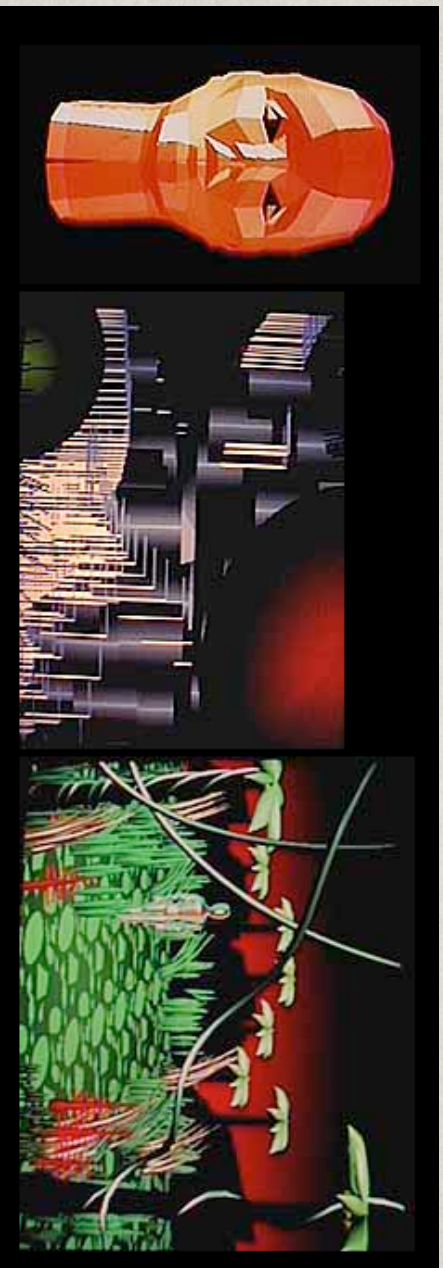


STAINED GLASS: PARALLELS IN PRESERVATION

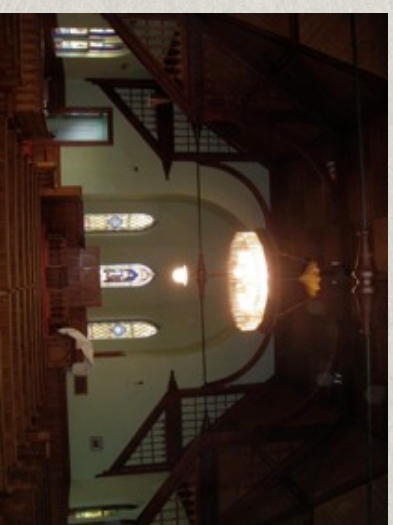
J I M L I N D N E R



ALL THIS DIGITAL WORK LEADS TO SENSORY DEPRIVATION!



I BOUGHT A CHURCH

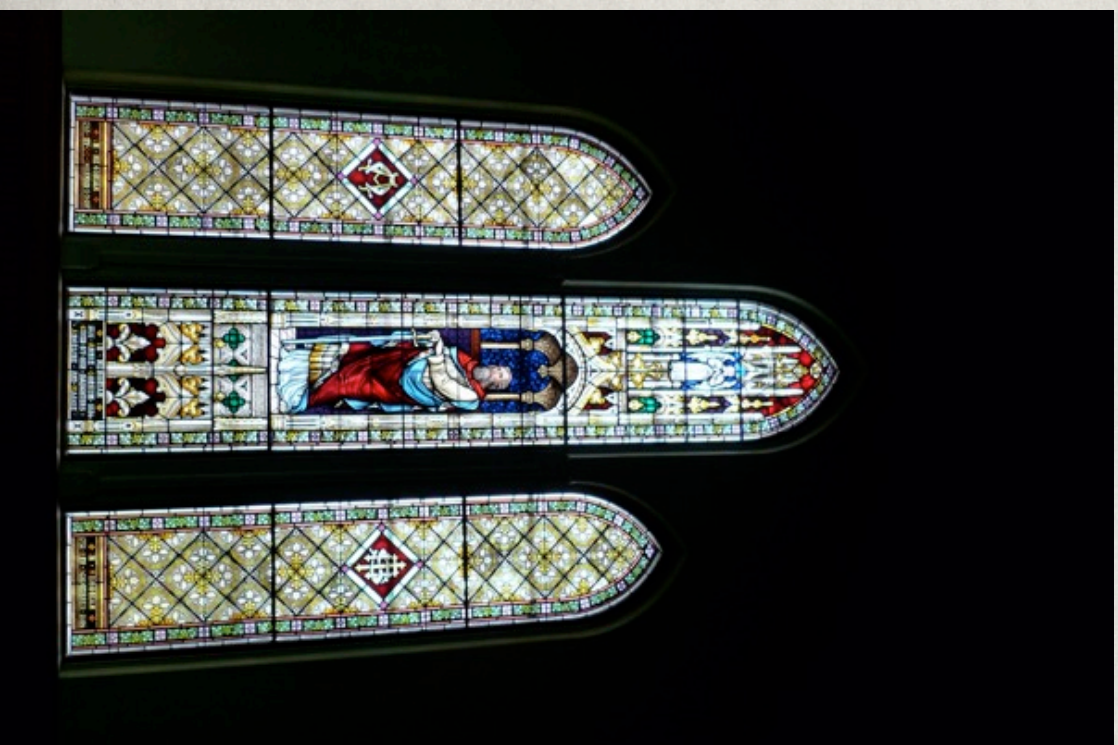


THE CHURCH WAS A ‘FIX-ER-UP-ER’

