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Stained glass as a medium of religious education

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STAINED GLASS AS A MEDIUM OF
RELIGIOUS EDUCATION

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Master of Arts

by

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INTRODUCTION

From the days of Oliver Cromwell we have this sinister record.

Item. Pulled down great organs in the church. Exceeding idolatrous. Item. Removed from church and burned at market cross, one carven figure of our Lord. Exceeding superstitious. Destroyed to glory of God images of Twelve Apostles, and removed dove from font cover.

It is not often today that we hear of such organized destruction of ecclesiastical art, but art has been greatly neglected by the Church, particularly by the Protestant branches of the Church.

It is the function of this thesis to indicate the means in which art, particularly stained glass, can be made a part of the program of Religious Education.

The first chapter of this thesis will discuss the value of art in Religious Education. This discussion will be given in five divisions: art as a visualizer; as intellectual interpreter; as emotionalizer; as revealer of spiritual values; and as an ideal builder. Each of these divisions will be illustrated by examples from architecture, sculpture, and painting. Since architecture is generally conceded to be the queen of the arts, it will be placed first in each of the five groups of illustrations. An effort to suggest the catholicity

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of the appeal of art as an educational method will be made in the choice of these illustrations. They will be taken from several sources, including French, German, Italian, Greek, English, Turkish, Japanese, African, and Ceylonese cultures.

The first of the three chapters, dealing primarily with stained glass, will serve as an orientation to the field of discussion. In order that the subject may be more properly appreciated, a discussion of the craft itself is in order. Because of historical interest the methods that were employed in the twelfth century will be compared to those that are used in this generation.

This discussion of the twelfth century workshop would be incomplete if no mention were made of the work of Theophilus. Very little is known about this man. The date of his "Treatise" is assigned to several centuries. Yet, in spite of these difficulties, we gladly acknowledge our dependence upon Theophilus for all of the information that we have concerning the twelfth century methods of making a window. Comparisons will be made as to the making of the cartoons, the painting of the glass, glazing and firing. There is evidence to show that the glass workers of the twelfth century had flashed glass and that it was possible for them to use acid with this flashed glass to make heraldic designs. There is also evidence that silver stain had been discovered by that time. In as much as these two processes are the same now that they were in the
twelfth century and in as much as they are more widely used now than they were then, they will be discussed in the section of the chapter that is given to a discussion of the processes of making a stained glass window in the twentieth century.

There is a popular legend that stained glass is a lost art. One of the functions of this chapter will be to expose the fallacy of considering stained glass as a lost art.

In order that the teaching windows of the mediaeval age may be better understood, a discussion of the distinguishing characteristics of glass from the late eleventh to the sixteenth century will be given. A description of the Good Samaritan Window at Sens will illustrate the teaching of biblical narratives by means of windows. The teaching of the lives of the Saints will be demonstrated by the Saint James, major window at Chartres. Another of the Chartres windows, the Charlemagne Window, will be described to show how stained glass windows were used in the mediaeval age to teach history, both legendary and actual.

In as much as the glass men of the mediaeval age made many interesting uses of type and anti-type, by which every incident in the life of Christ had a counterpart in the Old Testament, this chapter would be incomplete if the matter were omitted.

One of the outstanding stained glass window makers of our time is undoubtedly Charles J. Connick. This statement is based
upon the fact that he has received more medals and honors than any other stained glass craftsman of our time. A brief discussion of Mr. Connick's childhood experiences are in order since these experiences influenced the attitude that he holds toward his work today. The singing qualities of symbols and color will be placed after the discussion of Mr. Connick's childhood impressions.

The remainder of the thesis will present illustrations of windows that not only have been made and installed in our time, but also have definite teaching qualities. In these windows there is a great variety of teaching subject matter. This includes the stories of the Old and New Testaments as well as incidents from the lives of Saints and other men prominent in history. In one of the windows in the Riverside Baptist Church in New York City, a history of the development of musical instruments is given. Another window in this church is devoted to a history of the great reformers of the world.

Two other outstanding groups of teaching windows are Mr. Connick's works in the Heinz Memorial Chapel at the University of Pittsburgh and Mr. Wilbur Herbert Burnham's works in Trinity Methodist Church at Springfield, Massachusetts.

A great variety of teaching subject matter is found in the Heinz Memorial Windows. This includes the great hymns of the church; Christian leaders and teachers; the five virtues - charity, faith, hope, justice, and wisdom; and three Christian

In the windows of the Trinity Methodist Church are seen great men and women of history. The first in this series of windows is Moses. The last is Charles Lindbergh.

Two people who have given invaluable assistance in the preparation of this thesis are Charles J. Connick, who has so generously given me access to his library and work shop, and Stephen Bridges, who has been of great assistance in the preparation of the bibliography.
CHAPTER I

THE VALUE OF ART IN RELIGIOUS EDUCATION

A. AS A VISUALIZER

During waking life the human organism is in varying degrees aware of its environment. It is affected by the laws of frequency, vividness, and recency. The law of frequency is that an experience that is repeated frequently is recalled as a memory more readily than an experience which has occurred only once or a few times.\(^1\) The law of vividness is that among alternative ideas which might be recalled the one that was most intense or vivid at its occurrence is the one most likely to be recalled.\(^2\) The law of recency is that a recent occurrence tends to be recalled sooner than an occurrence of some time ago, if other factors are constant.\(^3\)

If art is to have a definite place in the education of children, then it must be used in a manner consonant with these laws of frequency, vividness, and recency. In obedience to the law of frequency the child must be surrounded with as much good art as is possible and as often as possible. This art must be vivid or impressive to fulfill the requirement of the law of vividness. For instance a building should give the appearance


\(^{2}\text{p. 183.}\)

\(^{3}\text{p. 184.}\)
of massive strength or exquisite beauty. A picture or a sculptured piece should be arranged so that its individual beauty and charm are not molested by other similar pieces. The law of recency is a splendid reason for repeated visits to churches, museums, and art galleries.

The fact that most people visualize very inaccurately shows that these laws are not observed in the ordinary methods of presenting art to the child. If, for instance, they are told any of the Bible stories, images arise in their minds; but these images are very hazy and indefinite. They are cloud-like things which float in and out of the mental perception but are not seen definitely and clearly. If the story of Peter's denial of Christ is told, very few are able to form clearly an image of Peter's appearance, his facial expression, or his posture. Few are able to do any of these things with Jesus or the Roman soldiers or any of the bystanders in the court yard. This is not true of the artist, who sees things so clearly and so accurately that he is able to reproduce the mental image in such a way that others may see it. An artist is a man with highly organized sensitivity. He is a man of strong intellect. Frequently he is a man of philosophic and poetic temperament. He sees more things and more meanings in things than the average man. Berenson is right when he says that art is a visualization of the imagery of great minds.†

†Bailey, The Use of Art in Religious Education, p. 28.
A large and very important part of the education of children is the imparting to them of an adequate body of imagery. Imagery may be defined as any revived experience that was originally a perception. Memory is said to exist when a sense of familiarity accompanies the revival of the imagery.\(^5\) The vividness and accuracy of memory will vary as the laws of frequency, vividness, and recency are applied. The good teacher strives for accuracy and vividness in the original presentation. These images provide the basis for the formation of ideas. Thus perception is conception in the process of formation.

The imagery and experience resultant from the child's immediate environment does not provide an adequate education. It must be supplemented by an awareness of the experiences of others.\(^6\) Often this is done by reducing the experiences of others to visible forms and then giving the child an opportunity to see these visualized experiences.

In this manner the child first meets with lions and tigers and elephants. He also becomes acquainted with historical figures of his own country and of the world. History, literature, and the Bible stories themselves are more fascinating if they are visualized for the child.

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6. Bailey, op. cit., p. 44.
These images that are formed in childhood are practically indelible. It is for this reason that it is so necessary that the child's imagery be formed of that which is beautiful and wholesome rather than that which is ugly. Often an immeasurable amount of feeling and power are held within pictures. Later, as they reoccur in memory, they are very likely to liberate within the consciousness the dynamic needed to move the will to action, determine choice, and in some degree shape character.

Feeling and power are in architecture and sculpture as well as in painting. Often the attitudes of a people are shown in architecture and sculpture. This architecture and sculpture then plays its part in the development of attitudes in children. It is said that the Blantyre Church in Nyasaland in Africa affected the African mind as few things else have done. To the natives the church was a visible and permanent witness to their new-found faith in God. It is not difficult to see that the French-Canadian child who lives in a village that has no large and impressive buildings except the church comes to feel that the church has a significance for his life.

The spill of the Africans in carving is demonstrated by an altar carving in the Government College of Nigeria. Around the edges are carved the first lines of the college hymn.

All creatures of our God and King
Lift up your voice and with us sing
Alleluia! Vemushia! Alleluia!

The elephant, the crocodile, the spiders, the tortoises, and the beetles are worshipping their Creator, represented by the central Sun with its rays streaming out of all parts. The panel is a veritable picture book with its buds, animals, insects, and fish. This illustrates for the worshippers the creative aspect of the nature of God.

One of the easel pictures painted by Puvis de Chauvannes was his "Prodigal Son." The background of this picture is a barren country side. There is a blasted tree that speaks of the wrecked fortune of the prodigal. The pigs and the mud show his degradation. The prodigal, dressed in rags, is sitting on a stone. His hands are folded over his breast. The expression on his face is enough to convince one that the prodigal has seen the error of his ways and has resolved to return to his father. A picture like this is a great help in impressing the details of the story on the mind of the child.

B. AS AN INTELLECTUAL INTERPRETER

In times past art was a powerful instrument used by the Church to assist the communicants to arrive at definite beliefs. "Art has always been the handmaid of religion and, in

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turn, religion has been the creator and preserver of art. In recent years we have been rather neglectful of this fact. Art should be restored to its rightful position in the list of pedagogical instruments.

Art has preserved an interesting account of the theological history of the Christian Church. In the catacombs and on the grave stones of the ancients are found numerous symbols expressive of theological attitudes. The vine with its branches and fruits symbolized a vital religious experience. The Greek letters Alpha and Omega time after time are made to represent Christ. The Trinity is expressed by three intertwined circles. The Lamb is the symbol of salvation.

The historical rivalry of the Franciscans and the Dominicans is also seen in the art of the Middle Ages. The decorations in the Church of Saint Francis at Assisi place emphasis on living the life rather than on doctrine. The Spanish Chapel in the Church of Santa Maria Novella at Florence gives us a quite different conception. The Holy Spirit is embodied in doctrine on the one hand and organization of the church on the other hand. The true materials of religious education are found in the trivium and the quadrivium. Heaven

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12 Bailey, op. cit., p. 81.
13 Ibid., p. 82.
is chiefly peopled with the converts that the Dominicans have made from heresy and irreligion.

It is Bailey's opinion that the Popes of the degradation sought to retain the loyalty of the people with the glories of the Sistine Chapel and the magnificence of St. Peter's Cathedral.\footnote{14} As a part of the Jesuit Counter-Reformation the papacy used art as a means of appealing to sympathy and even sentimentality. Murillo's painting, "The Immaculate Conception" with its soft and sensuous Virgin surrounded by a host of cherubs is a splendid example of this sentimentality.

If pictures are used as teaching material, several things must be known about them. The purpose and meaning of the picture must be understood. After the doctrine is discovered, the next step is to discuss its value or truth. This not only clarifies ideas and leads to an understanding of truth, but also gives an appreciation of the long process by which truth has been reached by the human mind.\footnote{15}

The cathedral of Saint Sophia, which had its first stone laid in 532 A.D. and has since become a mosque, has a triple doorway symbolic of the Trinity. Each door is itself divided into three parts. The great dome with its windows symbolizes the all-inclusive nature of God and the illumination of the

\footnote{14}{Bailey, \textit{The Use of Art in Religious Education}, p. 83.}
\footnote{15}{Ibid., p. 84.}
universe. The dome itself is supported by four great arches that represent the four evangelists. Mosaics, whose subjects were the significant persons, acts, and doctrines of the faith, covered all of the areas of the church above the marble wainscoting.\textsuperscript{16}

Job Kekana, an African Christian, has executed a bas relief of the Crucifixion in such a way that the African mind can understand it. Jesus is an African native with woolly hair. Mary is a native girl with a dook, or handkerchief, tied round her head such as all women wear. John is wrapped in a blanket only. African huts on the veldt are seen in the background.\textsuperscript{17}

The influence of preoccupation with death is shown by Holbein's series of woodcuts, "The Dance of Death." One is called "The Miser." It shows death sitting with the miser in his counting room. All about the room are chests of money. The arms of the miser are stretched out in protest, while death calmly gathers the gold from the table.\textsuperscript{18}

\section*{C. AS AN EMOTIONALIZER}

Emotion is the designation given for the mind's capacity to feel. Feeling differs from emotion in intensity. Emotion is essentially a mental experience.\textsuperscript{19} A more elaborately stated

\textsuperscript{16}Ibid., p. 125.
\textsuperscript{17}Fleming, op. cit., p. 72.
\textsuperscript{18}Sir William Orpen, The Outline of Art, p. 104.
\textsuperscript{19}Athearn, An Introduction to the Study of the Mind, p. 160.
definition of emotion is found in the Lange-James theory. This theory asserts that the emotions are essentially of the same nature as sensations; that an emotion is a mass of confused sensory experience arising from the sensory impressions made by the processes going on in the various organs of the body, and that each distinguishable quality of emotion owes the peculiarity in its quality to the specific conjunction of sensory impressions made by a specific conjunction of bodily activities, the visceral organs playing a predominant part in this sensory stimulation. 20 This is a combination of the crude form of sensationism with the crude form of the reflex theory. It ignores the fact that sensations may be centrally excited in the form of imagery, independent of the stimulation of the sense organs. 21 Furthermore it ignores the fact that the essence of every emotional reaction is an impulsive striving toward a goal. 22

If admiration and fear are joined the resultant emotion is called Awe. If the power exciting awe is beneficent as well as malevolent, gratitude is evoked. The combination of awe and gratitude is called Reverence.

Few human powers are capable of exciting reverence. Generally the human beings who inspire reverence do so, because

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20 McDougall, Outline of Psychology, p. 327.  
21 Ibid., p. 327.  
22 Ibid., p. 328.
they are regarded as the ministers and dispensers of Divine Power. The act that inspires gratitude must have both kindness and power. When we stand before a Gothic Cathedral we have a feeling of admiration. Within the cathedral, the shadows add a feeling of fear to our admiration and we are reverent.

The increase of emotional feeling is without doubt the most striking characteristic of the mental life of adolescence. As a matter of fact this increase in emotional feeling is necessary in the formulation of the religious beliefs of the adolescent. Before ideas become beliefs they must not only enter into the organized mental life, but must become emotionalized and begin to operate through the will. Emotion creates values. Meaning and values for the individual are added to objects of little or no commercial or aesthetic value. Emotion gives a sense of reality of other persons, tends to enable one to get higher personal values out of his surroundings, demands that conduct shall recognize the new values that it discovers, and, by discovering new compelling interests, enables the mind to reorganize itself around the larger personality which religion furnishes. Thus it helps to unite the life of man with the life of God.

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23 Ibid., p. 334.
24 Strickland, op. cit., p. 92.
25 Bailey, op. cit., p. 90.
Emotions grow through expression. This expression must be guided if wholesome activity is desired. The emotional response should be positive, pleasurable, altruistic, and have a balanced development. All reference to unwholesome emotional situations should be attended by a serious desire to be socially and remedially helpful.

Art is the visible expression of emotion and great art embodies an ideal. The emotional dynamic of a masterpiece arrests our attention. We pause and seek to know its meaning. Emotion plus thought leads to a higher and truer emotion. This seems to be a reasonable explanation for the fact that the church has used art to adorn her places of worship. It is for this reason that one finds icons in Greek Orthodox Churches and altarpieces in Roman Catholic Churches. By this means the church seeks to emotionalize truth and elicit admiration, joy, and worship in her communicants. Unfortunately fear of idolatry has caused the Protestant Church to reject the use of beauty. There is today, however, an increasing use of art in the Protestant Churches.

