

gold, copper reds from SiC, modified slip glazes, tableware from red brick clays, historical research and analysis, and tableware design.

### Results

The graduates of the Department are working in many phases of the field. A pottery which produces decorative ware has as its art supervisor one of the graduates. Another former student has developed a small but flourishing pottery of his own and has organized a series of classes in connection with the plant. One of the large glass manufacturers employs a graduate in the design department. A graduate ceramic engineer working in the Ceramic Art Department has perfected photographic relief processes which offer new and promising decorative possibilities in the tableware industry. The research in tableware design, sponsored by the Rockefeller Foundation was carried out in the Department. Some of the graduates are teachers; others have workshops where they ply their craft. Perhaps one of the most encouraging and gratifying things to those in charge of the Department is that none of the graduates is unemployed.

DIVISION OF CERAMIC ART, DEPT. OF FINE ARTS  
OHIO STATE UNIVERSITY  
COLUMBUS, OHIO



Two vases in porcelain and a bowl in high-fired stoneware by George Fetzer

## LAWRENCE SAINT'S STAINED GLASS CREED\*

As there has been a great deal of discussion upon the subject of stained glass for some time, it seemed to me essential that I clear my own mind by writing out a "creed." I feel that it is wise to share this with those who are deeply interested in seeing windows of a higher standard in the churches and cathedrals of America. I earnestly ask a careful reading of this material by those who receive it, in the hope that it may help toward a better understanding of stained glass.

I believe that:

### Tone

Stained glass in church or cathedral interior, to have the best effect, must have an established color tone, rich but not too dark.

### Scale

It is also necessary to have an established scale for the figures. In the lower parts of the church or cathedral all of the figures should be rather small in scale and in the clerestory and parts far away from the eye they should be quite bold, following the precedent set by places like Chartres and León. Rose windows are an exception.

### White Windows

Windows comparatively light, such as those of the 15th Century, jump out of the walls, so to speak, and keep the building from looking vast and grand. They fail to stir the emotions as do windows of richer color.

### A Successful Result

A cathedral or church can not fail to have a spiritual feeling of bigness and wonder if these three fundamental principles are deliberately carried out.

\* Preprinted for the Annual Meeting, American Ceramic Society, Columbus, Ohio, March 29-April 4, 1936. Received March 9, 1936. (Copyright by Lawrence Saint, 1936.)

### Possible Failure and Danger

In contrast, if in a window the figures too quickly or suddenly change from large to small, the result is mediocre.

A church or cathedral interior in which the windows jump too quickly from light to dark makes serious readjustments to the vision necessary. Such an interior, therefore, lacks repose and fails to give the feeling of wonder and majesty. The failure of the general effect in many churches is due to these faults, and such churches are, in a sense, museums exhibiting different styles of stained glass and do not awaken the proper spirit of reverence and devotion in the worshipper.

### Sources of Inspiration

The windows in a cathedral or church should be inspired by Our Lord, Jesus Christ, for whose glory it was built, and the light and life which ought to be in the windows should come from one who has the light and through one who is obedient to that life and light. The failure of much of the stained glass in our churches is due to commercialism among stained glass artists who may have little or no sympathetic understanding of its sacred subject matter.

### The Question of Light

Windows were originally made and still ought to be made to admit light. When windows are so dark that one has, on ordinary days, to light up the interior, they fail in one of their very important functions. The *light* in churches should not be like the light in offices or factories but, through the marvelous influences of color, should be softened and quieted so as to have a different effect upon the emotions. No matter how light-admitting windows are, however, there are some days on which artificial lights have to be used. Windows should be made

in such a way that they will be satisfactory on ordinary days.

#### Change of Attitude

In 1910 I felt that 14th Century stained glass, combining color and white, was what America needed, but I have come to the conclusion that it is almost impossible to get the best color effects with any large proportion of what I call greenish whites.

#### Color and Light at León

A reasonable amount of light and color can be gained by reducing to a minimum the amount of leading and filming and by the use of a reasonable amount of yellows and reds, flesh tones, and whites in about the following proportions, in which they appear in the window I copied in León Cathedral, León, Spain:

	(%)		(%)
Blue	23.5	Green	10.80
Red	23.2	Purple-brown	7.85
Yellow	16.0	Flesh	3.00
White	12.4	Iron-work and error	3.25
(Lead area not calculated)			

#### Churches Too Dark or Too Light

A church so dark that one has to stumble around does not express Christianity; nor does an interior which is too bright give the "dim religious light" which is necessary for meditation and real worship and the registering of the deeper things of the soul.

#### Subject Matter

The subject matter of church windows should be definitely related to Christianity. My preference is for subjects taken from the Bible.