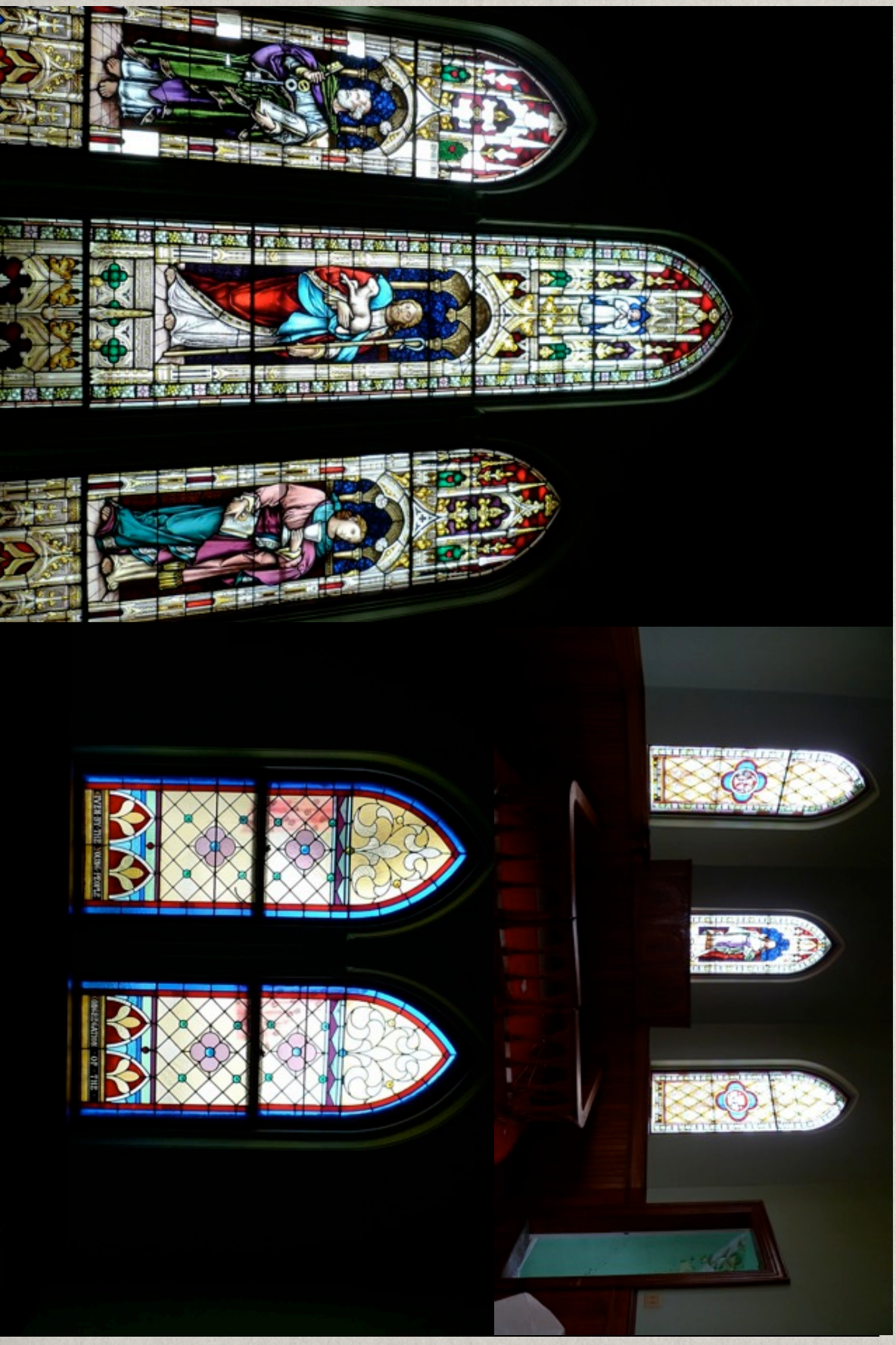
- ☼ Maybe I should have known better....
- ☼ Maybe I did not need another project....
- ☼ Maybe I was stupid - it was up for sale for 4 years and no locals bought it... what did they know that I did not know?
- ☼ But I did fall in love with the building and one of the reasons were these...



BEAUTIFUL STAINED GLASS WINDOWS!



... AND LOTS OF THEM!



WHO COULD RESIST?

☼ Not me!

☼ So I bought the building and decided to “repurpose” the building - essentially preserve aspects of it but not a “restoration”