By sympathy we do not mean maudlin sentimentality; nor do we mean an expression of sorrow. We mean sharing our emotions with one another. This leads to the development of social

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27 Ibid., p. 165.
28 Bailey, op. cit., p. 91.
29 Ibid., p. 94.
usefulness in the world. By experimentation with pictures we can imagine ourselves in various situations. From this we get an appropriate feeling.

Symbols have an emotional as well as an intellectual content. The flag of our country has more meaning to us when we see it in a foreign land than when we see it in our own country. So do the heart, the cross, the anchor, and the lamp -- common symbols in our churches -- vary with the experiences and feelings of the worshipper. Hence a personal experience of a worshipper may lead him to feel that the symbol links his individual life with the life and purpose of God himself.\(^{31}\)

The adolescent is hesitant about discussing his emotional experiences. Because of this we cannot discuss the emotional values of pictures too freely with the adolescent, but we can use the best examples of emotionalized art in the hope that some day his personal experience will make it possible for the masterpiece to reveal to him his inner self.\(^{32}\) It is for this reason that it is so necessary to exercise care in the selection of the art with which we surround ourselves. Pictures should stimulate the imagination and help the development of the Christian Ideal within us.

\(^{31}\) Ibid., p. 95.
\(^{32}\) Ibid., p. 96.
The effect of Gothic architecture is one in which the form of the building seems to dissolve into the space around it. Thus emotions are given free play. In order to gain this impression of dissolution into space the facade, gables, pinnacles, and stringcourses of the cathedrals are softened by small curling leaf-like devices called crockets. These crockets seem to grow out of the structure itself. The effect is gained in the interiors by narrowing the semi-circular vaulted arches. A vertical movement is carried by the shafts of the piers so that the eye is naturally drawn upward. Stained glass windows diffuse the light of the interiors. Color falling upon the structural forms causes them to lose their concreteness and transforms the impression of solid weight into ethereal abstraction. The aim of Gothic architecture, the conversion of material to immaterial, is thus achieved. The climax of this is found in the Cathedral of Amiens.

McDougall suggests that the artists of the Middle Ages covered the exterior with grotesque and horrible figures because the external aspect of the Gothic cathedral is apt to fall short of exciting the fear which is essential to reverence. These figures were called gargoyles. Charles Meryon, in his etching "Le Strynge," shows one of these

33. Robb and Garrison, Art in the Western World, p. 115.
34. McDougall, op. cit., p. 335.
hideous figures. Its body is the reclining figure of a man leaning upon his elbows. The nose is that of a bird and wings protrude from the shoulders. The head has horns; and, as a last touch of horror, the tongue protrudes in a grimace.

Leonardo da Vinci in his "Last Supper" has captured for us an intensely emotional moment in the life of Christ. The electric shock of the pronouncement of Jesus that one of them should betray him has divided the disciples into four groups. Christ himself has felt the force of his words and has his head bent. Thus he does not see the effect of his words on the disciples. Peter is ardent and excited, John is sunk in sorrow, Judas is grasping his money bag, and James is shrinking back in a gesture of wild sorrow and astonishment. Art could hardly be more forceful than this.

D. AS REVEALER OF SPIRITUAL VALUES

There is a story told that the biologist Haeckel was asked what question he would ask of the Universe if he could ask such a question and be assured of a truthful answer. Haeckel replied that he would ask if the Universe were friendly.

The desire to find the world friendly and to enter into personal and dynamic relations with it is the root of religion.36

36Bailey, Art and Character,
In as much as man is a part of the universe, the desire to make man friendly is a part of religion. Through religion we gain richer personalities and also a desire to use our personalities to further the brotherhood of man. The painter conveys, by means of his pictures, emotions, ideas, and inspirations to individuals. "Religion is not purely subjective; it involves a personal attitude toward an objective realm of values." 37 This personal attitude includes a trustful dependence upon a higher Power, a longing after redemption, and an implicit alliance with the moral ideal. 38

The ministry of Jesus was not only of the prophetic type. It was also a ministry of worship. Worship is the act of approaching God. It is the lifting of thought to God and also the institution of communication with God wherein will answers will. 39 Jesus worshipped in the Temple, taught there, and indicated the spirit in which men should worship. 40

The general order of public worship as found today in the Book of Common Prayer of the Church of England is much the same as that employed in the mass of the Catechumens in the Roman service, or, earlier than that, to the usage of the Synagogue. 41 The theory of worship is that its outward

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37 Knudson, Doctrine of God, p. 45.
38 Ibid., p. 45 ff.
40 Odgers and Schutz, Technique of Public Worship, p. 32.
41 Hughes and Others, Worship in Music, article by E.E. Harper on The Order of Worship, p. 123.
expression should parallel its inner experience.

Through all the innumerable variations in stimulus, tone, intensity, content of ideas, recurrence, duration, conclusion, there would appear to be always in its normal course something of each of the elements suggested -- Vision, Humility, Exaltation, Illumination, Dedication.42

Early American Methodism placed greater emphasis on evangelism than it did on formal worship. This is now vastly changed. The training given by the public schools, colleges, and numerous civic organizations had developed public appreciation for that which is artistically significant.43 All of this has resulted in great discontent throughout the Protestant Church with reference to its public worship. The great need is for some unifying principle upon the basis of which the interests of public worship may be advanced.44

Our Christian understanding of the nature of God is, to a very great extent, facilitated by an understanding of the character and life of Jesus. Many of our ideas about Jesus we owe to artists who have given us visual representations of him. From the standpoint of Religious Education it is essential to study the life of Jesus. Every one of his acts shows understanding of his self and his relation to society. One who studies the life of Jesus cannot help but be impressed by the marvelous degree of self-control and unselfishness that he

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43 Harper, op. cit., p. 126.
44 Ibid., p. 127.
possessed. It is this spirit of unselfishness upon which civilization is dependent.

Civilization results only when men have trod the evolutionary path from selfishness to altruism; from the law of the jungle where every man is for himself with instinct untransformed, through the law of the pack where a group bound by inner loyalty preys upon other groups, to that spiritual achievement when individuals, groups, and nations have delayed their instinctive reactions until they have taken time to consider the totality of the environment that is, the needs and the rights of other individuals and groups. The achievement of this transformation of instinct, therefore, results not only in the highest and most satisfactory form of social conduct but in actual survival. Selfishness carries within itself its own nemesis.45

Conduct on a high moral level finds its authority in attitudes of loyalty, which is a development in social environment. In other words, conduct develops in an environment of persons. The control of self increases with the growing consciousness of self in its relation to society.46 The meaning of art is discovered when we bring some element of it into consciousness and make its beauty to be greatly desired. Particularly is this true of religious art.

Courage, as well as loyalty, comes from a true perception of values. It comes from knowing what to fear and what not to fear. Courage is simply strength in right causes. In fact it is the rightness of the cause that gives it strength.47

45 Bailey, Art and Character, p. 70.
46 Strickland, op. cit., p. 100.
47 Bailey, Use of Art in Religious Education, p. 105.
courage of Socrates in defying the men of Athens who sought to restrain him from the pursuit of wisdom found its basis in his conviction of the rightness of his cause. So also did the conviction of rightness motivate the actions of Jesus. The whole life of Jesus was the expression of his consciousness that he was a son of God.

Pictures give many evidences of that to which we refer as the spark of divinity within man. Sometimes they show an awareness of duty. Sometimes remorse is the central idea in a picture. Sometimes communion with God is the theme of the picture.

More important than the recognition of the existence of the problem of evil is the method of overcoming the evil. We should bear this in mind when we consider pictures that portray not only human misery but also the means of overcoming that misery.

There was a time when monastic life was considered as the ideal form of Christian life. Today we think of Christianity chiefly as being at work in the world. This shift in attitude is significant in art. Theology is quickened by the social ideal as it expresses itself in activities that reflect the Christian spirit. The dynamic of the social ideal was used as powerful propaganda in the World War.

The Chapel of Trinity College, Kandy, Ceylon is an excellent example of the way in which architecture can be a
revealer of spiritual values. It was built in order that the minds of successive generations of Singhalese youth might associate Christianity with what is beautiful and inspiring. On either side of the floor of the chapel is a double row of gigantic pillars -- fifty in all. While the bases and capitals of these sixteen-foot monoliths are square, the main stems of the pillars are octagonal in shape. The capitals are decorated with a native design that roughly resembles four bells, the mouths of which are carved with a full-blown inverted lotus. Since the climate does not require them, there are no walls. This makes it possible for the congregation to look through the pillars to the beautiful sunsets of the Kandyan hills.

Auguste Rodin in his Prodigal Son has created such a masterpiece that the stone seems to cry out. The supreme moment in the life of the prodigal, that moment in which he came to himself, has been caught in marble to be held for ages. It has been said that it is the most profound and most spiritual of all of the representations of the Prodigal Son that have been made. Certainly it is one of the most beautiful. There is nothing in the statue to suggest swine and there are no representations of rags. Only the naked soul is left wrestling with God.49

48 Fleming, Heritage of Beauty, p. 80.
49 Bailey, Gospel in Art, p. 170.
In George Frederick Watt's picture, "For He Had Great Possessions," we have the portrait of a proud, unsympathetic man who has let the love of money take possession of his soul. By his clothing, his silk sleeves, his turban, and the fur on his mantle, we judge that the man is wealthy. The rings on his fingers and the heavy chain around his neck show us his vanity. Only the element of greed gives distinction to his personality. He is lost in his passion for wealth.  

E. AS IDEAL BUILDER

The Junior age is generally conceded to be the habit forming age. The repetition of an act forms physical habits. But something more than the mere process of repetition is necessary in the formation of habits of thought, spiritual attitudes, and temperaments. An ideal must be present to serve as a motive for repetition until the habit is formed. Ideals are formed and cherished in adolescence as at no other period in life.

An idea selected from a group of ideas dominates the acts of the will. Interest which prepares the way for desire determines this selection. As experience develops, the ends of action come to be chosen with reference to ultimate outcomes.

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50 Ibid., p. 261.
51 Bailey, Use of Art in Religious Education, p. 68.
rather than immediate gratifications. Emotional warmth is on the side of immediate gratification. If action, with reference to ultimate outcome, is not to lose its drive, it must retain some of the feeling that is attached to objects of present desire. When a broad idea that is conceived as embodying the highest worth is thus chosen as an end, and is endowed with emotional feeling, we have an Ideal. 53 Ideals are more productive of devotion and loyalty than any other judgments of value.

In early adolescence ideals become attached to persons. Such idealism is emotionally creative. The object of the idealization is invested with qualities which are born in the creative imagination of the subject. 54 If it is granted that social life consists largely of imitation, it follows that there must be something to imitate. Imitation presupposes invention. 55 Granting this, it is imperative that youth must come into contact with the good, the beautiful, and the true. These supply motive for conduct or attitude until ideal and habit coalesce in character. 56

The use of hero stories has proven successful in the training of children because such stories enlist the sympathy of children to such an extent that the children tend to identify themselves with the hero. All phases of the reflection,

53 Ibid., p. 102.
54 Ibid., p. 103.
55 Ibid., p. 103.
56 Brightman, Philosophy of Ideals, p. 103.
57 Bailey, op. cit., p. 68.
judgment, and feeling of the hero become identified with the child.\textsuperscript{57} The memory of the story lingers on to serve as an incentive to the right kind of living.

Certain virtues are found in heroes all over the world. Odin, by virtue of his great strength, was a hero God. Horus, the Egyptian God, was a hero because he avenged the death of his father, Osiris. Siva, the Hindu God, drank the world poison in order that gods and men might live.\textsuperscript{58} For similar reasons the list can be extended to include such different characters as Prometheus, Elijah, St. Paul, King Arthur, and others like them.

Although human experience implies a universe to which the experience is related, the question remains as to how we move from present experience to that universe. The matter is solved by ideals. Ideals are particularly important for the conduct of life and theoretically important for the understanding of reality.\textsuperscript{59} The ideal of unity is disturbed by the conflict among minds and within minds. The conflict of ideals is seen in every conflict of life. Even physical suffering would not trouble us if we had no ideal of free and painless activity.\textsuperscript{60} Though ideals are principles of unity, they compete with one another for the domination of man's thinking.

\textsuperscript{57}\textit{Ibid.}, p. 69.
\textsuperscript{58}\textit{Ibid.}, p. 70.
\textsuperscript{59}\textit{Brightman, op. cit.}, p. 63.
\textsuperscript{60}\textit{Ibid.}, p. 64.
Brightman defines an ideal as a general concept of a type of experience which we approve. With the exception of the emotional quality implied in approval, there is no reference to emotion in the definition. It is quite possible to have no emotional attachment to an ideal and yet admit the existence of the ideal. An ideal is only visible in thought, but it may imply an hypothesis about future experience. Our ideals are so related to each other and experience that a unifying system becomes necessary. Ideals govern selection and self-control. In addition to all of this, ideals are a plan of action. They not only set a goal, but when that goal is reached they set a more advanced goal.

Ideals are social in as much as minds are not fully intelligible unless their relation to their environment is understood. As a matter of fact ideals are formed in social relations. Though this is true there are only a few ideals that are adequately social. An ideal is a yearning that is akin to love. Ideals are not to be confused with values. Ideals are patterns, and values are the products made to conform to the patterns.

We cannot state definitely what determines beauty, but we may define it as being some sort of satisfying and unified harmony. Such beauty need not be pleasing. It may even be pain-

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61 Ibid., p. 69.
62 Ibid., p. 69.
63 Ibid., p. 71.
Ibid., p. 74.
ful yet satisfying through its harmony and wholeness.\textsuperscript{64}

Having seen the Episcopal Church at Nara in Japan, a non-Christian gentleman, it is reported, asked for something to read that would tell him about Christianity. He had not been a Christian nor had he been interested in Christianity, but he had seen the church in the park at Nara and had understood it. As a result he wanted to know more about this religion.\textsuperscript{65} Architecture was the embodiment of an ideal for him. We agree with Barry Byrne when he says that a stimulating building, like a stimulating personality, creates its own atmosphere of respect and attention. Each of these engenders a living quality, and the projection of this quality has that immediacy that provokes thought and elicits response.\textsuperscript{66}

One of the ideals of the Greeks was the attainment of a perfect physical body. Polykleitos gave us a masterful representation of the human body in the sculptured piece that he called the "Doryphoros." The figure is posed on the right leg, while the left one is relaxed. The arms are also differentiated in that one is relaxed while the other holds a spear. The close fitting ringlets of hair reveal the skull. The well developed muscles show the sculptor's knowledge of anatomy. The muscles are all well related to the movement of the body. Polykleitos

\textsuperscript{64}Ibid., p. 79.
\textsuperscript{65}Fleming, op. cit., p. 55.
\textsuperscript{66}Byrne, \textit{Liturical Arts}, V, 3.
wrote a book called "The Canon" in which he gave the proportions of the Doryphoros as those of the ideal male figure. The head is one-seventh the height of the whole body.67

Scheffler's painting "Saint Augustine and Saint Monica" is a vivid portrayal of two people caught in the ecstasy of spiritual communion with God. It catches the climax of the realization of Augustine's ideal of rest with God.