#### Coöperation of Theologians with Designers

Those who choose the subject matter of a window should work in conjunction with the designer for the best results. Where subjects are too complicated the message fails, and *some subjects do not adapt themselves at all to certain types of windows.*

#### Treatment of Subjects

In a series of narrow lancets forming one window, the subject matter should not be carried across the lancets as is frequently done in the objectionable naturalistic picture type of window. This sort of thing fights the spirit of the architecture. Each lancet should be complete in itself for the best results.

There are places where medallions give a fine effect and other places where single figures look best.

#### Importance of the Architect

The architect who designs any church naturally has the "feel" of the building and usually has definite ideas as to the relation of the windows to the architecture. Even though a building may be complete and the architectural work finished, church authorities, in putting in new windows, would do well to avail themselves of an architect's advice as to the proper artist to do the windows and of his criticism of the designs from the standpoint of scale and architectural appropriateness. Witness the

tragedy in many churches where church committees without the help of such advice have ruined interiors through buying windows which disregard style and scale.

#### A Competitive Evil

Churches desiring stained glass should not have several artists or firms make *unpaid* designs. It is most injurious to both. The artists have to retrieve their losses by taking work out of future windows. The churches therefore lose in the end. Artists should be selected on the basis of work previously executed.

#### Gothic Christian

Gothic architecture is preëminently a definitely Christian expression, and heathen types of figures or ornament, such as Greek or Egyptian, can not be combined with it in the windows without weakening the devotional spirit of the Gothic.

#### Conformity to Architecture

Stone mullions should never be removed from any window to accommodate any stained-glass subjects; the stained glass should fit into the architecture, in harmony with it and growing out of it. Every detail does not have to be in exact harmony with the architecture, but there should be no fighting between the ornament in a stained-glass window and the architecture, in movement, rhythm, or mass.

#### Color

Color is the most striking and therefore the most important thing about stained glass. As the window is always the lightest area in a church, it *commands* the attention. One can not resist looking at it. Especially is this so in colorful windows.

Color is like music. It is a very sensitive medium of expression. Because of this sensitiveness it can be either devotional and reverent or merely pagan.

The color expression of Christian emotions is of a certain conservative type and certain combinations of colors produce emotions in harmony with Christian thought and feeling.

Upon entering a cathedral or church, one should feel an uplifting spirit of wonder; he should feel, as it were, a touch of Heaven and a greater nearness to Our Lord as the colorful windows speak to his spirit.

Brilliance, glory, and light are found most often in the middle register of color tones. A combination of selected tones of the primary colors with small amounts of secondary and tertiary or neutral colors is best adapted for the expression of Christian feeling. To make colors harmonize, each color must yield up some of its nature to the others that surround it: red with a little blue and yellow, blue with a little red and yellow, yellow with a little red and blue. We all enjoy such colors in the skins of ripe bananas, Tokay grapes, and apples. Every good color must have in it this three-color idea. This is the principle of color harmony in the great windows of the medieval period, in fine rugs, great paintings, and in every worthy work of art in all ages and countries. To get harmony of color and tonal shades of color takes most careful artistic judgment, and it takes time and

repeated inspection, with the registering of reactions, to determine whether or not colors are in perfect harmony.

### Area

Where both light and color are demanded in a church or cathedral interior, it is essential that the area of glass be rather large in proportion to the stone work. In Chartres the window area is comparatively small, the windows are dark, and a rather dark interior results. In León the window-space is large, the windows colorful, and the interior is not dark.

### Indispensable Essentials

Aside from spiritual inspiration it takes three things to make a great window: talent, time, and money. Every one of these three is absolutely essential. If there is money and time but no talent, or time and talent but no money, or money and talent with no time, there is failure.

### Sources of Inspiration

For the finest results, every stained-glass artist must have high ideals which can be definitely inspired and quickened by the study occasionally of the great masterpieces in stained glass of the past.

The west windows of Chartres are generally accepted from every standpoint as the greatest masterpieces that the world has ever seen: from the standpoint of scale, architectural fitness, message, color tonality, relationship to one another, and style of drawing for stained glass. Beside these stand the finest windows in the clerestory choir in the cathedral of León, Spain, and the more I study the sketch I made of the finest window there, the more I admire the fine artistic beauty of the color and the dignity and devotional spirit in the design and arrangement. The general color effects here are expressive of the American spirit of optimism as well as of the warmth, love, and kindness of the faith of Our Lord, Jesus Christ.

The Crucifixion window of Poitiers is also a great masterpiece. The colors are brilliant and glorious without being garish or unpleasant. It has a spiritually thrilling quality and a vital Christian message. There are effects in the windows of the north choir aisle of Canterbury Cathedral which are superior, and the glass painting with its fine conventionalization and character drawing is worthy of the most careful study. Such study is made easy by the position of the windows which are near the eye. This style seems to be the same as at Poitiers.