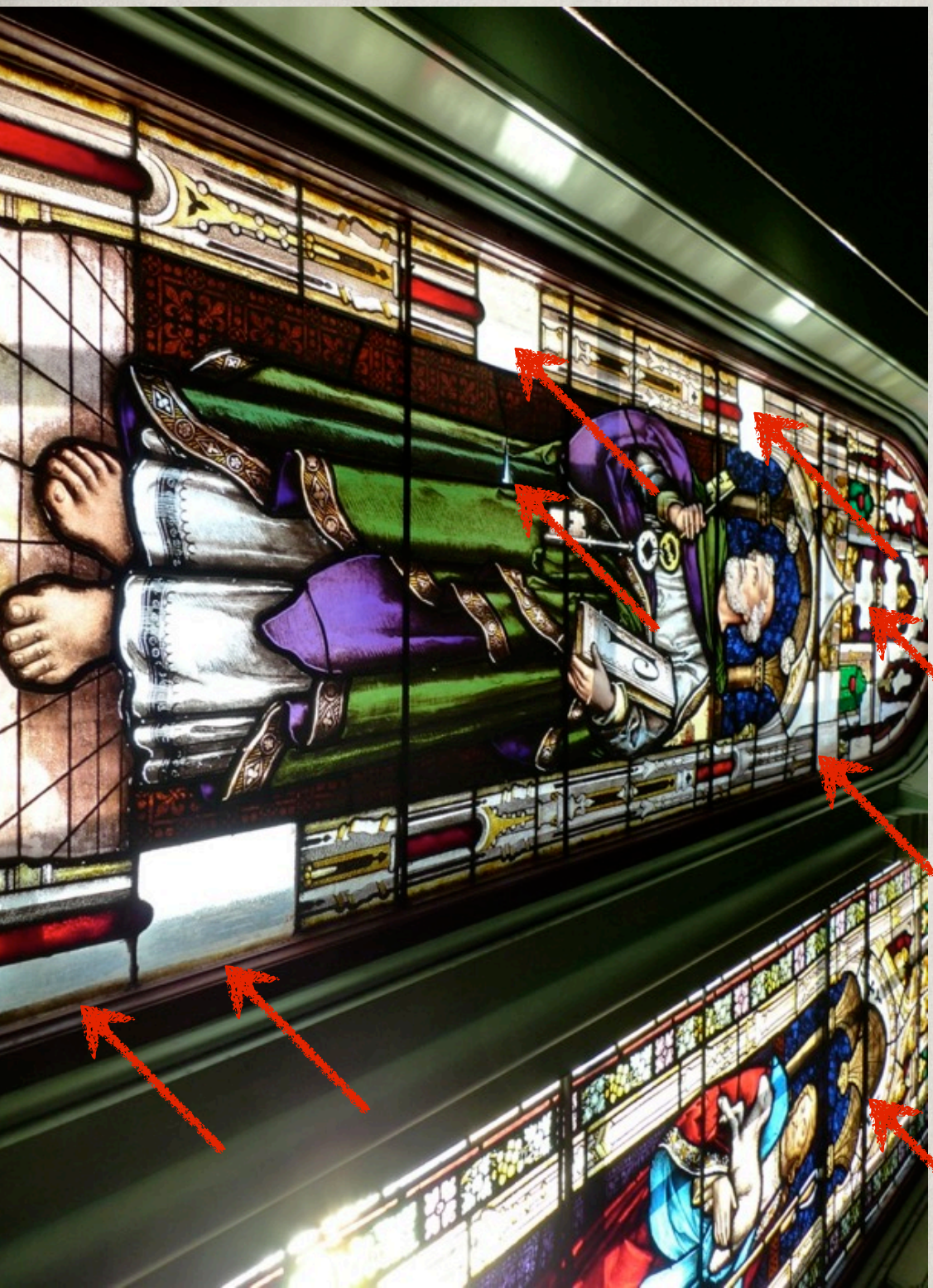


AFTER THE INITIAL RUSH I STARTED TO LOOK MUCH MORE CAREFULLY

- ☼ I did some research and found out that these were not just any old windows - they were signed.



THE WINDOWS WERE ALSO DAMAGED



BUT...

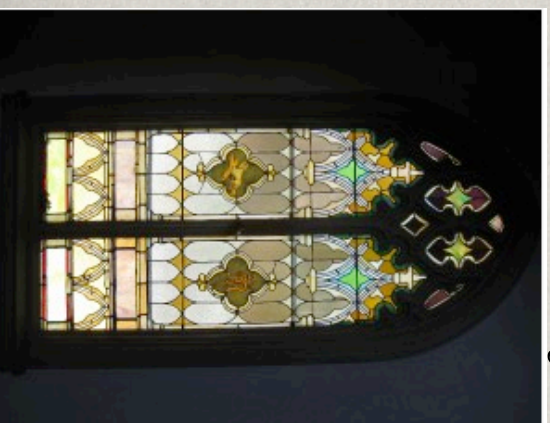


☼ I also knew that this was a country church not Notre Dame, and that these were just outstanding windows for a country church.

☼ While unique, these windows were typical of many others from the same artist and as such were less valuable than those in higher profile churches.

COST TO PRESERVE IS LIKELY TO BE MORE THEN THE FINANCIAL VALUE

- ✿ The sad reality is that many churches are closing and many of the stained glass windows are being removed and sold on Ebay.
- ✿ While the value in that church building is high “in situ” - the absolute value is very low.



ANTIQUE STAINED GLASS WINDOW GOTHIC CHURCH SALVAGE

Item condition: --

Price: **US \$1,250.00**

[Buy It Now](#)

[Watch this item](#)

Shipping: Local pick-up offered. | [See all details](#)
See shipping below.

Returns: 7 day money back, seller pays return shipping | [Read details](#)



eBay Buyer Protection

I FOUND MYSELF IN THE SAME SITUATION AS SOME ARCHIVES!

- ☼ It lasted for 100 years - likely it will last for another 30 or so during my lifetime
- ☼ Do I really need to fix these windows?
- ☼ I have other financial priorities
- ☼ The cost of restoration is likely greater than the value of the windows
- ☼ The windows are just part of the building



NOW I OWNED THE ARCHIVE AND THE PROJECT!

- ☼ This was *MY* money not some client's money
- ☼ I had to make a purchase / no purchase decision
- ☼ I had to evaluate vendors
- ☼ I knew very little about stained glass windows
- ☼ I was the customer!



I EVEN GOT TO EXPERIENCE THE SAME STICKER SHOCK!

Window N IV

Removal of window
Transport to the studio
Removal of lead matrix
Careful thorough cleaning of all glass
Replace broken pieces with matching colour and paint pieces if required
Re-lead all panels
Delivery and installation of window and new supporting bars \$ 4 858.00

N III

Removal of window
Transport to the studio
Removal of lead matrix
Careful thorough cleaning of all glass
Replace broken pieces with matching colour and paint pieces if required
Re-lead all panels
Delivery and installation of window and new supporting bars \$ 2 553.00

NV

Removal of window
Transport to the studio
Removal of lead matrix
Careful thorough cleaning of all glass
Replace broken pieces with matching colour and paint pieces if required
Re-lead all panels
Delivery and installation of window and supporting bars \$ 2 553.00

Total stained glass restoration \$ 21 902.00

New Outside Protection for main church windows

Take off the old Storm glass
Replace with 309g Lexan sheet
Hold the lexan in place with new wood stops
Fabricate and install new stainless steel flashing.