67Robb and Garrison, Art in the Western World, p. 293.
CHAPTER II

THE CRAFT OF STAINED GLASS

A. TWELFTH CENTURY WORKSHOP

The "Schedula Diversarium Artium" of Theophilus Presbyter describes the methods of making stained glass windows in the twelfth century. An unbroken line of copies, excerpts, and commentaries allows the study of the authentic text.\(^1\) Two manuscripts from the twelfth century are extant. From the thirteenth century we have one complete copy and two partial ones. One copy and many excerpts come from the fourteenth century. Book One of the "Schedula" is found in a collection of manuscripts made in 1431 by Jehan Le Begue. We have no texts from the sixteenth century, but we have commentaries on it from Henricus Cornelius Agrippa in 1531, from Conrad Gesner in 1545, and from Josias Simler in 1555.\(^2\) Two complete copies from the seventeenth century are extant. Gotthold Ephraim Lessing's edition of the "Schedula" was published in 1781 by Christian Leiste. Charles de l'Escalopier translated the "Schedula" into French in 1843. The only translation into English was made by Robert Hendrie in 1847.


\(^2\) Loc. cit.
The name Theophilus is probably a pseudonym. That he was a German has seldom been questioned. Lessing suggested an identification with Tutilo of Saint Gall based on a supposed etymological relationship between the names Theophilus and Tutilo. Albert Ilg identifies Theophilus with the monk Rogkerus, a goldsmith in the monastery of Helmershausen on the Diemel in the late eleventh and early decades of the twelfth centuries. This identification rests upon a single rubric found in the Vienna document known as $W^1$.

The incomplete texts of the work are preserved in ten known manuscripts. In them is much divergence in readings of individual sentences, in omissions and interpolations, and in ordering of chapters.

The Wolfenbüttel Codex, $Wb$, is accepted as the oldest known copy of the "Schedula." It was used by both Lessing and Ilg, who both assigned it to the twelfth century.

The existence of the Vienna Manuscript, $W^1$, was first recognized in 1776 by Jacopo Morelli. This has also been assigned to the twelfth century, but it is somewhat later than the Wolfenbüttel text.

The Vienna text, $V$, is a seventeenth century copy of $W^1$. It found its way into the Bibliotheca Marciani before 1868, the

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3 Ibid., p. 207.
4 Ibid., p. 209.
date of Valentinell's catalogue of that library. 5

The London document, _L¹_, is described variously as being from the twelfth, thirteenth, and fourteenth centuries. It is written in a clear German hand.

The Cambridge document, _C_, dates from the thirteenth century. L'Escalopier used it in preparing his 1843 edition.

The London document, _L³_, is a copy of the Cambridge document made in 1699 by Humphrey Wanley. 6

The third of the London documents, _L²_, preserves the contents of Book one of the "Schedula." Its text differs greatly from the other documents. There are about forty chapters, half of which appear in the other sources.

The Leipzig document, _Lₚ_, dates from the fourteenth century. It was mentioned by Simler in 1555 as having passed from the monastery of Altenzell into the Leipzig library. It was used in 1690 by an anonymous reviewer of Ciampini's "Vetere Monumenta" in vigorously refuting a statement made by Ciampini that Antonio Neri was the first to write upon the art of working in glass.

The Paris, _P_, manuscript is dated 1431. Like _L²_, _P_ contains only the first book of the "Schedula." There are so many similarities in the text that it has been suggested that

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5 Ibid., p. 213.  
6 Ibid., p. 216.
either L2 or P was copied from the other manuscript.

The Vienna manuscript, W2, dates from the seventeenth century. It is not a copy of W1 but is a text derived from another source.

Theophilus began his description of the processes in the making of stained glass windows by describing the preparation of the bench for the cartoon, cutting and glazing.

When you desire to construct glass windows, make yourself a smooth wooden board of such length and breadth that you can work on it two panels of each window. Then take chalk, and scraping it with a knife over the whole table, sprinkle water thereon in every part, and rub the table entirely over with a cloth. When it is dry, take measure of the length and breadth of one panel of the window, describe it on the table by rule and compass, with lead, or tin. If you wish to have a border in it, draw it of such a breadth as pleases you, and with such workmanship as you wish.7

He then instructs the craftsman to draw as many figures as he wishes on the whitened board.

The principal lineaments of the figures and ornaments were traced on the cartoon. The artist kept in mind the leading of the pieces when he composed his cartoon. We do not believe that the artist drew all the tones, half-tones, and internal markings on his cartoons.8 There are two reasons for believing this. One is that pieces of glass were sometimes cut out and then never finished by painting. The other is that sometimes the same cartoon was used for two separate figures, while the

7Winston, Hints on Stained Glass Painting, p. 328.
details in the painting of these two figures differ. There seems every reason to believe that the outlines and only a few principal internal lineaments were traced on the cartoon. When the glass was cut over this cartoon, the principal lineaments were traced as reference marks. After the various pieces of glass were assembled on the easel, they were painted by inspiration, without reference to any opaque cartoon drawn in advance. 9

Theophilus directed that when the draperies were arranged the color of each should be marked in its place. When the cartoon was completely marked, the next step was dividing the glass. For this Theophilus gave the following instructions:

Afterwards heat in the fire the dividing iron, which should be thin in every part, but thicker at the extremity. When it is red hot in the thicker part, apply it to the glass which you wish to divide, and soon the beginning of a crack will appear. If the glass should be hard, moisten it with saliva with your finger in the place where you had applied the iron. As soon as it is cracked, draw the iron in the direction in which you wish to divide the glass, and the crack will follow the iron. 10

After the pieces were divided, their edges were smoothed. On the part of the whitened board that was not occupied by the cartoon they were then so placed that the individual pieces of glass were in the order in which they were to appear in the finished window. The glass was then painted. Various kinds of

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9 Loc. cit.
10 Theophilus, op. cit., p. 328.
hair were used in the brushes in this painting. These included
martin, ermine, squirrel, or cat hair, or even hair from an
ass's mane. The formula for the paint that was used is given by
Theophilus:

Take copper, beaten small, and burn it in a small iron
pipkin until it is entirely pulverized. Then take pieces
of green glass and Greek sapphire and pound them
separately between two porphry stones. Mix the three
ingredients together in the proportion of one-third
green glass, and one-third sapphire. Pound them together
on the same stone with wine or urine very carefully,
put them into an iron, or leaden vessel, and paint
the glass with the utmost care, according to the
strokes which are upon the board.11

The lights and shadows of the draperies were painted in
much the same manner that was used in ordinary color painting.
In this manner eyebrows, eyes, nostrils, faces, feet, and hands
were also indicated on the glass. The backgrounds of the
windows were covered with a wash of this brown paint. When the
paint was dry, fine scratches were made in it with the handle
of the paint brush. In this manner the areas of pure color
were greatly reduced. Another means of reducing the areas of
pure color is described by Theophilus. Instead of covering the
entire surface with a wash of paint and then scratching away
portions of it, the paint is applied only to those portions
where it is to remain.

On the remainder of the glass make circles and
branches, and in these, flowers and leaves in the same
manner in which they are made in illuminated letters:

11 Ibid., p. 328.
but the grounds, which in the letters were filled with colours, you ought in glass to fill with the most delicate little branches. You can also in the circles sometimes insert small animals, and little birds and insects, and naked figures.\textsuperscript{12}

If color is to be given its full value, it must be presented to the eye only in little pieces. Colors in windows partake of the light that passes through them and have such a brilliance that at a distance the smallest speck assumes, by its radiation, a prodigious importance.\textsuperscript{13} The amount of radiation varies with the different colors. Blue is the most powerfully radiant color, but red radiates badly. If yellow tends toward orange, it will not radiate at all. However, it will radiate a little if it is straw-colored.

Only through the contrast of another color does color acquire its value. The artist cannot modify the radiation of transparent colors in glass by the use of half-tones, shadows of diverse intensity and values. The artist's talent consists in working out a harmonic scheme on a single plane and not in effects of aerial perspective.\textsuperscript{14} Transparent painting is successful when as a drawing or design it seconds, as energetically as possible, the harmony of colors. It loses its precious qualities of transparency when the attempt is made to introduce into it the peculiar characteristics of opaque

\begin{thebibliography}{9}
\bibitem{12} Ibid., p. 330.
\bibitem{13} Ibid., p. 153.
\bibitem{14} Vitrail volume 26, no. 5, op. cit., p. 145.
\end{thebibliography}
painting. This does not mean that the stained glass craftsman is to maintain archaism because of blind affection for his art. It means that he must recognize and respect the unchangeable laws of light and optics.

When the painting is completed, the glass is ready to be placed in the kiln. Theophilus gave a rather interesting direction for the construction of this kiln.

Take flexible twigs, fix them in the earth, in a corner of the house, by each end, equally, in the form of arches; which arches ought to be a foot and a half high, and of like width, but a little more than two feet long. Then strongly knead clay with water and horse-dung, in the proportion of three parts of clay and one of dung. This mixture having been very well kneaded, mix with it dry hay. Make the composition into cylindrical lumps, and cover the arch of the twigs, both within and without to the thickness of your fist; and in the middle of the top leave a round hole through which you can put your hand. Make yourself also three iron bars, a finger thick, and long enough to run across the width of the furnace. You can make three holes in each end of these bars, in order that you may, when you please, put them in and withdraw them. Then put fire and logs of wood into the furnace until it is dried.15

Theophilus then gives the directions for the preparation of an iron plate that would fit within this furnace. The craftsman sifted dry quick lime or ashes onto this plate and then pressed the sifted material with a smooth piece of wood so that it might lie firmly. The tray had a handle by which it could be carried, put in or drawn out of the kiln. After he prepared the

15 Theophilus, op. cit., p. 331.
tray, he laid the painted glass on the tray. He placed green sapphire glass on the outer part of the tray, near the handle. White, yellow, and purple glass, being harder and more fire resistant, he placed on the inner part of the tray. The craftsman then placed a beechwood fire in the kiln and added fuel until the flames licked over the pieces of glass, causing them to become a little white. He then removed the wood and carefully stopped the mouth of the kiln and the smoke vent. The lime or ashes on the plates prevented the glass from being broken to pieces by the heat. After the kiln was cool and the glass was removed, he tested the painting. He did this by attempting to scrape the color off with the finger nail. If the paint came off on the finger nail, the glass had to be repainted and replaced in the kiln. When all of the pieces of glass were finally satisfactorily fired, he placed them on the board in the same order in which they were placed there after they were cut.

The modern glass man is not too much concerned with the methods of making the lead strips by which he joins the pieces of glass. This was a very important matter to the glass man of the twelfth century. Therefore we find Theophilus giving instructions for making these lead strips. He first gives directions for making both wooden and iron moulds and for moulding rods within them. After this he says:
These things having been thus completed, take pure tin and mix with it a fifth part of lead, and cast it in the above mentioned iron or wood, as many rods of it as you want; with which you will solder your work. You should have also forty nails, one finger long, which should be at one end slender and round, and at the other, square and perfectly curved, so that an opening may appear in the middle. Then take the glass which has been painted and burnt, and place it according to its order, on the other part of the board on which there is no drawing. After this take the head of one figure, and surrounding it with lead, put it back carefully in its place, and fix round it three nails with a hammer adapted to this purpose. Join to it the breast, and arms, and the rest of the drapery; and whatever part you join, fix it on the outside with nails that it may not be moved from its place. You should then have a soldering iron, which ought to be long and thin, but at the end thick and round, and at the extreme end of the roundness, tapering and thin, filed smooth, and tinned. Place this in the fire. In the meanwhile take pewter rods, cover them with wax on all sides, and scrape the surface of the lead in all those places which are to be soldered. Having taken the hot iron, apply the pewter to it wherever two pieces of lead come together, and rub with the iron until they adhere to each other. The figures having been fastened, arrange in like manner the grounds of whatever colour you wish, and thus piece by piece put the window together. The window having been completed and soldered on one side, turn it over on the other, and in the same manner by scraping and soldering, make it firm throughout.16

All this seems to indicate that the pieces of the figure were first placed in position. The pieces of the background were then fitted to the figures. This meant that a great many pieces had to be worked over until the correct size was finally attained.

16 Ibid., p. 336.
An additional chapter of the "Schedula" tells how the yellow glass that is found in crowns, books, and borders may be enriched with bits of colored glass. After the bits of colored glass were placed on the yellow glass, thick color was placed around them and they were burned. This scheme seems so makeshift that it is unworthy of Theophilus. Another means of adding these jewels was to bore a hole in the glass and insert the new glass surrounded by lead.

The Cistercians did not allow painting or sculptured figures in their churches. Decoration in their churches took the form of richly patterned leaded glass. Windows of this kind, which date from the first part of the thirteenth century, were found in the abbey church of Pontigny, which belonged to the Cistercians. Sometimes the lead did not enclose the glass, but was applied to one side of it only. This was to make unnecessary too difficult cutting of the glass.

Viollet-le-Duc suggests that this type of window was used whenever insufficient resources would not permit colored windows or painted grisaille. Sometimes blazoned escutcheons were figured in the centers of these panels of leaded glass to give them an enlivening touch of color.

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17 Connick, Adventures in Light and Color, p. 63.
or: XXVII, no. 7 (July, 1932), 216.
19 Ibid., 27:244-246, August, 1932; or: XXVII, no. 8 (August, 1932), 244.
B. TWENTIETH CENTURY WORKSHOP

The craft of stained glass is one of the few crafts left in which no machinery is used in the processes of manufacture. This is one way in which the twentieth century workshop resembles the workshop of the twelfth century. Though the methods used today are very much like those used in the Middle Ages, the tools with which the modern glass man works are far superior to those used by his twelfth century brother. The mediaeval worker drew his cartoons on a board whitened with chalk. The modern worker makes his drawings with charcoal on heavy white paper. The mediaeval worker cut glass by drawing a red hot iron across the sheet and then snapping it in two pieces by gripping it with both hands and exerting pressure. The piece was then shaped by chipping. The modern worker cuts glass by means of a diamond or a steel wheel. The ancient craftsman planed his lead or moulded it. Today the glass man buys his lead from a manufacturer who mills it out or forces it through a die. Soldering irons used to be heated in a charcoal flame. Today electricity supplies the heat.20

Let us now trace the steps in making a window in a twentieth century workshop. Before a window can be made, it must be designed. In the process of seeking a design, a series

of sketches are generally made to show potentialities related to definite positions, to neighboring windows, to cross lights and shadows, and above all to the structure itself and its essential details. Designs are usually made to the scale of one inch to the foot and are generally made of water-color or tempera. These drawings must give the general effect that it is hoped will be made by the finished window. Not only must color be reckoned with in making these drawings, but also such things as bars and tee-bars must be taken into account. Ventilators must be taken into consideration by the careful designer. Especially is this true when the ventilator is open. Fortunately air conditioning is eliminating much of the difficulty in this quarter. Sometimes these designs are made on transparent materials in order that the glassy suggestion of a window may be presented.

The designer knows that his windows are frequently seen with music. It is only natural that he seek inspiration in great music. The Bible, the poets, the novelists, and even the humorists provide the glass craftsmen with inspiration and subject matter.

As soon as the design has been approved, the first steps may be taken in the actual business of making a window. The

21Connick, op. cit., p. 249.
22Ibid., p. 249.
draftsman makes a charcoal drawing that is the actual size of the window opening. He includes the leads, bars, and all other details of the window in this drawing, which is called the cartoon. Another worker then reproduces this cartoon in a tracing called the working drawing. At the same time he makes a tracing on pattern paper. He next cuts this into separate patterns. These patterns are cut out of heavy paper with a double-bladed knife (or double scissors) which takes out an allowance for the heart of the lead. The leads are H shaped, and the centre bar of the H may be considered the heart of the lead. These windows have hundreds and sometimes even thousands of pieces. This makes it necessary for both the patterns and the sections on the working drawing to be numbered in order that each piece of glass may be easily put in its place.

Two general types of cutters are used by stained glass men -- the diamond cutter and the steel wheel. Whichever type of cutter is used, the cutting must be done accurately in order that the pieces of glass will be the exact size of the paper patterns from which they are cut. The workman holds the tool in such a way that the cutter slopes toward the workman but is perfectly upright laterally. The cutter should be drawn across the glass so that a mark is left which can hardly be seen.