### Storied Windows

The windows of Chartres were made for an age when windows were the picturesque and colorful Bible of the people, "Storied windows richly dight," from which the priests, we are told, pointed out the lessons from Bible scenes and the lives of the Saints. León as well as Chartres has medallion subjects.

### Craftsmanship

The craftsmanship principles of the Middle Ages are absolutely safe to follow. Only the most enduring materials were used in the construction of a window. The iron used to subdivide the weight of the window is practically rustless because of its silica content and has remained unchanged for centuries. The lead, which con-

tains tin to make it strong, was made with narrow heart and heavy flanges to give the windows greater strength. The irregular thickness of the glass bends the light rays and otherwise effects subtle changes in color tones. The paint and half-tone filming (which I succeeded in approximating after many experiments while working as one of the artists on the Bryn Athyn Cathedral under Raymond Pitcairn, Esq.) is warm, translucent, and lasting.

No window should have a single piece of double-glazing, and no windows should have house paint put on them, after they are made, to deepen their tone or change the colors. When it is first made, a window should not be filled with a multitude of leads to imitate a window several hundred years old. The great number of leads in ancient windows has resulted from repairing and reglazing.

### Lead and Iron

Generally, leads not wider than those of the Middle Ages should be used, usually three-sixteenths inch. It is beneath the standards of high craftsmanship to use leads an inch or more wide to imitate iron work and it is best to use secondary supporting irons, about three-eighths inch square for general use.

### Firing of Paint

Paint should be fired on slowly and thoroughly in a muffle kiln, and the glass should cool down naturally without being suddenly changed to cooler chambers.

### System Used in America

The use of black or red glass-paint for filming a window is deadly to its glow and life.

### Texture

In producing a texture the effect of aging in old windows is safe to follow. It is by no means the best policy, however, to film a new window as heavily as an old window is filmed after it has been pitted and corroded by centuries of time.

A window should be made for certain definite light conditions, such as the sunless north side or the sunlight of the southern exposure. A window made to stand the sun would not look equally well where it would get no sun and where it would have only a cool sky behind it.

### Drawing

Figures should be drawn in natural or possible attitudes; they should have grace and beauty of pattern shapes and rhythm of line work.

Figures should have as much naturalism as is consistent with the stained-glass art; that is to say, the faces should not be photographic but what we call the bas-relief type. This has been accomplished in stained glass by the use of lines of different depths of tone, of different widths, and by tapering lines usually to fine points.

More character or a different kind of character in the faces should be aimed at than is found usually even in most of the finest windows of ancient times. It is also my aim to get as much expression in an individual attitude as possible without sacrificing the strength necessary to make it carry well.

For me, at least, it is best to draw from real life characters whose lives are as nearly as possible like those in

the Bible to enrich the message and add intellectual interest. To go too far in the direction of naturalism, however, is dangerous. Stained glass became a lost art partly through the effort of glass-painters to imitate painters of easel-pictures and by the introduction of perspective. I consider the drawing and treatment of the Canterbury north choir aisle windows so good as to make them the safest models in the world to follow. A great master glass-painter painted these windows and the heads are more satisfactory than any I know.

**Exaggerations**

Certain exaggerations are necessary in stained glass, such as making the feet smaller and making allowances for the lead lines which surround the figures.

**Silhouettes and Angularity**

For the best effects in windows, figures have to be drawn in a very simple, angular way. The outlines or silhouettes must be comparatively simple.

**Drawing Looks Weaker in Place Than in Studio**

The drawings for fine stained glass as they appear on paper may have a severe, stiff, unattractive look, but when the windows made from the same drawings are in

place beside beautiful stone mullions and bold architectural forms they become softer and less severe by comparison.

**Patterns of Color**

A window should be designed to look right from the location from which it is most often seen; from the very first thoughts of the window, the color should be considered; the patterns of color should be worked out in the initial stages of the design, and faces, drapery lines, and everything else must be secondary to the big plan of color which assures the success of a window.

**Conclusions**

It is absolutely essential, for the best results, that an artist know from whom he is to get his final directions and that those having various opinions on any work under consideration be present when the final opinions are given. It makes for confusion for an artist to receive a set of directions and later have persons in positions of influence express to him divergent views.

The unusual opportunity afforded me by nearly eight years of service to Washington Cathedral have brought about experiences which have crystallized into many of the above convictions.

HUNTINGDON VALLEY, PA.



Student Branch of the American Ceramic Society at New York State College of Ceramics, Alfred, N. Y.

**CELO KYANITE**  
UNIFORM QUALITY      DEPENDABLE SUPPLY  
FOR INFORMATION AND SAMPLES WRITE TO  
**CELO MINES, INCORPORATED**  
BURNSVILLE, NORTH CAROLINA