Window W V \$ 915.00
Window W VI \$ 1 343.00
Window W VII \$ 915.00

Window NI \$ 653.00
Window N II \$ 653.00

Window N III \$ 915.00
Window N IV \$ 1 343.00
Window N V \$ 915.00

Window N VI \$ 653.00
Window N VII \$ 653.00

Window E I \$ 784.00
Window E II \$ 784.00
Window E III \$ 784.00

Window S VII \$ 723.00
Window S VIII \$ 723.00

Total Outside Protection \$ 12 756.00

This cost estimate does not include any carpentry or painting work that may have to the existing frame. It does not include the scaffolding and does not include any goods service tax.

\$34,000

- ☼ Was not even for all the windows!
- ☼ Included treatment plan that seemed “inappropriate to me”
- ☼ Replace Broken Glass with Matching Color
- ☼ Divide window into smaller panels
- ☼ Paint previous repairs to match rest of window
- ☼ Not Preservation but “recreation”

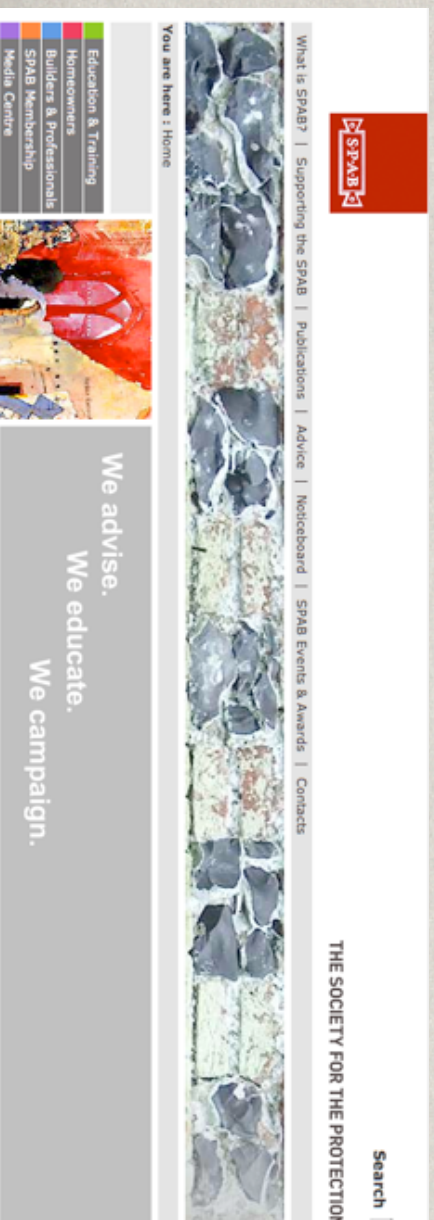
THIS CLEARLY IS NOT A “DIGITAL PROJECT”



- ✿ Digital Preservation is NOT for everything
- ✿ Digital Migration is a meaningless concept for glass windows
- ✿ The world is an Analog place and physical objects in it will remain analog for the foreseeable future
- ✿ Provenance is important and a reproduction is of little if any value
- ✿ I thought that everything I knew about preservation was inapplicable - but I was wrong about that....

WHAT DID I DO?

- ☼ Decided to get educated - read articles, spoke to other vendors, emailed pictures to other vendors
- ☼ I found that there were some remarkable parallels between Stained Glass and AV Preservation despite different media types
- ☼ I found that they have been doing it longer than we have, and we can learn some things from them!



TECHNOLOGY OF STAINED GLASS

- ✿ Goes back at least to the 10th Century
- ✿ Process to make it described by Theophilus in 1100 AD
- ✿ They have been fixing it for a very long time!



WINDOWS TELL A STORY



The central medallion shows the communion chalice that holds wine, representing the blood of Christ. Christians believe that Jesus' death atoned for peoples' sins and that his resurrection was symbolic of God's forgiveness of these sins. (Matt. 26:26-29)

To the right of the chalice, is a bunch of grapes from which the wine is made and, to the left, a sheaf of wheat from which bread is made. Bread represents Christ's body and it, along with wine, are consumed during Communion to remind people of Christ's sacrifice that facilitates the forgiveness of sins.



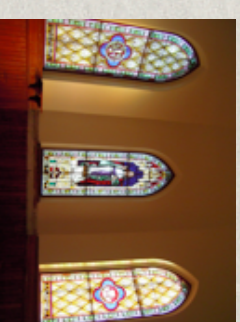
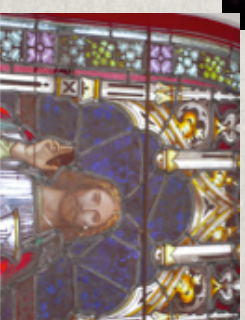
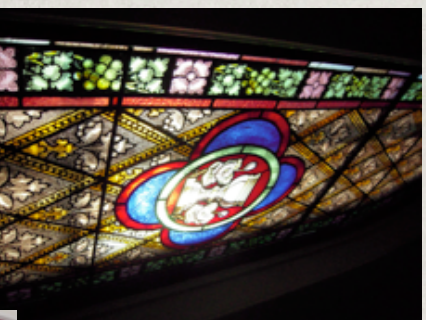
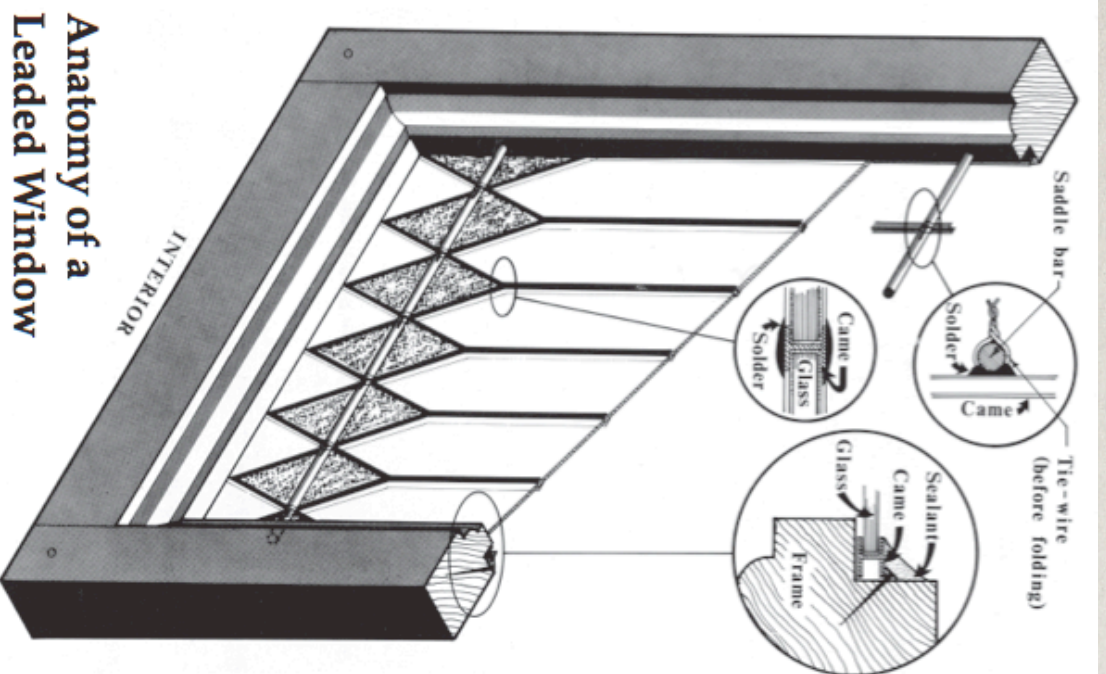
ALTERNATE INTERPRETATIONS