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a white line is scratched, too much pressure was exerted on the tool. When the cut has been made, the glass may be broken by holding the fingers close to the cut, and then pressing downward with the thumbs and upward with the fingers. The procedure for cutting shaped pieces is somewhat different. After the initial cut has been made, the cutter holds the piece of glass in one hand and taps along the underside of the cut. When a silver line is seen along the entire length of the cut, a gentle pressure will break the glass apart. Only certain shapes can be cut. For instance, it is utterly impossible to cut wedge-shaped gaps out of a piece of glass. The nearest thing to a wedge that can be cut is a curve and the more deep this curve is the more difficult it is to get the piece out. It is necessary to complete cutting some of the more difficult pieces of glass by groseing. This is the name given to the process by which the glass is patiently bitten away with pliers. Only one side of a shaped piece of glass can be cut at a time.

Glass is one of the most fissile of all materials. It is therefore as likely to split in one direction as in another. Once the splitting force is applied, the crack spreads very rapidly and easily, and therefore smoothly and in straight lines and in even planes.

26 Ibid., p. 42.  
27 Ibid., p. 42.  
28 Ibid., p. 49.
When the glass is cut, the next problem is to know just which colors of glass to place in the windows. Viollet-le-Duc is our best guide in this matter. He designates blue, yellow, and red as the simple colors. White, deep purple, light purple, emerald green, and turquoise bluish green are called composite colors. The first law in regard to the combination of colors is that when any simple color dominates in a composition, as for example by forming the background, the majority of the colors used with it must be composite colors; or, if with this simple ground color other simple colors are used, these colors must be either in small pieces or separated by a strong white accent. The ground in the "Tree of Jesse" window at Chartres is blue. This means that the composite colors must dominate in the figures. The mantle is emerald green, the robe is light purple, the tree white, and the leaves are deep purple, light purple, emerald green, and turquoise bluish green. The simple colors reappear only in little pieces. The crown, pallium, two lower leaves in upper groups, and the central leaf in the lower groups are yellow. The cuffs and shoes of the King are red.

Jesse is covered with an ample red mantle that is entirely surrounded by white. The background of the bunches of leaves is blue, the leaves are light purple and emerald green, and the central lancet-like leaf and the circle are red. This

central lancet is very slender and joins the white as does also the circle.\(^{30}\)

In order to obtain a central division which should be brilliant, limpid, bouyant, and pleasant to the eye, the artist surrounded the central section with a combination of red and blue. Purple bands pass through the blue vestments of the prophets. Long white streamers and white robes help to destroy what might otherwise be a too violent coloring in the borders of the prophets. The emerald green ground of the corner pieces, separated from the red background of the prophets by a white fillet and a fillet of pure blue, adds still more to the solid effect of this coloring. The emerald green is preserved by the large purple leaves which cut into it across the decorated blue squares.

When the glass painters realized that with a simple color dominating the background only composite colors could be used and vice versa, they were forced to take the simple colors for their backgrounds. There is another consideration in the matter of choosing the color of glass for our window. Only blue and red can, as a background tone, dispense with painting without appearing empty. Yellow by virtue of its brilliance, not its radiance, is too powerful. Grey-blue white will maintain its true value next to sapphire blue. It is the same with

\(^{30}\)Loc. cit.
certain pale purples and lilacs and glaucous greens. It is for this reason that these tones are frequently employed in scenes or ornaments which are against a plain blue ground. 31

To keep blue grounds from radiating beyond their own perimeters a red fillet is often placed around the ground, and then a white one. The white fillet keeps the radiation of the blue from turning the red to a violet. If, on the other hand, the white is placed next to the blue and the red on the other side of the white, the white will be turned azure and the red will be deadened by the radiation from the blue. If, by the extrapolation of white, the red keeps its quality and is not affected by the radiation of the blue or if the red becomes violet, the interposition of a greenish or yellowish white between the red and blue will cause the colors to regain their true effects.32

The first requirement of color harmony is a thorough knowledge of the control of blue. Blue has no value except as it is opposed by other tones, but it does give a value to other tones. In a window there may be only one shade of red, two of yellow, two or three purples, and two or three greens, but there will be an infinite number of shades of blue. While the judicious use of blue enhances a window, an injudicious

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31 Ibid., p. 269.
use of it often creates a disagreeable violet tonality or one excessively cold. 33

Sometimes the craftsman prefers to stick all of the pieces of his paper pattern onto a heavy easel of plate glass that is large enough to contain a whole section of a window. As the pieces are cut, they are then substituted for the sections of the paper patterns. Wax holds the stained glass pieces to the plate glass easel. When smaller windows are being made, the glass is often assembled on the easel without first waxing the patterns to the vessel. The white lines showing between the pieces of glass give a false idea of values. For this reason these white lines are painted out with an opaque paint that is a mixture of oil and lamp black. These lines take the place of the leads that appear in the finished window.

The glass is now ready for painting. This paint is a combination of iron oxide, ground glass, gum arabic, and water. Whall says that it is possible to use sugar or treacle in place of the gum arabic, but admits that neither the sugar nor the treacle are as good for this purpose as the gum arabic. 34 In any instance the brush must be evenly full of the paint from tip to base. In order that the brush may be evenly filled the hairs are splayed out against the palette. When the brush is

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34 Whall, op. cit., p. 61.
removed from the palette, it is turned so that it comes to a point.

The outline is the first thing to be painted onto the glass. After the outline is dry but before it is fired in the kiln, the pieces of glass are matted. This is done by laying an even wash over the entire piece of glass on which the outline is painted. Very light, even, and vertical strokes are used to do this. The strokes of the wash should not overlap. To do this, the hair of the brush must be curved so that it will glide easily over the glass, and the body of the brush must point downward so that the point of the brush is continually refilled with paint.

Great care must be taken with this matting of paint in order that the outlines that were previously painted may be softened but not blurred. The success is laying a mat over an unfired outline is dependent upon the materials used as well as upon the skill of the workman. The amount and quality of the gum, the condition of the brush, and the humidity of the atmosphere all have their effect. Sometimes the pigment is insufficiently ground so that it serves as an abrasive that rasps away every vestige of the outline. On the other hand, the pigment may be so finely ground that it will be too thin and oily and will not adhere to the glass.

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35 Ibid., p. 77.
The next thing is to remove this mat of paint wherever light or half-tone is wanted. This is done by brushing the mat gently and by degrees so that a light and shade drawing is made. These brushes are various sizes, some are harder, some softer, some round and some square. Light spreads as it comes through openings so that a little light shining through a very dark mat will prevail over the darkness of the mat. In addition to brushing and stippling, paint may be removed by scratching with a sharp stick or a needle. Sometimes the pigment is placed on the glass so thickly that when it is placed in the kiln it flakes off. Such pieces of glass should be scraped off, repainted, and refired in the kiln.

Paint is made permanent by placing the painted glass in a kiln and firing it at a great heat. Thus the glass and the paint are fused together. The electric kiln of the twentieth century is much more satisfactory than the clay kiln of Theophilus because its heat can be controlled more readily. The first rule in firing stained glass is to fire it enough. No work can be permanent if it is under-fired. Not only must the surface of the glass melt and begin to run but the pigment must be fused also. Furthermore, this pigment must be quite glossy and shiny when the glass is cool. If the glass is fired sufficiently, the worst thing that can happen to it is that some of the pigment may be fired away. The glass can then be

36 Ibid., p. 112.
repainted and replaced in the kiln. Glass varies in quality and cannot be treated alike when it is placed in the kiln. Usually the extreme heat is twelve hundred degrees, just three hundred degrees short of the official melting point.35

The color should be used the same day that it is ground and should be fired the same day it is used. If it is used in this way, it will fire better and less of it will fire away than if the color is not fresh.36 The pigment used in painting glass contains a large amount of soft ground glass. All air, especially that of stained glass workshops, contains carbonic acid. As a result of the combination of this acid with the alkalis of the glass, silica is separated. This means that the glass itself is disintegrated. This means that the carbonic gas must be driven out again by the heat of the kiln. This process of escape is likely to disturb the pigment in every possible way.37 This means that the glass must be painted swiftly and continuously and must be fired as soon as it is painted.

When the pigment is sufficiently fired, it becomes glossy and the surface reflects light. It was necessary to remove the fire from the old kilns and allow the glass to cool all night in the kiln. The glass is removed from the modern electric

35Connick, Adventures in Light and Color, p. 263.
36Whall, op. cit., p. 115.
37Ibid., p. 116.
kiln and immediately placed in a moderate heat at the side of the oven until it is cool enough to be handled.

Firing does strange things to the glass. The sharpness of the brush marks blurs, and the relation of light and shade becomes quite different from what it was when the glass was put into the kiln. Some of the pigment is even fired away. This means that the pieces of glass must be rewaxed to the plate glass easel and repainted. All lines and shadows which seem too weak must be retouched. 38

It is necessary to stain some pieces of glass so that they will become yellow when they are fired. This is done with a silver stain that is made from silver chloride, silver sulphate, or silver nitrate. It is placed on the plain white glass exactly as the pigment is placed on the glass except that it is placed on the back of the glass. Silver stain is fired at a lower heat than is pigment. The intensity of the yellow produced depends upon how thickly the stain is put on the glass, how well it is fired, and also upon the retouching that is given it.

Silver stain was at times so popular with glassmen and patrons alike that the term "stained glass" is thought to have originated from its use. 40 Other authorities think that the term

38 Ibid., p. 128.
39 Ibid., p. 129.
comes from the fact that the glass was "stained" in the pot through the use of various mediums. The earliest known example of the use of silver stain is the Peter de Dene window in York Minster. This dates about the year 1308. 41

Tradition has erroneously accredited "Blessed James of Ulm" with discovering silver stain. He is sometimes referred to as Saint James of Ulm, but this is incorrect. Since he was beatified in 1825 but not canonized, his proper title is Blessed James of Ulm. Blessed James was born in October, 1407. He became a Dominican at Bologna in 1441.

Perhaps Blessed James of Ulm was more of a craftsman than he was an artist. He was an excellent woodcarver and iron worker, but he is remembered for his work with stained glass. In fact he is referred to as the patron of the stained glass craft. For this reason the glassmakers of Paris have kept his festival on the second Sunday of October. His Dominican brothers celebrate his festival on the eleventh of October. 43

Legend says that Blessed James was working with his glass one day when he was summoned by the prior. The prior wished him to beg alms in the village. As he was leaving his work, a button fell from his clothes into the melting glass. This button was of tin and silver alloy. When Blessed James returned from his

begging, he discovered that the button had fused into the molten mass and had produced a beautiful golden yellow. This, according to legend, was the way that silver stain was discovered.

There is one more problem which must be explained in relation to painting. This is called "aciding." By this we mean etching the flash off flashed glass. Flashed glass is made by blowing two colors of glass into a single sheet. A mass of glass, usually clear in color, is taken onto the blow pipe and partially blown. This bubble is next dipped into glass of another color. The double layer of glass is blown into sheet form. By "aciding" we are able to etch away the flash wherever we wish.44

The first process in doing this is to paint on an acid resistant in the places where we wish the flash to remain. The resistant that is usually employed is Brunswick black thinned with turpentine. The piece is then treated with a bath of fluoric acid diluted with water and placed in a leaden pan. The glass must be thoroughly rinsed in several waters. If any acid is allowed to remain, it will continue to eat away the glass. The acid is so active that even the fumes are destructive of glass. By etching it is possible to place coats of arms in stained glass windows.

44Whall, op. cit., p. 130.
The first preparation in the matter of leading the glass is to place the cut-line, face upward, on the bench, and fasten it there. Then a straight end of wood is placed at the base line of the section. A similar piece of wood is placed on the side that lies next to the worker. It is necessary to test carefully these straight edges of wood to see that they form a true right angle. A strip of extra wide and flat lead is then placed against each of the straight edges of wood so that the core of the lead corresponds to the outside line of the work. The workman pulls this lead straight in order that the glass may be flat in the window. He uses a thin steel knife in cutting the lead. All cuts must be perfectly vertical in order that the glass may fit closely into the lead strips. As the workman faces the bench, he begins to work from the lower left corner. The remainder of the pieces of glass are fitted in like pieces in a jig-saw puzzle and joined to each other by the strips of lead. The rule that is followed in leading glass is to do it in such a way that as few joints as possible are made in the lead strips.

A wax which forms in the containers that are used to ship cocoanut oil is used by glassmen in making their windows. It is brushed onto the joints of the leads that are intended to be soldered. This is done in order that the solder may better adhere to the lead. When one side has been completely soldered, the entire panel is turned over and soldered on the reverse.
The windows are cemented by raising the edges of the leads and then brushing the cement into all of the joints. This cement is of such a nature that it never hardens. The joints are pressed down again and the surplus cement is scrubbed off.

Short lengths of copper wire, generally about four inches long, but varying with the size of the bar, are then soldered vertically to the face of the glass. These wires are pulled around the bars and twisted tight. These bars help in setting the window in its frame. A little space must be left between the window and its frame and the cement or putty that is used must be enduringly resilient. A good stained glass window that is well set can withstand blows that would shatter the heaviest plate glass.
CHAPTER III

GLASS GOSPELS OF THE MEDIAEVAL AGE

A. THE LEGEND OF THE LOST ART

It is a popular misconception that stained glass is a lost art. This misconception has been somewhat justified by the hideous travesties of the picture window period. As Ralph Adams Cram points out, a stained glass window is an area of translucent wall, having neither linear nor aerial perspective. Some glass men have failed to observe this fact and as a result we have a great many picture windows done in sickly pinks, yellows, and violets. It is little wonder that people have believed that the art of making stained glass windows has been lost.

Although it is possible to produce glass of the same color and chemical composition as the glass of earlier centuries and although it is possible to know and respect the laws of color, light, and design, this glass often has not been produced and the laws of color, light, and design have been flagrantly disregarded. It is a fallacy to ascribe the harmony of ancient glass to the effect of age. Age does harmonize glass to a certain extent, but nothing can supply the want of harmonizing  

colored glass. Nothing can supply the want of art.

In the windows of the twelfth century, paint was used to control the action of light through patterned color. In this they acted in much the same way that swell-shutters restrain open sound in organ-tone. Great craftsmen were never naturalistic though they expressed the emotions that nature elicited from them. Late in the thirteenth century artists began to copy nature. By slow degrees glassmen became painters of pictures. "The dreamers and poets of light were gradually replaced by literal-minded and efficient manipulators of glass and paint." 4

In 1780 Sir Joshua Reynolds, with the help of a glass and china painter, produced what has been described as the best picture on glass and the worst window the craft had known up to that time. This window remains as "a pathetic reminder of a proud man, clothed in a little brief authority, whose antic experiment in an ancient craft still makes angels and archaeologists weep." 5 On a background of large panes of almost clear glass held together by thin leads, he painted a Nativity group. The artist himself was featured in the window and pretty girls of the period were made to represent graceful and ephemeral virtues. The lead lines were so arranged that they

2Winston, Memoirs Illustrative of the Art of Glass Painting, p. 252
3Connick, Adventures in Light and Color, p. 161
4Ibid., p. 102.
5Ibid., p. 103.
would not harden the melting contours of flowing draperies. The enamel that is used to paint this window flakes off so that, about every twenty years, the glass must be repainted.

John La Farge was the American successor of Sir Joshua Reynolds. His pictures in windows had three-dimensional roundness and fullness, rich tonality, and opulent color. It is encouraging to know, however, that the craft of stained glass windows has been rediscovered in recent years, so that we can no longer speak of it as a lost art.

