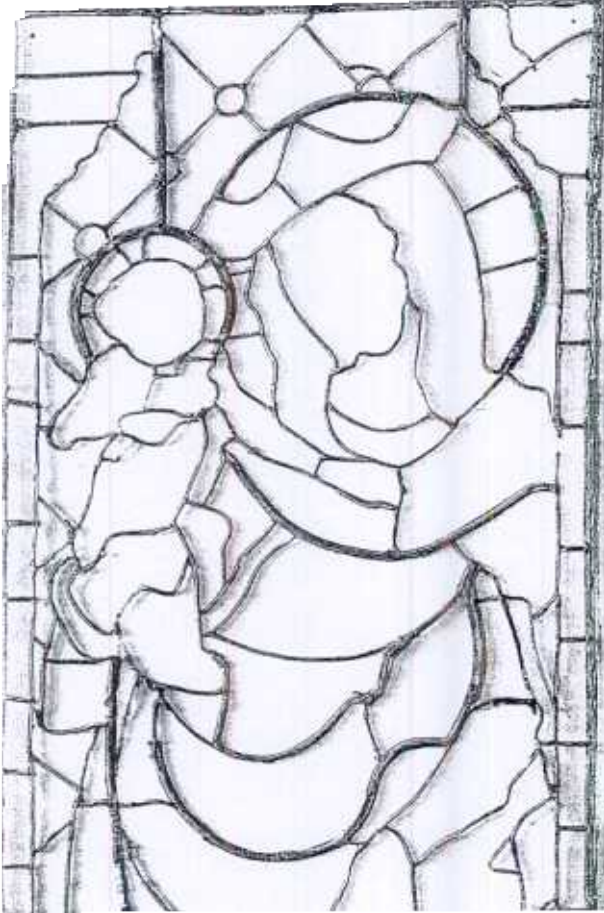
consequence in serious mistakes, which can be seen from past developments. For example, the destruction of fully preserved medieval lead in favour of a doubtful plating of corroded glass, is completely incomprehensible from our point of view. This shows, how fast the time, the methods and the views change. What remains, are damaged or irreversibly destroyed works of art.

Two things can be learned from that: first, that it is important to have a critical attitude to the restorers' optimism when they apply new ways and means, which without a thorough examination of the possible risks for the work of art and long-time experience almost invariably cause more damage than benefits. And secondly, to develop a general knowledge of the basic problems and aspects of the task of conservation and the usefulness of restoration.

Glass paintings are works of art of very high artistic value. Our efforts to preserve them will remain incomprehensible if we fail to carry out these restoration measures with the same care and attention as is the case with other art forms. A lot of educational work still remains to be done if we want our demand to be put into practice, according to which the restoration of stained and painted glass has to take place on the same level as the restoration of other works of art of the past and be of the same importance.

For this purpose restorers have to be trained (who specialize in this field and take over those restoration works which from today's point of view have to be left to them), as the traditional craftsman, who so far has been assigned the task of restoring glass paintings, can no longer be expected to do so alone. The cooperation and division of labour between restorer, traditional glazier and scientist is a new constellation, which has yet to be proved to be a good approach. The guiding principle for the restorer and his team is the principle of minimal intervention, laid down by the Charter of Venice for all measures concerning the preservation of monuments, a principle, which has paid off, as the history of restoration of stained and painted glass shows us.

Looking back on the past 150 years, which marked the beginning of a systematic preservation of monuments, it turns out that there was too much restoration and consequently too much loss of substance. This means that the smaller the intervention the better the state of preservation. This should be the guiding principle not only for conservation strategies but also for the accompanying care through prophylaxis and



3 Nürnberg, Germanisches Nationalmuseum, Madonna, first half 14th century; the original lead



system was senselessly destroyed by an absurd releading in the past.



4 King's head from St. Stephans Cathedral in Vienna late 14th century; condensation on the inner side on the glass has destroyed the paint.



5. Corrosion on the outer surface destroys the glasses which lose their transparency until they become completely tarnished.



6. Nürnberg, St. Lorenz, süd XVI; isothermal glazing as a most effective protective method to ensure conservation.

7. Protective glazing guarantees an improvement of endangered stained glass in its environment without involving any direct intervention with the work of art itself (Regensburg Dom)

8. Various practical solutions have been found that allow the integration of the protective glazing into the architecture. Here lead lines following simplified contours based on the leading of panels behind. (Heiligenkreuz, Brunnenhaus).