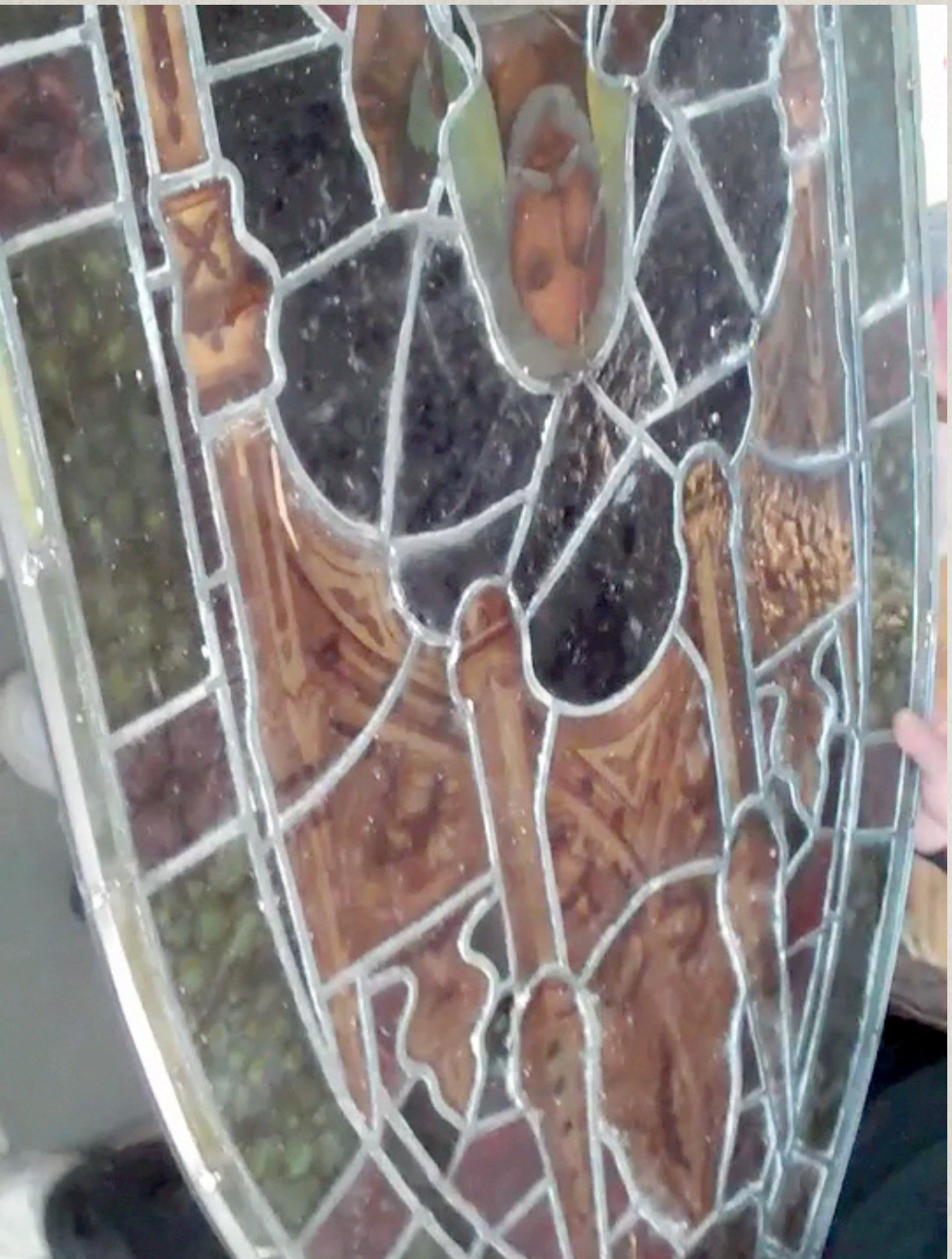
While this is not incorrect, it is but one of many interpretations of the chalice which focuses solely on the role of Jesus as an "atoning sacrifice" for humanities sins. While this atonement theology is central in the minds of come Christians, it is certainly not the case for all.

For example, for some, to share in the bread and cup, is to share in the life of Christ, not just as a remembrance of a past event but as a present reality. "Christ is still alive," such would say, in any human action which is an expression of self-giving love. To share in the bread and cup is to be nurtured in that life-orientation.