A comparison of the thirteenth century "Tree of Jesse" window at Chartres and the sixteenth century "Tree of Jesse" window at Beauvais shows the trend toward pictorialism. The "Tree of Jesse" window at Chartres is a symbol that is clearly articulate in color and light. From a figure of a reclining Jesse a patterned tree springs. It symbolizes the spirit of all growing forms. The central features of the window are the effigies of the kings of Judah. Smaller figures of prophets are on either side of them. The Blessed Virgin and Christ himself are given places in this window. A cruciform halo shows the divinity of Jesus and seven haloed doves symbolize the seven spiritual gifts. There is no pictorial appeal whatever in this window. It is all a well integrated design. Light and color transform this window into a living symbol of spiritual

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6 Ibid., p. 105.
devotion that is a timeless contribution to Christian art. 7

At Beauvais there is an altogether different kind of Tree of Jesse window. It dates from the sixteenth century. A realistic tree trunk grows through three openings and the tracery. Curious great flowers that support half-length portraits of kings occur at intervals in the naturalistic leaves of the tree. The literal-minded painter has replaced the craftsman in jewelled and patterned light.

It is a question as to whether the sixteenth century craftsmen really believed that windows should be like pictures or whether it was a mere case of selling out of fashion. At any rate, we know that the craftsman of the sixteenth century was succeeded by a myriad of exploiters and money makers. It is small wonder that some critics have spoken of stained glass as a lost art and have not troubled themselves sufficiently to ask why or how it was lost. In this light the commentary made by Henry Adams on the windows at Chartres and Beauvais is interesting:

At Beauvais in the Church of Saint Stephen was a superb Tree of Jesse, famous as the work of Engrand le Prince, about 1570 or 1580, in whose branches, among the fourteen ancestors of the Virgin, three-fourths bore features of the Kings of France, among them Francis I and Henry II, who were hardly more edifying than Kings of Israel, and at least unusual as sources of divine purity. Compared with the still more famous Tree of Jesse at Chartres, dating from 1150 or thereabouts, must one declare that Engrand le Prince proved progress? And in what direction? Complexity, multiplicity, even a step towards anarchy, it might suggest, but what step towards perfection? 8

7 Ibid., 108.
The best Christian art is always a spontaneous expression in the poetic language of parable, symbol, and allegory. This spontaneity of expression has been one of the secrets of religious creativity through the ages. Today it has a formidable foe in the standardization of commercial art with its resultant spiritual shoddiness.

Glass in windows is first mentioned in the third century in a book by Lactantius. Saint Jerome mentioned such windows in the fifth century and Saint Gregory of Tours mentioned them in the sixth century. It is said that the Venerable Bede took glass to England in the seventh century. Saint Paul's at Rome is thought to have been presented with some glass by Pope Leo the Third in the eighth and ninth centuries. Although no one knows certainly whether these windows were stained or painted, we believe that they were. The eloquence of latter eleventh century and early twelfth century work suggests the end of a long period rather than the beginning of one.

B. THE CHARACTERISTICS OF CENTURIES IN STAINED GLASS

Oriental love of elaborate detail with the severity and dignity of Grecian design was combined by the Byzantine artist to make an art that was essentially decorative rather than pictorial. He was more interested in lines and flat tones than

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9 Connick, op. cit., p. 76.
he was in lights and shadows. These influences were inherited by the early craftsmen in stained glass. As far as we can determine, the earliest windows that we have are found in the Cathedral of Saint Julien at Le Mans, France. These windows were made in the latter part of the eleventh century. A medallion from one of them shows the martyrdom of Saint Protasins.

The Roman Prefect, who is seated on a dais, his right arm raised in command, is robed in a brilliant white tunic, deep velvety-toned mahogany-brown mantle, green cap and red socks. Saint Protasins has a wonderful gold tunic and a blue mantle, and his head is surrounded by a gold nimbus. He is in a kneeling position. His executioner, dressed in a green robe and blue socks, grasps the martyr's hair in his left hand and wields the sword with his right.

The Hand of God, in the attitude of the Greek form of benediction and with a blue nimbus, comes from the clouds above. A canopy indicates that the Prefect is seated indoors. Behind the canopy and the Prefect there is a blue background. The remainder of the background of the medallion, including the border, is ruby. Grass and earth and palm trees indicate that the execution is taking place out of doors.

The use of pearls in the border, the halo, the stiff attitudes of the figures, the clinging draperies with their peculiar angular folds, and the strong silhouette of the
details against the background all show the Byzantine influence. The design is dignified and simple. All details have been treated purely from the standpoint of design. The hair of the Prefect and the Martyr are solid black, while little lines indicating curls have been scratched in the hair of the executioner. There is nothing realistic about the trees. The trunks are white, the leaves and fruit bright blue, rich gold, and green.

The great central east window at Poitiers is one of the finest examples of stained glass in the twelfth century. It is about ten feet wide and twenty-six feet high. The crucifixion occupies the central portion of the lancet. The figure of Christ, his head surrounded by a cruciform nimbus, white with a gold cross, is placed upon a ruby cross that is bordered with blue. Standing at the foot of the cross on the left side are Mary, the Mother of Jesus, and the Roman soldier with spear. On the right are John, the Beloved Disciple, and the soldier with the sponge and reed. These figures are in blue, gold, olive-green, and a neutral red-violet on a brilliant ruby background.

The Ascending Lord, enclosed by an aureole, is placed at the top of the window. Adoring angels stand on either side of him, and below him stand the apostles looking upward. A

quatrefoil that encloses a square medallion is found at the bottom of the window. This medallion tells the legend of the crucifixion of Peter, Peter being nailed to the cross head downwards. The donors stand in the semi-circular shape beneath the square. To the left of the square is the Emperor Nero, and to the right is shown the martyrdom of Saint Paul. Above the medallion is seen the empty tomb with slumbering Roman soldiers. The Angel of the Resurrection is seen in another and smaller square medallion that is placed between the upper and the left semi-circular spaces, and the three women who brought spices are found in a corresponding medallion on the right hand side.

The Byzantine influence is easily seen in the general design and details of this window, but the most remarkable characteristic of the window is its splendor of living, glowing color. Daring red and blue are so well balanced by green and gold and white that one has no consciousness of a purple effect.

The hair of the Crucified Christ in this window is blue, but this color is not noticed because the head is placed on a white and gold halo and is surrounded by a large quantity of intense blue. The hair of the Ascending Christ is a rich, brownish purple pot-metal. The nimbus in this case is blue with a white cross.
Some of the outstanding characteristics of the design of twelfth century glass are the Byzantine details of the figures and drapery, the foliage and other ornament, the straight saddle bars, and the square and circular medallions.  

The simplicity of the main lines of design and the breadth and simplicity of color create an effect of largeness in these windows. The goal of the glass worker of the twelfth century was splendor of color and decorative effect instead of realism. There is a certain blue, found in this period, that has been variously described as cobalt, cerulean, sapphire, azure, or heavenly blue. It is light and has a great intensity and purity of tone. The attainment of right color combinations by the mediaeval glass worker is more remarkable when we realize that it was impossible for him to know how his window would look until it was completed. Today we can assemble our windows on large plate glass easels and thus see them against the light, but in the early days it was impossible to make sheets of glass large enough for this purpose.

The greater part of early Gothic glass was made in the thirteenth century. In the transition from the twelfth to the thirteenth century one notices certain changes in the style. The craftsman became more natural and tended to move away from the earlier crisp and vivid sense of designed color in light.

He spent more time over cartoons on whitened boards and became a master of vigorous and emphatic drawing. There was a loss of restraint and sense of proportion and an added facility in expression. The Byzantine influence became less prominent, less attention was given to pure design, and more interest was taken in story telling. A more naturalistic form supplanted Byzantine details and ornaments. The figures were freer, drapery less clinging, and the folds less angular. Paint began to be used to model forms. The brilliant blue of the later part of the twelfth century gave way to a deeper, greyer, and less transparent shade. In the latter part of the century this tended toward a purple.

It is interesting to note the change in medallions. They were no longer simple squares or circles and the iron bars were shaped to the geometrical forms. The medallions had a geometrical pattern background and the figure subjects were confined to the different compartments of the medallions. There were several means of filling the single lancets of the thirteenth century. Single figures, medallions, and Jesse trees were all used in this way. Huge figures under low topped canopies were often found in clerestory windows that had broad colored borders. Medallions usually filled the lower aisle windows.

12 Connick, op. cit., p. 84.
A new type of ornamental design, called grisaille, came into use in the early part of the thirteenth century.\textsuperscript{14} This grisaille was composed mainly of tints of white glass with spots and strips of pure color in geometrical forms with a foliated pattern woven in and through them. Its inexpensiveness and the fact that it provided a means of giving a soft grey light that would not glare both contributed to the popularity of grisaille glass. The most famous grisaille windows are the Five Sisters windows in York Minster, England.\textsuperscript{15} In later days grisaille glass provided delicate fields for standing monumental figures under canopies.

The canopy increased in importance until it finally became a framework for pictorial compositions. In the floating toys of Sir Joshua Reynolds and the later monstrosities of America the canopy descended to absurdity.\textsuperscript{16}

The fourteenth century is the least interesting period. It is the transition period between virile archaism, strong rich color, and direct bold treatment on the one hand, and weak pictorialism, faded color, and delicate treatment on the other.\textsuperscript{17} The windows of the Church of Saint Urbain at Troyes provides examples of this fourteenth century transitional work. In one of these windows, Old Testament characters in blue,
green, gold, and white on ruby backgrounds are placed under architectural canopies. The canopies are done in full colors and whites and are of greater importance than canopies were previously. Units of grisaille are found at both the bottom and the top of the lancets. Because of the narrowness of the lancets, their borders are not so broad as borders found in earlier work. The naturalistic tendency is observed in the smear shading that is used to give a flat bas-relief modeling of form.

Silver stain was discovered early in this century. By painting glass with a silver solution and then firing it, a permanent yellow tint was produced that varied from pale lemon to deep orange. This yellow was on the surface and had a greater transparency and brilliancy than twelfth and thirteenth century pot-metal. The color in the pot-metal was fused throughout the body of the material. This gave depth and richness to the glass. Pot-metal yellow held its place in the early twelfth and thirteenth century when strong colors predominated, but when more white glass was used, the more delicate silver stain was more harmonious. Early fourteenth century canopies were heavy and hot, while later windows were much lighter and cooler. Thus silver stain had great influence in modifying the

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course of design. 18

War and pestilence may have influenced styles and labels in stained glass before the fourteenth century, but their influence cannot be ignored in the fourteenth century. 19 The Black Death, which visited Yorkshire in 1349 and 1361, arrested the development of architecture and its dependent arts. 20 The building of Yarmouth Church and Siena Cathedral was stopped and has never been resumed.

Mediaeval statistics of the number of deaths caused by battle, pestilence, and famine are always unreliable and exaggerated. It is fortunate that we have more reliable evidence in the matter. The York Freemen's Roll shows that sixty new freemen were enrolled between 1339 and 1348. In 1349 two hundred and eight new freemen were enrolled. Two years later three new names were added to the roll of glass-painters. This is one of only two instances that three members of a craft became free in any one year. Two hundred and eighteen new freemen had to be enrolled in 1361.

Ecclesiastical authorities were unable to get their work done in York. For this reason they were obliged to import windows. In the Saint Martin-cum-Gregory Church there is a series of perpendicular subjects, which originally represented

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18 Reynolds, op. cit., 121:520, June 7, 1922.
19 Connick, op. cit., p. 89.
Adam and Eve with their Creator, the Sacrifice of Isaac, and the Worship of the Golden Calf. These with the great east window are the only scenes from the Old Testament in York glass.

These windows are distinct from York work in color, drawing, and costume. The blue is rich and clear and without any of the usual York indigo or slate-blue tint. The green is a bright cold bluish-emerald tint. The figures have small black eyes and huge Jewish noses. Some of them wear shoes with long points, evidently eighteen inches or more in length, such as were affected by the dandies of the Court of Richard II.

Glassmakers and glass craftsmen carried implications of hard times into the fifteenth century, but at the same time they made refinements in material and in design that spoke of luxury. Glass was made thinner and more transparent, whites became whiter, and secondary and tertiary colors appeared and disappeared. Beautiful reds and blues persisted almost everywhere.

The exuberance of earlier men had shown itself in borders and backgrounds touched with humor and fantasy. This humor and fantasy was crowded into the canopies of the fifteenth century. It is probable that the replacement of the whitened board with

21 Ibid., p. 52.
22 Ibid., p. 53.
parchment and paper is responsible for the fact that the glassman became more sophisticated and dainty in his drawings. Larger pieces of glass encouraged him to use fewer lead-lines and more elaborate decorations in paint.

The use of the architectural canopy, the large proportion of white glass, and the extraordinary delicacy and finish are the outstanding characteristics of fifteenth century glass. The architectural canopy was leaded in low-toned whites and color and was an integral part of the design. The canopy assumed an importance in the fourteenth century that was out of proportion to its value from the standpoint of good taste. It was often a clumsy and makeshift method of framing and uniting several figure subjects. They combined single figures and pictorial compositions with architectural arrangements. Donors became more in evidence in the fifteenth century windows. Heraldic devices and figures on light quarries touched with gold stain came into prominent usage.

The fourteenth century worker desired to diminish the gloom and darkness of the thirteenth century churches by letting in more light. He did this by using more and more white glass. By the fifteenth century white glass predominated, and color did not have the purity and brilliance that it had in

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24 Reynolds, op. cit., p. 521.
25 Connick, op. cit., p. 96.
earlier times. The thirteenth century worker was primarily interested in glazing and glories in color. The fifteenth century worker thought first of painting. If the design and color of a window are lovely, they may remain that way in spite of inferior painting. But the best of painting fails to make a window beautiful that has weak or poorly proportioned color combinations.

A good example of a typical fifteenth century window is found in the Cathedral of Bourges. A Bishop and a Pope robed in their richly ornamented vestments stand in niches that are formed by architectural canopies. A damask curtain fills the space behind them. A distant city is painted in white and stain in the space between the Pope's head and the canopy. Light and shade, beautiful textures, and charm of technique take precedence over trace lines.

As the fifteenth century progressed, the painter on canvas and the engraver on wood and copper wielded an increasing influence over the glass craftsmen. The picture window appeared with its portraits of donors. An outstanding example of the glass painter's ultimate attainment was the portrait of Francois de Montmorency, Governor of Paris. The naturalistic head, detailed armor, heraldry, and background

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26 Reynolds, op. cit., p. 522.
27 Connick, op. cit., p. 97.
all speak of the triumph of the picture maker. This Montmorency window foreshadowed the work that was to be done by the Crabeth Brothers at Gouda and by Sir Joshua Reynolds and his china-painter at Oxford. 28

The sixteenth century glassman was frankly and primarily interested in the picture window. His goals were an essentially pictorial style, exquisite drawing, high relief in shading, and atmospheric effects. With these exceptions the glass of the first half of the century was not so bad, but the discovery of soft enamel paints of many colors occasioned the rapid decline in craftsmanship in the latter part of the century.

Nice even sheets of glass that were either white or lightly tinted made it as easy to paint pictures on glass as it was to paint them on canvas. That toward which craftsmen had been striving for ages was at last accomplished, but the results were deplorable. Depth and purity of color were lost, heavy opaque shadows dimmed the glass, and the expansion and contraction of heat and cold caused the lightly fired soft enamels to peel off. This exposed the white glass underneath. Instead of gaining a mellow tone from age, the windows grew obscure, faded, and shabby.

28 Loc. cit.
29 Reynolds, op. cit., p. 523.
A panel from a sixteenth century window from the Cathedral at Chalons-sur-Marne depicts Cain slaying Abel. There is no evidence of symbolism in this work. Human passion and fear could not be shown more realistically. Nobility of design, color, and even spiritual atmosphere were all sacrificed for pictorial effect.