NOMENCLATURE

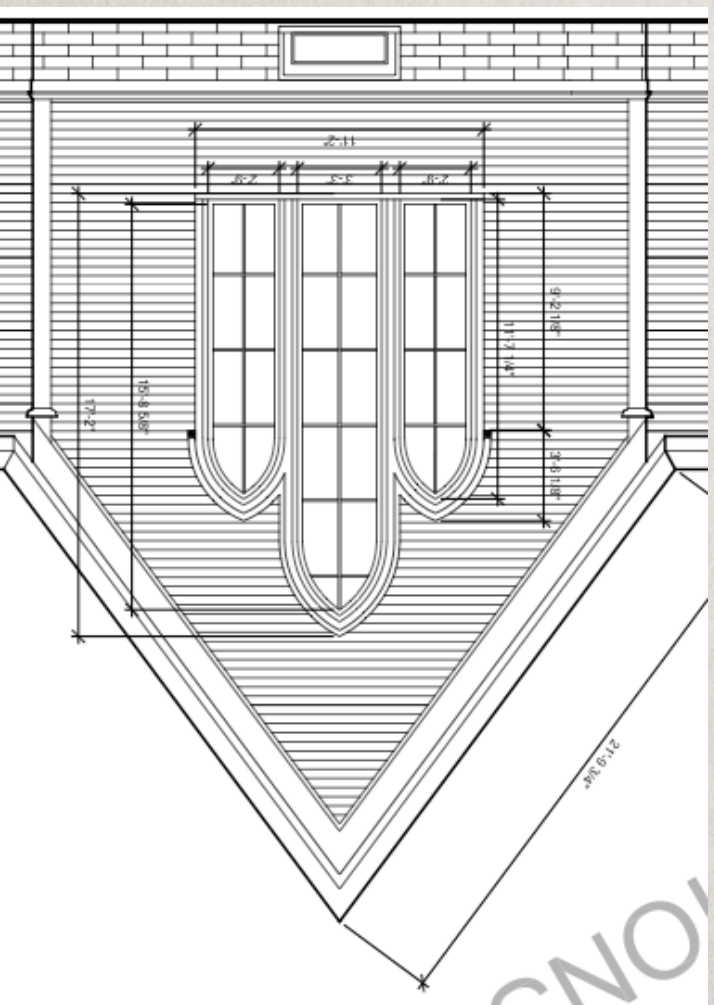
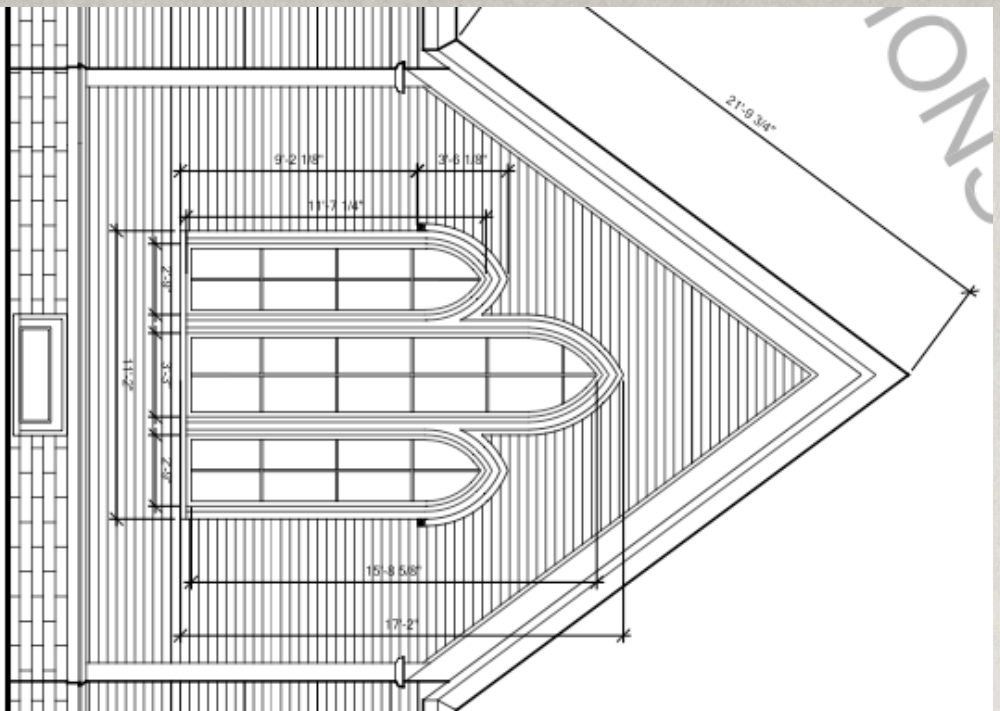


STAINED GLASS WINDOWS ARE FLEXIBLE!



ASPECT RATIO

11'2" X 17'2"



ASPECT RATIO OF GOTIC WINDOWS SIMILAR TO HD - BUT IN THE OTHER DIRECTION!