C. SOME TEACHING WINDOWS OF THE MEDIAEVAL AGE

Art was didactic to the Middle Ages. The simple and ignorant learned through their eyes almost all they knew of their faith. The windows and the statues of the churches taught the people all that it was necessary for them to know concerning the history of the world from the creation, the dogmas of religion, the examples of the saints, the hierarchy of the virtues, and the range of the sciences, arts and crafts. Through the medium of art the highest conceptions of theologian and scholar penetrated to some extent the minds of even the humblest of the people.

The parable of the Good Shepherd had been a great favorite with the painters of the catacombs, but its popularity had utterly disappeared by the thirteenth century. Four parables to the exclusion of all the others were represented in the cathedrals. These four parables were the Good Samaritan, the

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Wise and Foolish Virgins, the Prodigal Son, and Dives and Lazarus. In addition to windows illustrating the life and teachings of Jesus, there were windows that told the stories of saints and others that told the stories of great historical persons. When Old Testament subjects were used, they were generally used as a part of the explanation of the New Testament incident that was being used. This is known as type and anti-type and will be discussed later.

One of the windows at Sens tells the story of the Good Samaritan. The mediaeval glassman who made this window widened the meaning of the story until it became the story of humanity itself. The traveler who went from Jerusalem to Jericho symbolizes man. In order that there might not be any doubt as to this point, the glazier wrote the word Homo beneath him. The traveler is the type of fallen man leaving paradise. Jerusalem is the symbolic name for Eden.

Robbers attacked the man and stole his cloak; that is to say, sins sent by the devil fall on him and deprive him of his garment of immortality. The priest and the Levite are representatives of the Law of Moses which was powerless to cure sick humanity. The Good Samaritan appears, binds the wounds of the dying man, puts him on his horse, and takes him to the inn.

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31 Male, op. cit., p. 195.
32 Ibid., p. 196.
This good Samaritan is Christ. This teaching of the church was embodied in the window at Sens in a composition that is admirable in its lucidity. 33

The Gospel story is told in three lozenge-shaped medallions in the center of the composition. Circular medallions grouped around them interpret the story, giving its symbolic meaning. In this way they serve as a sort of glossary to the text. The first medallion shows the traveler despoiled of his riches by the robbers. The subjects of the four circular medallions that are grouped around this lozenge-shaped medallion are the creation of man and woman and their sin and expulsion from Eden. The second medallion shows the wounded traveler lying between the unconcerned priest and the Levite. This is surrounded by circular medallions showing Moses and Aaron before Pharaoh, Moses receiving the Law from God, the brazen serpent dimly prefiguring a greater victim, and the golden calf which proclaims the insufficiency of the Old Law. Around the third medallion, which shows the Good Samaritan taking the wounded man to the inn, are placed the Passion, the Crucifixion, and the Resurrection.

There is a window at Chartres that tells a legend concerning Saint James the Major. In the Roman Breviary it is stated the Saint James converted the magician Almogenes. It

33 Loc. cit.,
is further stated that Saint James preached the Gospel in Spain and that when he died his remains were transported to Compostella. For this reason he is sometimes referred to as Santiago de Compostella. Objections to the window may be raised on the grounds that it is legendary, but we may answer that we should be greatly impoverished if we were to be deprived of all that is legend. We are glad that the glassmen of past centuries have left such exquisite illustrations of the stories of the Golden Legend. This was a book written by blessed James Voragio, Bishop of Genoa. In the thirteenth century it was a more popular history than the Bible itself. 34

The windows of Chartres not only illustrate stories of the Bible and of the Golden Legend, but also give us a record of some of the industries of the age. The Merchant Tailors gave the Saint James window. Their signature is seen in two medallions at the bottom of the window. These medallions show the tailor's shop at Chartres in the first quarter of the thirteenth century. 35 A shop-boy takes cloth from chests for his master to show to customers.

The lower panel shows Saint James receiving his mission from Christ. Above, on the right, he seems to be preaching. Almogenes, the magician, appears on the left. That he was

34 Adams, Mont Saint Michel and Chartres, p. 164.
35 Ibid., p. 166.
supposed to have had control of demons is seen by the fact that a little demon is perched on his shoulder, while he orders his pupil Filetus to convert James. Saint James is next shown in a discussion with a group of listeners. After a medallion that shows Filetus giving James a volume of false doctrine, there is one that shows Almogenes giving Filetus further instruction. James is then led away by a rope, curing a paralytic as he goes. His cloak is sent to Filetus to drive away the demon. The little demon departs in tears, when Filetus receives the cloak. Almogenes, losing his temper, sends two demons, with horns on their heads and clubs in their hands, to reason with James. James sends the demons back to Almogenes. The demons then bind Almogenes and bring him to James, who talks with the magician until he burns his books of magic and throws himself on the ground before the Saint. Both are taken before Herod, Almogenes breaks a pretty idol, and James goes to prison. The next panel shows Almogenes enchanting Filetus, and the demon entering into possession of him. Almogenes is seen being roughly handled by a young Jew, while the bystanders seem to approve. James next makes Almogenes throw his books of magic into the sea. Both James and Almogenes are led to the execution, curing the infirm on their way. Their heads are cut off. God is seen at the top, blessing the orb of the world.

36 Ibid., p. 167.
37 Loc. cit.
The companion window to the Saint James window has been called the least religious and at the same time the best of the thirteenth century windows. It is the Charlemagne window and was given by the Furriers. Their signature is seen at the bottom, where a merchant shows a fur-lined cloak to his customer.

In 1165 Charlemagne had been canonized by the anti-Pope Pascal III. Although there was a popular belief that Pope Calixtus II in 1122 had declared that the so-called Chronicle of Archbishop Turpin was authentic, we do not believe that the Bishop of Chartres in 1200 accepted the authenticity. Nevertheless, the Bishop allowed Charlemagne to be the subject of one of the windows.

The first six panels of this window are taken from a book called "The Journey of Charlemagne to Jerusalem." It was probably written by a monk of Saint Denis to authenticate certain relics of the Passion that were preserved in the abbey of Saint Denis.

Charlemagne, wearing a nimbus, receives two bishops who bring him a letter from Constantine, the emperor of the East. This letter contains the story of the vision of Constantine. The second medallion tells the story of the vision of Constan-

38 Ibid., p. 168.
39 Ibid., p. 168.
40 Male, op. cit., p. 347.
stine. The King of France is supposed to have appeared in a vision to Constantine. The text says that Charlemagne appeared as an armed warrior, wearing a coat of mail, holding a red shield, and girt with a purple-sheathed sword. The text says that he held a golden helmet, but the window shows him wearing it. Next Charlemagne is seen delivering Jerusalem. He is then received by Constantine at the gates of Constantinople. As a reward Constantine gave Charlemagne three reliquaries. The first one held the Crown of Thorns. In the others were found a fragment of the Cross, the shroud of Christ, the Virgin's shift, and the arm of the ancient Simeon which had carried Christ in the Temple. The last medallion in this division shows Charlemagne presenting these relics to the church at Aix-la-Chapelle.

The second group of medallions was taken from a Chronicle which was the work of several anonymous authors but which was generally attributed to Turpin. It was written in Latin and from the twelfth century was accepted as the authentic work of the ancient archbishop of Rheims. In the first of this group of medallions Charlemagne with two companions is looking at the Milky Way. Saint James appears to Charlemagne and commands him to follow the Milky Way to

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41 Ibid., p. 349.
42 Ibid., p. 347.
Galicia and to deliver his tomb from the hands of the Saracens. Charlemagne then starts with his warriors, among them Bishop Turpin. Next we see the emperor kneeling in front of his army and praying God that Pampeluna may be taken. The attack is successful and the Christians enter Pampeluna. Orders are given to build a church in honor of Saint James. Then Charlemagne is seen in Spain with his army that is to fight the army of Agolant, the paynim king. The lances of the soldiers that are to die the next day burst into flowers. The last medallion of this group shows the battle. The infidels are distinguished by their conical helmets and round shields.

Next there is a single medallion that illustrates an incident in the life of Saint Giles. Charlemagne had not confessed a grave sin that he had committed. One day when Saint Giles said mass in the emperor's presence an angel brought a scroll to Saint Giles. On this scroll the sin was written. Charlemagne repented and God forgave him.

The subjects of the medallions then revert to the Chronicle of Turpin. Roland engages the giant Fierabras in single combat and kills him with a sword-thrust. This sword, Durandal, was thrust in the giant's vulnerable spot, his stomach. Charlemagne is then seen crossing the mountains into France. He seems to talk with someone, probably it is Ganelon.

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43 Ibid., p. 350.
Roland surprised in the rear-guard is left alone with the dead. Roland is seen here twice in the same medallion. This is done because the medallion represents two different moments in the story. One shows him striking a rock to break his sword. The other shows him sounding his horn. Roland is seen wearing a nimbus because he was honored as a Saint in the thirteenth century. 44 We then see Baudoin taking his helmet and seeking water for Roland. Failing in this, Baudoin mounts Roland's horse and goes to announce the death of his nephew to Charles-magne. The last medallion is curious because it is misplaced. It shows the joust between Roland and Fierabras. It should have been placed just preceding the medallion that shows the death of Fierabras. 45

D. TYPE AND ANTI-TYPE

Symbolical types were much used in Mediaeval glass work. There is some confusion as to what is a symbol and what is a type. A cross is a symbol of the Christian Church, but Saint George is a type of Christian Courage. When we confine ourselves to animals, birds, and inanimate objects, we are dealing with symbols. When we begin to use historic characters, we enter into the field of symbolic types. 46 In other words

44 Ibid., 351.
46 Webber, Church Symbolism, p. 244.
a symbol must be representative of something and not a representation. When it becomes a representation, it becomes a symbolical type.

Symbols have been used in all ages because of their powerful educational value. We find Saint Clement of Alexandria urging Christians to decorate even their household utensils with such symbols as doves, fish, and anchors. The Middle Ages may be called the Golden Age of symbolism. Every Mediaeval Church was a great picture book, and those pictures were highly symbolical. Every detail had its meaning, whether it was wrought in stone, in wood, in painted glass, in beaten metal, in mural paintings, in rich tapestries, or in sumptuous needlework. Every church was a richly colored text book on Bible History. The purpose of all of this was educational. Books were very costly and some of the churches were so large that public speaking was difficult. It was for these reasons that each church became a great, glowing picture gallery. It was believed that men might be trained to interpret symbols, and that a symbol of the Crucifixion might remind him of the only way of salvation.

God Almighty Himself raised symbolism to teach important truths. The flaming sword of the angel of Eden was a symbol of

48 Ibid., p. 13.
the authority of God. Symbols were used in both the tabernacle and Solomon's temple.

As we have already seen, the mediaeval glassmen were fond of using types and anti-types in their windows. That is, they used both a New Testament story and that which they conceived to be its Old Testament counterpart. Illustrations of this are to be seen in the following incidents in the life of Jesus.

The flowering of Aaron's rod is used as the type of the Nativity and Moses in the bulrushes as a type of Jesus in the manger. The presentation of Samuel in the Temple accompanies the presentation of Christ in the Temple.

Adam and Eve tempted by Satan is contrasted to the temptation of Jesus. Moses overcoming the Egyptians is another type of the same thing as are also both David slaying the lion and David slaying Goliath. Moses on Mount Sinai typifies the Sermon on the Mount.

The Triumphal Procession is represented by the Sons of the prophets going forth to meet Elisha at Bethel. Another representation is found in David's triumphal return, bearing the head of Goliath. There are two types of Jesus cleansing the Temple. One is Judas Maccabeus giving orders that the profaned Temple be cleansed. The other is King Darius ordering Esdras to cleanse the Temple. Melchizedek bringing food to Abraham, Israel fed by manna in the wilderness, and the feast of the sons and daughters of Job are all types of the Last
Supper.

The perfect obedience of Abraham to the will of God is a type of Jesus's perfect obedience to the will of God, Jacob wrestling with the angel is a type of Jesus wrestling in prayer, and Elijah comforted by the angel is a type of the angel that appeared to Jesus and comforted him.

Daniel falsely accused by the Babylonians, Elijah accused wrongly by Jezebel, and the great patience of Job under suffering are three types of the unjust accusation of Jesus.

Children mocking Elisha, Noah mocked by Ham, and Samson mocked by the Phillistines are types of Jesus being mocked by the soldiers. The unjust murder of righteous Abel, the willingness of Isaac to yield to his father's will on Mount Moriah, Moses lifting up the brazen serpent in the wilderness, and Joseph in prison between two thieves are all types of the Crucifixion.

The Resurrection has its types in Elijah's ascent in a chariot of fire, Samson carrying off the gates of Gaza, Jonah delivered from the belly of a great fish, Daniel rescued from the lion's den, and Shadrach, Meshach, and Abednego coming alive from the fiery furnace.

It can readily be seen how effectively type and anti-type might be used by the glassman in his windows to teach Biblical history and literature to the people of the Mediaeval Age. Truly these windows have the right to be called the glass
gospels of the Mediaeval Age.
CHAPTER IV

PRESENT DAY TEACHING THROUGH STAINED GLASS

A. CHILDHOOD EXPERIENCES OF CHARLES J. CONNICK

Mr. Charles J. Connick, the eminent stained glass man, describes his early church school experience as being a drab and dull background against which were silhouetted three colorful symbols.¹ His earliest memory of a church school is associated with a Children’s Day Celebration. A fountain that had been made of barrels and garden hose was constructed for that celebration. Around it were ferns and flowers, whistling birds in cages, and singing children. The living and colorful qualities of this setting served to make a vivid impression upon the mind of the child.

The second memory is that of a flaming Christmas tree. On that tree were hung tinsel and glass baubles and a Christmas Angel. Around the tree were trumpets and guns and wagons and bags of candy. The emotional appeal of the light and color of the Christmas tree is familiar to most of us.

The third impression was of a church school superintendent reading a psalm. The psalm was announced as a song. Then the superintendent recited the psalm, emphasizing the music of it.

¹Connick, Adventures in Light and Color, p. 225.
The Bible was magically changed from a collection of commandments and precepts into an anthology of inspired poems. Later Mr. Connick says that he came to realize that the poetry of the Bible culminated in a Life that was itself a beautiful Poem, the inspiration of sensitive poets from the days of Matthew, Mark, Luke, and John to our own times.2

B. SINGING SYMBOLS AND COLOR

Images of beauty that belong to a poet's world of symbol and allegory are readily retained in the minds of children. This beauty is best expressed in musical sound, pure color, and light. A good stained glass window combines these three elements of musical sound, pure color, and light. The charm of patterned color in shifting light is similar to the harmonies of beautiful music. The child may first realize that color and sound often carol the same song, and that pure color in light shares the enchantment of music in a glorious way of its own.3

Carlyle said that it is in and through symbols that man, consciously or unconsciously, lives, works, and has his being; and that those ages, moreover, are accounted the noblest which can the best recognize symbolical worth, and prize it most

2Ibid., p. 227.
3Ibid., p. 213.
Or, EXVII, 8, August, 1932, p. 252.
highly.

Although the symbolism of color was not crystallized into a hard and fast system, it was used to express emotional ideas that were beyond the reach of words. Dante clothed Beatrice in white, green, and red, and made her a gracious symbol of Faith, Hope, and Love.⁵

The most active, most magical, and most mysterious of all colors in light is blue. The shades of blue vary with changing skies, deep pools, tiny brooks, waterfalls, glaciers, and the oceans themselves. Yet the centuries have been in remarkable agreement as to the spiritual qualities and implications of blue.⁶ Blue is mentioned as a spiritual symbol in the twenty-fourth chapter of Exodus. "And they saw the God of Israel, with something like a sapphire pavement under his feet, as clear as the sky itself."⁷ The symbolism of blue is well established in the consciousness of people, the expression "true blue" being commonly used. To Dante blue was the color of divine wisdom, as red was the color of divine love. The cherubim, symbols of God's wisdom, have blue wings. Blue is the color of eternal truth, loyalty, and meditation.⁸ We do not know whether John Bunyan saw implications of wickedness in red

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⁵ Connick, op. cit., p. 216.
⁶ Ibid., p. 220.
⁷ Ibid., p. 220.
⁸ Exodus 24: 10.
"Connick, op. cit., p. 220."
as a color because of the restless and clamorous impression it made upon him or whether it was because he associated red with the luxury-loving rich. Milton gave the impression that magnificent color was warm in reds, purples, and golds.

Dante did not have this Renaissance association of color. His was a mediaeval association. Red was a spiritual color of profound significance. It spoke of Divine Love. It was the color of the Holy Spirit, of Creative Power, exalted royalty, and, in a burning sense, of purity. To Dante it was also the symbolic color of courage, passionate devotion, self-sacrifice, and martyrdom. Dante's "Divine Comedy" is magnificent.

From the Tenth Heaven of the Empyrean and its Beatific Vision, the Angelic Hierarchies are conceived in diminishing splendors from the Seraphim, Cherubim and Thrones, the Dominations, Virtues and Powers to those nearest mankind and his imperfections, the Principalities, Archangels and Angels.

The lover of color-in-light responds to this grand conception, with its implications of prismatic colors, beginning with the ardent red-winged Seraphim, nearest the throne of God; the wise blue-winged Cherubim; and the Thrones -- touched by red, blue and gold -- whose divine work it was to mirror the mind of God to lesser intelligences.

As it affected other things, the Black Death of the fourteenth century also had its affect upon stained glass windows. Designs became less elaborate and color schemes

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9 Connick, op. cit., p. 223.
10 Loc. cit.
became more cheerful and less difficult. Yellow became a very prominent color in the fourteenth century. It ranged from a light gold-stain to a heavy pumpkin-yellow. Yellow symbolized the sun and the goodness of God. It also symbolized fruitfulness, the achievement of the faithful, and treasures in heaven. For these reasons Saint Joseph and Saint Peter were often given yellow. In a wicked sense, yellow signified the traitorous.

White symbolized faith, serenity, innocence, joy, and life. White was sometimes used to take the place of radiant blue in tempering the heat of reds and yellows. Grisaille windows were sometimes entirely in white, or were sometimes lightly touched with golds and reds.

Emerald green is the color of Spring, hope, and victory. In its warmer areas, green has been responsible for the failure of many a color scheme to be properly balanced in light. Cool water-greens, however, have sometimes saved windows that otherwise would have been too warm in appearance.

Purple or violet symbolizes united love, justice, humility, and truth. Sometimes it is so dark as to suggest black. In this shade it symbolized death, despair, sorrow, and mystery.

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11 Ibid., p. 224.
12 Loc. cit.
C. TEACHING WINDOWS OF OUR TIME

Stained glass has been used by several of our more recent churches as a part of their program of teaching and worship. One such church is the East Liberty Presbyterian Church in Pittsburgh, Pennsylvania. The windows of this church come from the studios of six different groups of artists.

Mr. Charles J. Connick was the designer of the ten nave clerestory windows in the sanctuary. Half of these windows deal with scenes from the Old Testament and the other half deal with scenes from the New Testament. The Creation is the subject of the first of the Old Testament series. A seated figure of Christ, the active and visible manifestation of the Creator, is placed in the center at the top of the window. His garment is blue, the color of divine wisdom and truth, and white, the color of purity and faith. Above his head is the cruciform nimbus of the Trinity and above his shoulder is the six-pointed star of the Creator. Christ holds the orb of the earth. Six winged figures that hold globes represent the six days of creation. A wingless figure that is kneeling to receive the Divine blessing symbolizes the Sabbath day of rest and devotion. Below and on the left of the figure of Christ stands the Archangel Michael. The archangel holds a flaming sword and scales, symbols of God's power and justice. On his breast is seen the red cross of Saint Michael. The Archangel Michael is accompanied by the Archangel Gabriel, the herald of the
Incarnation of Christ. Gabriel holds a stem of lilies, his traditional symbol. The created things appear at the outstretched fingertips. These include Light and Darkness, the Divided Firmament, the Growing Things, the Celestial Bodies, Fish and Fowl, Animals and Man. The increasing bounty of creation is shown by the progressive enrichment of Christ's garment.

The second window shows the Fall of Man. Adam and Eve stand by the Tree of Life, about which is entwined the Serpent. Eve holds an apple. Below the figures of Adam and Eve stand the figures of the prophets Isaiah and Jeremiah. "Isaiah holds the tongs with the glowing coal by which, according to his vision, his lips were purified." Jeremiah holds a chain that symbolizes Israel's bondage. Six medallions appear beneath the prophets. Their subjects are: The Expulsion from Eden, the Sin of Cain, Tubal-Cain the Artificer in Brass and Iron, Jubal the Musician, Enoch who walked with God, and Noah with his Ark and animals.

The theme of the third window is the life of Abraham. The Call of Abraham is seen at the top. The Hand of God and the nimbus of the Trinity symbolize Jehovah in this medallion. Ezekiel and Daniel, holding their respective symbols, the torch and the star-tipped wand, come next in the window. The medallions

13Guidebook:East Liberty Presbyterian Church, p. 8.
tell the history of Abraham: his altar near Bethel; his compact with Lot; his being blessed by Melchizedek, the first high priest; God's promise to him; the stars that represent his promised descendants; the sacrifice of Isaac; and the appearance of the angel in the desert to Hagar and her son Ishmael.

In the fourth window, which has as its subject "The Giving of the Moral Law," the Hand of God and the cruciform nimbus of the Trinity again symbolizes Jehovah. The prophets in this window are Hosea and Amos. The cast-off cloak of Hosea suggests the infidelity of Israel against which he testified. The rugged and angular design of this figure suggests the rugged quality of the writings of Hosea. A shepherd's crook indicates Amos's occupation. His erect posture, his dignity, and his flowing robes show the orderliness of his prophecy. The pictures of the medallion show Esau selling his birthright; Joseph, governor of Egypt, receiving his brothers; the infant Moses found by Pharaoh's daughter; Moses and the Burning Bush; Moses and Aaron before Pharaoh, the Death of Moses, and Joshua and Eleazar, sons of Aaron, who represent the succession of authority.

The last window in the Old Testament series is devoted to Elijah. This time Jehovah is symbolized by the radiant nimbus with the words, El Shaddai. At the sides of the nimbus are the ravens who fed Elijah by the brook Cherith. The next figures seen in the window are Jonah, with a ship and fish under his
feet, and Zachariah, with the two crowns that he was instructed to place on the head of Joshua, the high priest. The lives of Elijah and Elisha are seen in the medallions. In one the ravens are feeding Elijah. Next come Elijah remonstrating with King Ahab; Elijah confounding the prophets of Baal on Mount Carmel; Elijah on Mount Horeb; Elisha about to receive Elijah's mantle as Elijah ascends in the fiery chariot; and Elisha sending Naaman, the Syrian, to the Jordan to wash and be cured of his leprosy.

The four Evangelists and Paul are seen at the tops of the five windows that deal with New Testament characters and stories. Each of these four Evangelists and Paul holds an open book that is suggestive of his respective writings. Matthew, the tax gatherer, holds a wallet; Mark, a fig tree; Luke, the physician, a caduceus; John, the Chalice and serpent, and Paul, the sword.

The upper figures of the Matthew window are Joseph, with his carpenter's square and flowering staff, and Mary, the mother of Jesus. The medallions tell the story of the Nativity as it is told by Matthew. The incidents are: The Annunciation; the Angel announcing to Joseph the coming of Jesus; the visit of Mary to Elizabeth; the Nativity; the Wise Men presenting their gifts; and the Angel warning the three Wise Men not to return to Herod.
John the Baptist and Simeon are seen in the Mark window. John wears camel's hair clothing and holds a red cross as a symbol of the coming Messiah. With John the Baptist are also the Lamb and the Book. Simeon holds the infant Jesus in his arms. The medallions of this window have as their subject the youth of Jesus and his preparation for his ministry. The subjects of the individual medallions are the presentation in the Temple; the flight into Egypt; the Holy Family; Jesus working in the Carpenter Shop; Jesus in the Temple with the Theologians; the Baptism by John; and the Temptation.

The two figures in the Luke window are Andrew and Nathaniel with their respective symbols, the saltire cross and the flaying knife. The early ministry of Jesus is seen in the medallions. The scenes shown are: the Marriage at Cana; the Sermon on the Mount; Nicodemus's visit with Christ; Jesus blessing the Children; the Calling of Peter and Andrew; and the Meeting of Jesus with Nathaniel.

The fourth window of the New Testament series, the John window, is dedicated to the women of the Gospels. The two principal figures are Mary Magdalene and Martha. Mary Magdalene holds a jar of ointment, and symbols of the seven devils that were cast from her appear around her figure. A ladle and some keys show the domestic nature of Martha. The subjects of the medallions are: Mary teaching Jesus; Jesus and the Woman at the Well; "Mary Magdalene anointing the feet of Jesus; the Widow's
Mite, the mother of James and John requesting precedence for her sons; and Jesus at the home of Mary and Martha.\textsuperscript{14}

The last window in this series is called the Paul Window. The figure of Paul appears at the top of the window. Below this figure, in addition to his traditional keys, Peter holds the book of his epistles. James wears the garb of a pilgrim and, in addition to the book of his writings, carries a staff and a waterflask. The medallions tell the story of the latter ministry of Jesus. Their individual subjects are: Jesus teaching from the Ship; the Tribute Money; the Rich Young Ruler; Cleansing the Temple; the Transfiguration; and the Greeks seeking Jesus.

Howard G. Wilbert was the artist for the six aisle windows in the nave. Nine of the Psalms are the subjects of the three windows of the east aisle and nine of the miracles of Jesus are the subjects of the three windows of the west aisle. The Fifty-first, Nineteenth, and Twenty-third Psalms are treated in the first window. David sits with his head bowed and his crown removed, while the prophet Naaman stands accusingly before him. This symbolizes the Psalm of Penitence. Prayer is symbolized in the central medallion. David keels before the altar of incense. The opening of the Psalm, "The Heavens declare the glory of God,"\textsuperscript{15} is suggested by the stars and the crescent moon in the

\textsuperscript{15}Psalms 19:1.
deep blue background. At the top of the lancet there is a shepherd, holding his staff. His hands are upraised in prayer while some of the sheep "lie down in green pastures"\textsuperscript{16} and other sheep are drinking "beside the still waters."\textsuperscript{17}

The central aisle window on this side has the Ninetieth Psalm as the subject of the medallion in its base. The central figure of this medallion is Moses. On one side of this figure of Moses is a figure watering the grass, and on the other side there is a figure that is cutting grass. These figures illustrate the text, "In the morning it flourisheth and groweth up; in the evening it is cut down and withereth."\textsuperscript{18} In the central medallion David is kneeling, playing his harp and singing. At the top of this lancet a central figure is seen kneeling in thanksgiving. Above this figure are kneeling angels that support the throne of the Heavens. These latter two medallions are, respectively, the Forty-sixth and the One Hundred Third.

In the base of the third window on the east side, a figure is kneeling in a semi-circle of flowers and holding the shield of Faith and Truth. Angels surround the figure. Trust is the theme of this medallion. Obedience is the theme of the central medallion. There is a figure whose hands are raised towards the tablets of the Commandments. Beside him is the scroll of the law and at his feet is the lamp of the Word. The

\textsuperscript{16}\textsuperscript{Psalm 23: 2.}
\textsuperscript{17}\textsuperscript{Loc. cit.}
theme of the upper medallion is Hope. The Messianic prophecy of Christ is symbolized by the crown and sceptre, their radiating light forming a cross. The kings of all nations kneel before him in adoration. The Psalms that are thus illustrated are the Ninety-first, the One Hundred Nineteenth, and the Seventy-second.

Some miracles of Jesus are seen in the three windows on the west side. At the base of the first window is seen the raising of Jairus’s daughter. The central medallion shows the raising of the son of the widow of Nain, and the top medallion is the raising of Lazarus.

The three medallions in the center lancet of the west side are: the healing of the Gadarene demoniac; the healing of the nobleman’s son; and the healing of the daughter of the Syrophenician woman.

The miracles that are pictorialized in the last lancet of the west side are: the healing of the blind man of Bethsaida; the healing of the ten lepers; and the feeding of the five thousand.

The Apocalypse window that is over the gallery at the north end of the nave is the work of Reynolds, Francis, and Rohnstock. While the book of Revelation has been the subject of more theological disputation than any other book of the Bible,
it has also, because of its dramatic qualities and striking imagery, served as text and inspiration for Christian artists and poets throughout the centuries. The window is divided into three lancets. "In these lancets are seen the first vision of the Ascended Christ in the midst of the seven candlesticks; the majestic figure of the Almighty, holding in his right hand the book of Seven Seals, and surrounded by the four and twenty elders, the four living creatures and all the host of heaven; opening the Seven Seals and ushering in the horrors of the future; the mighty angel come down from Heaven, clothed with a cloud; the woman clothed with the sun and pursued by the seven-headed dragon; the war in Heaven and Michael's victory over Satan; the final resurrection, and Christ's invitation to embrace Christianity."19

Wilbur Herbert Burnham designed and made the chancel windows. The subject of these windows is the Gospel story from the Triumphal Procession to the Ascension. The subject matter of the medallions begins in the lower left-hand lancet and reads upwards. The subjects of the twenty-four medallions are: the Triumphal Procession; Christ and Peter; Washing the Feet of the Disciples; the Last Supper; the Betrayal; Gethsemane; Christ before Caiaphas; Christ before Pilate; the Crown of Thorns; the Scarlet Robe; Peter Smiting the High Priest's Servant; Peter's Denial; Judas and the Thirty Pieces of Silver;

19Guidebook, East Liberty Presbyterian Church, Pittsburgh, p. 11.
Behold the Man; Christ Bearing the Cross; Raising the Cross; "Touch Me Not;" Doubting Thomas; Peter and John at the Sepulchre; the Women at the Sepulchre; the Descent from the Cross; Casting Lots for his Garments; Emmaus; and Christ at the Sea Shore.

Above the chancel organ cases are two small rose windows. These windows are designed and made by Nicola D'Ascenzo. David, the Psalmist, is in the east window and Pope Gregory the Great is the subject of the west window. A large and a small rose window made by the same artist are found in the East Transept. The Holy City is represented in the large rose as a Bride adorned for her husband. Angels surround the Bride, and fountains of Paradise are found at her feet. Behind her is a domed canopy. This is flanked by a niched wall on which appear the names of the tribes of Israel and the symbols of the twelve Apostles. A sky filled with cherubim is found at the top of the rose. In the circle in the midst of the sky is the Lamb of God with the cruciform nimbus and the Resurrection Cross. The sixteenth century musician Palestrina appears in the small rose of this transept.

Henry Lee Willett is responsible for the window that is found on the north side of the East transept. It consists of two lancets with a circular opening above them. The first meeting of the Presbyterian General Assembly in Philadelphia in 1789 is seen. Francis Makemie, generally regarded as the
founder of the Presbyterian Church in America, is seen in the left lancet. Samuel Davies is seen below Makemie. He is represented as asking money from George II for the founding of a Presbyterian College in America. John C. Lowrie, missionary of the Presbyterian Church to India in 1833, and Sheldon Jackson, missionary to Alaska, are seen in the next two medallions. The bottom medallion of this lancet shows Samuel Finley, president of the College of New Jersey before the Revolutionary War, and Charles Hodge, famous Presbyterian Theologian.