☼ Windows 17'2" x 11'2"

☼ 1.54

☼ HD 16 x 9

☼ 1.77

STAINED GLASS

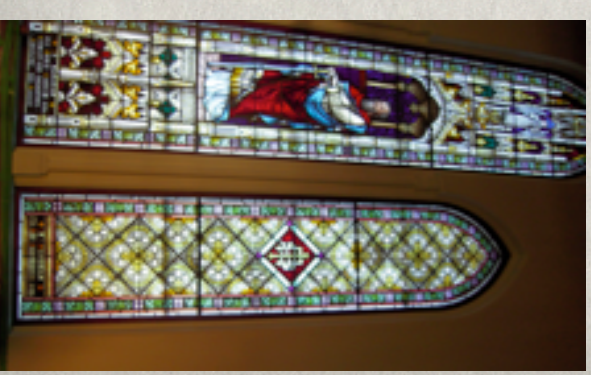


- ☼ Get's its colors from Metallic Salts and Oxides

- ☼ Some colors very hard or expensive to create

- ☼ Made in many different ways

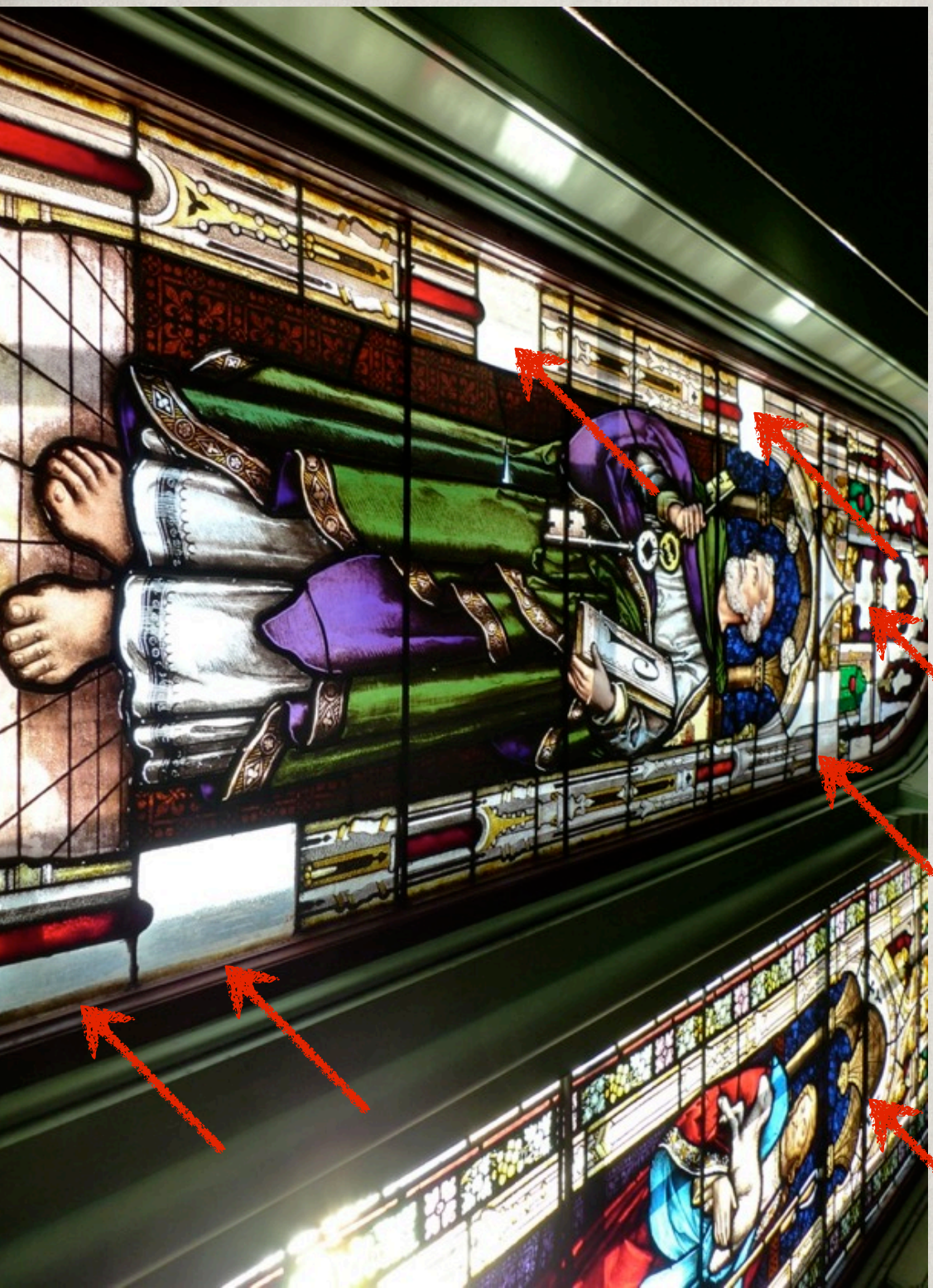
- ☼ Damage can explain how it was made



DAMAGED FLASHED GLASS



PAINTED GLASS WAS NOT
“BAKED” ON PROPERLY



CRACKS POSE INTERESTING PROBLEMS



WHAT IS THE APPROPRIATE TREATMENT

- ☼ Leave it the way it is - potential of catastrophic loss?
- ☼ Remove it and replace with blank glass - destroys the context of the entire Nave?
- ☼ Cement?
- ☼ Repaint?

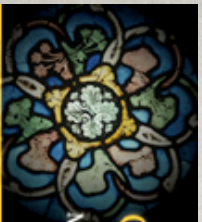
WHAT WE DID!



WHAT CAN WE LEARN?

☼ Many of the issues that we are now discussing are parts of standard practice in other fields and have been so - in some cases for HUNDREDS of years.

ETHICS! STANDARDS AND PRACTICES



Corpus Vitrearum Medii Aevi MEDIEVAL STAINED GLASS IN GREAT BRITAIN



Your trail: [Conservation](#) » [Guidelines for the Conservation and Restoration of Stained Glass](#)

Second edition, Nuremberg 2004

Overview
Guidelines
Introduction
Cleaning
Material and Methods
Protective Glazing
Bibliography

1.1 These guidelines outline the ethical principles underlying the conservation and restoration of stained glass of all periods. They serve as a reference for conservators/restorers and consultants, as well as an introduction and source of information for individuals and organizations responsible for the preservation of stained glass.

1.2 The guidelines were first established in 1989 by the International Committee of the Corpus Vitrearum for the Conservation of Stained Glass in association with the Stained Glass Committee of ICOMOS. The original versions of the current edition are in English, French, and German. Translations into other languages must be undertaken by the National Committees of the Corpus Vitrearum and approved by the International Committee for Conservation. The Corpus Vitrearum is an international scholarly organization whose aim is to research and publish historic stained glass. Its Conservation Committee promotes conservation and restoration in accordance with these guidelines, co-ordinates research, and encourages professional exchange.



**INTERNATIONAL CHARTER FOR THE CONSERVATION AND
RESTORATION OF MONUMENTS AND SITES**
(The Venice Charter- 1964)

[PDF-91 kb]

11th International Congress of Architects and Technicians of Historic

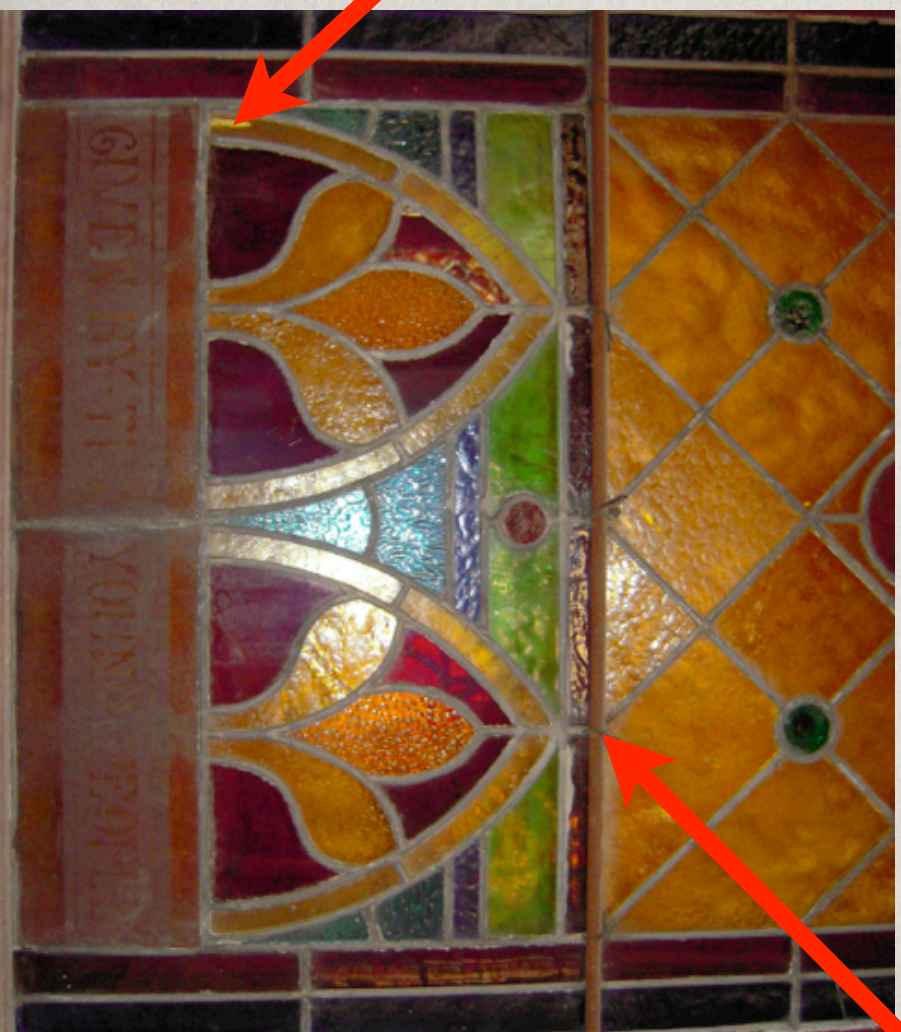
33 PRESERVATION BRIEFS

**The Preservation and Repair of
Historic Stained and Leaded Glass**
Neal A. Vogel and Rolf Achilles



WHAT CAN WE LEARN?

- ✻ Extensive Documentation before, during, and after treatment.



Condition Report

Window Location: S1 - Lower

Examined By: Penny Bedal Date: January 4, 2010

Exterior Dimensions: H 33 3/8" slanting to 34" W 27 1/2" D 1 3/4"

Interior Dimensions: H 29 1/2" W 23 5/8" D N/A

Description of Overall Deterioration: excellent condition

Photographed By: Penny Bedal Date: January 5, 2010

Details of Damage and/or Deterioration: (eg. bowing, cracked and/or missing glass, painted glass, painted frame, solder joints, glazing putty, cement, wooden frames, saddle bars, surface dirt, etc.)

FRONT (saddlebar side)

Description of Damage	Location	Recommended Treatment	Action Taken
Oxidized lead surfaces	Entire window	Buff with Dremel tool, re-cement	completed
Drilled holes in frame	Upper section of frame. 7 1/4" from top	None	none
Bowing - minor	Top section	Don't remove. Apply gentle heat and pressure to realign. Then consider adding rebar to prevent future bowing.	new rebar soldered to lead came
Fading Paint due to improper cleaning	Painted memorial panels	No repair possible short of making new panels	none
Frame is separating	Bottom left, more so than right (as viewed from front of window)	Wood glue to secure sections and discourage further spreading	completed
BACK			
Dusty	All over	Re-cementing process will clean glass.	completed
Cracked & Missing Cement	Along most lead lines	To be refreshed with new cement	completed

SOLUTIONS MUST BE REVERSIBLE

- ☼ No more “secret sauce” or “proprietary technique” - one can reveal the process without losing a competitive advantage.
- ☼ Solutions must be appropriate to the need - just because you have a technology does not mean you must use it.
- ☼ Similar processes of deterioration occur in many objects, we can learn from the preservation techniques used in other fields.

THANKS TO!

☼ Lori Nason, Penny Bedal

☼ Cranberry Glass, Nova Scotia Canada

☼ Rev. Guenter Dahle, Rev. Dr. Mark Harris

☼ Eastern Synod of the Evangelical Lutheran
Church in Canada