At the top of the right lancet is seen William Tennent, who conducted the "Log College" at Neshaming, Pennsylvania. This school was the germ from which Princeton developed. John Witherspoon, early president of Princeton and signer of the Declaration of Independence; David Brainard, missionary to the American Indians; and John Joyce, who was instrumental in founding the East Liberty Church are seen in the next three medallions. "Stonewall" Jackson, Confederate General and devoted Presbyterian, and Robert E. Speer, Senior Secretary of the Presbyterian Board of Foreign Missions are the two figures in the bottom medallion of the right lancet.

In the Riverside Church in New York City are ten aisle windows made by the studio of Reynolds, Francis, and Rohnstock. The general subjects of these windows are Material Creation, State and Government, Development of the Bible, Reformers,
Agriculture, Children, Music, Scholars, Christ and Humanity, and the International character of Religion. The subjects of the Development of the Bible window are: Ancient Songs; Stone Monuments -- Joshua and twelve stones from the River Jordan, Oral Tradition, Stone Tablets; Moses and the Ten Commandments; Jeremiah's Prophecy, written by Baruch, being read to King Johoiakem and burned by the King piece by piece in an open brasure; Jesus in the Synagogue reading from the Book of Isaiah; Synagogue School; Paul writing in Prison; the Gutenberg Press; the Venerable Bede translating the Gospel of John while on his death bed; King James and the open Bible. At the suggestion of the children of the Church School the words "God is Love" are worked into the border design, in the lower section of the window, in six languages. These languages are: Latin, Chinese, German, Russian, English, and Arabic.

Fourteen of the great religious leaders of the Christian era are found in the Reformers window. These leaders are:
Christ driving out the money-changers from the Temple, Saint Francis, John Wycliffe, John Huss, Girolamo Savonarola, Martin Luther, Philipp Melanchthon, Ulrich Zwingli, George Fox, John Calvin, John Wesley, Balthazar Hubmeyer, Hugh Latimer, and Roger Williams.

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20 Church Monthly, Riverside Church, December 1930, p. 49.
The subjects of the music window are: African Drum, American Indians with Drum, Chinese King, Hindu Vina, Egyptian, Hebrew-David playing before Saul, Greek-Orpheus, Roman Water Organ, French-Blondell playing a rote, Italy-Choral Singers, Belgian Bells, Luther singing hymns at home, Clement Marot translating Psalms, Rhythmical Dancing, Pianoforte-Beethoven composing, Orchestra, Human Voice-Parcifal Act III, Scene 2, Radio, Victrola, and Organ. In the border of this window there are several interesting figures. These include: a hooded figure playing on a Rebec, Fanciful animal playing a harp, Animal tooting on a Shawn, Pig playing a bagpipe, Demi-figure holding a Portative, Angel playing a Mandore, Demi-figure playing a string instrument, and a Demon blowing a trumpet.

The fifteen subjects of the International Character of Religion window are: Eve, Jonah journeying to Nineveh, the Tower of Babel, the Hebrew Exiles, the Wise Men from the East, the First Gentile Convert, Cornelius and Peter, the Cup of cold Water given to a Child, Christ sending out the Twelve, Philip converting the Eunuch on the Way from Jerusalem, Paul at Athens and the Altar to the Unknown God, Confucius and his Disciples, the beginning of Taoism, Laotsze presenting his writings to the Keeper of the Gate, the new Jerusalem, Buddhism, and Mohammedanism.
Among the apsidal chapels of the Cathedral Church of Saint John the Divine in New York City there is a chapel of Saint James Major. In the south wall of this chapel there are three windows, each of which has four panels. Mr. Ernest Lakeman designed the right and left aisle windows and Mr. Henry Wynd Young designed the center window. The subjects of the right-hand window are the saints, schoolmen, and warriors of Old Spain. These include: Trajan and Hadrian, Roman emperors of Spanish birth, Saint Ildefonso, Archbishop of Toledo, and Ruy de Bivar (the Cid). Salomon ben Gabirol and Moses ben Ezra, poetical and philosophical writers, Saint Ferdinand, King of Castile, and Saints Justa and Rufina, virgin martyrs, Avempace and Averroes, Arab philosophers, Saints Leander and Isadore, Bishops of Seville, and Bishop Hosius of Cordova, Marcus Aurelius and Theodosius, Roman emperors of Spanish origin, Saint Hermengildus, martyr; and Saints Eulalia and Leocadia, martyrs. In the tracery of this window are the coats of arms of Andalusia, Castile, Leon, Granada, and Cataluna.

Saint James himself is the theme of the central window. The subjects of this window are: Angel with IC-XC symbol; Pilgrims on way to shrine of Saint James; and the coat of arms of Saint James; the Ship that carried the body of Saint James to Spain; Saint James upon a great white horse; and Saint James preaching to the Spaniards; the chapel that was built over the body of the Saint; the Moors fleeing before the banner; and
Saint James before a judge, forgiving and blessing an accuser; Angel with Ichthus symbol; men worshipping at the Shrine and the coat-of-arms of King Ramerio I of Spain. The Crucifixion is the theme of this tracery piece.

The religious spirit in Spanish art and letters is the theme of the left window. The subjects are as follows: Cervantes, Lope de Vega, and Calderon, dramatists; Saint John de la Cruz, poet, writer; Francisco de Osuna and Luis de Granada, theological writers; Saint Ignatius de Loyola on his way to Rome meeting Christ; Saint Ignatius as a soldier; and Saint Ignatius holding vigil, before the altar of Our Lady of Montserrat; Vision of Saint Teresa meeting a child; Saint Teresa holding the crown of thorns; and Saint Teresa teaching her nuns to pray; El Greco and Murillo, painters; Saint Pedro de Alcantaro, and Lais de Leon, Ramon Lull and Juan de los Angeles, philosophical and theological writers. The Arms of the Order of Saint Augustine, the I.H.S. emblem, the arms of the Carmelite and Franciscan Orders, and the dove of the Holy Spirit are in the tracery of this window. 21

The west narthex window of Christ Church Cranbrook at Bloomfield Hills, Michigan was designed by James H. Hogan, and was made by James Powell and Son of London. It is a recognition.

21 Guidebook, Cathedral Church of Saint John the Divine, New York City, p. 7.
Sarah Siddons, Sarah Bernhardt, Mary Anderson, and Ellen Terry.  

The theme of the aisle windows of Trinity Methodist Church in Springfield, Massachusetts, is the light of Christ in the life of civilization. Ten windows appear on each side of the nave and one in the east transept. The title of each window suggests some area of human experience and each experience is illustrated by some great historical character. These historic persons are arranged in chronological order, showing the progress of civilization. There is a medallion at the bottom of each window that repeats the theme of the window and brings the experience to modern times. These windows definitely teach the progress of civilization.

As a matter of fact, the teachers of this church school use these windows as a part of their teaching method. First, the teacher takes the children into the auditorium and shows them the windows. Then the teacher tells the story of each window and explains the symbolism. After that the teacher shows the children the relationship that each window holds to the general scheme of the entire group of windows.

This method is in accord with the definition of Religious Education as the "conscious, directed effort of the adult group in any society to lead the children to think, feel, and act in religion and ethics as the leaders want them to think.

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Guidebook of Christ Church Cranbrook, Bloomfield Hills, Michigan, p. 6.
feel, and act." The conscious and directed effort finds its expression in the explanation of the symbolism and in the telling of the stories of the various characters and events portrayed.

Conscious and directed effort, on the part of the craftsman, finds its expression in the choice of subject matter for the windows. It also affects the colors and designs of the window. The colors and designs help to govern the quality of the windows and hence help to determine the effectiveness of their use as a teaching medium. The numerous descriptions of windows in this thesis show the wide range of available material for use as mediums of Religious Education.

The windows of Trinity Methodist Church in Springfield, which definitely teach the progress of civilization, are listed in the following chart.

### NAH VE WINDO W S

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CHARACTER</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worship</td>
<td>Moses</td>
<td>1300 B.C. the child Samuel at Prayer.</td>
</tr>
<tr>
<td>Truth</td>
<td>Socrates</td>
<td>400 B.C. the Shepherds and the Star.</td>
</tr>
<tr>
<td>Mysticism</td>
<td>Saint John</td>
<td>First [nica and her son, Centurystine, greatest mystic and theologian of the early church.</td>
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Faith  Saint Paul  First Century  Haystack prayer meeting at Williams College.

Education  Saint Benedict  "Ecco Labora"  480  A modern school building of religious education.

Architecture  Abbe Suger  "The Birth of Gothic"  1081  A modern Gothic Church.

Mercy  Saint Francis  1182  Florence Nightingale and the Red Cross.

Beauty  Raphael  1483  A field of lilies — "Solomon in all his glory was not arrayed like one of these."

Patriotism  Joan D'Arc  1412  Washington in the snow of Valley Forge.

Progress  Columbus  1446  Gutenberg printing the Bible, first book printed from movable type.

Liberty  Martin Luther  "I can do no other, God help me."  1483  Drafting the Declaration: Franklin, Adams, Jefferson.

Science  Galileo  1564  Radio shown by a steamship.

Poetry  Shakespeare  1564  Reciting the Homeric poems.

Music  Bach  1685  The Choir Boys.

Evangelism  Wesley  1703  Francis Asbury on horseback.

Democracy  Lincol  1809  The Mayflower bringing the seeds of democracy to America.

Enlightenment  Livingston  1813  Gandhi teaching New Testament in India.
The decorative scheme of the windows of the chapel of Princeton University is the conviction that the life of each man owes its reality and fulfilment to the knowledge of Jesus Christ. Each man must therefore find his pattern and inspiration in the life and teachings of Jesus. This knowledge is to be found in the Gospel. 24

Four windows are found in the north aisle. These show scenes from the Life of Jesus, ending with the Triumphal Procession. This last provides an appropriate and customary entrance into the crossing and the choir. Teachings of Jesus are the subjects of the five windows of the south aisle. Two of these are from the Sermon on the Mount and the remainder are from the Parables.

The life of Jesus continues in the windows of the Apsidal Chapel in the Marquand transept. The first window depicts the Last Supper. The remainder of the Passion story, concluding with the Ascension, is shown by means of twenty-four medallions.

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23 Guidebook, Trinity Methodist Church, Springfield, Mass., p. 16.
The four long lateral windows of the choir each contains a complete visualization of a great Christian epic. These epics are: the Divine Comedy of Dante, Pilgrim's Progress of Bunyan, Paradise Lost and Paradise Regained of Milton, and the Quest of the Holy Grail of Mallory.

The great west window of the chapel sums up the entire visual experience. Its text is carved in stone, "I am come that they might have life and that they might have it more abundantly."

The window shows the Nativity of Jesus. Figures of the Old Testament, great soldiers, poets, theologians, and kings surround and adore him. It is as if they realize that all life is enriched and made free by Christ. Above all of this, Christ is seen sitting in his mandorla of light. Trumpeting angels are below him, and the four Evangelists, holding their respective Gospels, stand at his side.

A part of the education on the campus of the University of Pittsburgh is the Heinz Memorial Chapel, a permanent record of the beauty of Christianity. The five virtues -- charity, faith, hope, justice, and wisdom -- are symbolized in the chancel windows. The center window is the Charity window. In addition to the parables of the Good Samaritan and the Prodigal Son, this window has small angelic figures that symbolize the Seven Acts of Mercy. The dominant color of this window is red.

White is the key color of the Faith Window that is at the left of the Charity Window. This symbolizes the parables of the Good Shepherd and the Sower.

Green is the outstanding color of the Hope Window which is placed at the right of the Charity Window. Its dominant figures are Christ Transfigured and Christ the Light of the World. The hopeful spirit of prophets, evangelists, and teachers is symbolized in small medallions that contain prophetic and saintly figures. The text of this window is: "Jesus Christ Himself hath given us everlasting consolation and good hope through grace."  

The Justice Window is at the left of the Faith Window. Two figures of Christ, one as the wise judge of the guilty woman and her accusers and the other as the householder whose return is unpredictable, are the dominating figures of this window. The red of charity and the blue of wisdom combine to make the violet of justice the key color of this window.

Christ with the Samaritan Woman and Christ with Nicodemus are the dominating figures of the Wisdom Window. The key color of this window is of course blue. The text of this window is: "Wisdom is first pure, then peaceable, gentle, and easy to be entreated, full of mercy and good fruits."  

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26 II Thessalonians, chap. 2:6.  
27 James 2:17.
Saint Gregory and Saint Ambrose in the north Choir Window are reminders of a lofty musical tradition. Small figures playing musical instruments are accompanied by singing birds and trumpeting flowers. In the center tracery piece Tubal Cain, traditional worker in brass and iron, symbolizes the making of bells.

Palestrina and Bach are the two figures in the south Choir Window. They are accompanied by small figures playing instruments and singing. Saint Charles Borromeo, patron of Palestrina, and Frederick the Great, patron of Bach, are represented in the window respectively by a symbol and by a coat-of-arms. Jubal, traditional inventor of the harp and of the organ, is found in the central tracery piece of this window.

The Courage and Tolerance Windows are found in the north transept of the chapel. Oranges, golds, and golden tans are found in the Courage Window. The Tolerance Window has brilliant pink, warm browns, and gold as its outstanding colors. The great figures of Joseph in Egypt and of Mary Magdalene speak of tolerance. The Maryland Cross and the kindness of Dorothea Dix are shown in the medallions of this window, and in the tracery piece is the rain that falls on both the just and the unjust. The text of this window is: "If we walk in the light as He is in the light we have fellowship one with another." 28

28 I John 1:7.
The characters of the Courage window range all the way from David and Mary, the Mother of Jesus, to characters in our own history. The sturdiness of the window is also seen in the first Christmas tree, the first Thanksgiving of the pilgrims, Washington at Valley Forge, and the pioneer mother of the Brodhead family. The dominant tracery piece shows a bird that is daring the sea.

The Good Life in a growing form is exalted in the Temperance Window. It is articulated with flowers in a prismatic color scheme in the small silvery fountains of the base and the water jar in the center tracery piece. Chief Cornplanter's appeal to the governor of Pennsylvania and Francis Willard's petition, signed by the women of the world, to President Grover Cleveland are the subjects of the medallions of this window. The dominant figures of this window are Daniel and Ruth, ancient symbols of simplicity, modesty, and goodness. The figures of Saint Theresa and Dante are also found in this window.

White lilies and white torchlike flowers and small white figures are found in the Truth Window. The great figures of this window are Saint John, the Evangelist, and Saint Eunice, the mother of Timothy. Other figures of the window are Mary Lyon, Louis Pasteur, Isaac Newton, and Emily Dickinson. This window has as its text: "And ye shall know the truth and the truth shall make you free." (John 8:32)
Christian leaders and teachers who followed the way of Christ are shown in the north and south clerestory windows. They are distinguished by a suggestion of the four seasons. Vincent Beauvais is responsible for the symbols of distinctive qualities of Christian teaching that appear in the dominant tracery piece of each window. His Mirror of Morals is symbolized in the Morals Window; his Mirror of History in the History Window; his Mirror of Instruction in the Instruction Window; and his Mirror of Nature in the Nature Window.

Saint Augustine and Saint Jerome, with smaller figures of their followers and medallions presenting their important works, are found in the Morals Window. They represent the interpreters and teachers of the first to the fifth centuries. This window is also symbolical of Spring.

Summer is symbolized in the History Window which presents the interpreters and recorders of the fifth to the eighth centuries. The important figures in this window are Saint Alcuin of York, the Venerable Bede, Cassiodorus, Saint Caedmon, Boethius, and Saint Patrick.

Saint Thomas Aquinas, Roger Bacon, their teachers, associates, and followers are found in the Instruction Window that presents the notable teachers of the eleventh to the thirteenth centuries. This window symbolizes autumn. Its text is taken from the Psalms. "So teach us to number our days, that we may apply our hearts unto wisdom." (Psalm 90:12)
The last of the windows of the seasons is the Nature Window. It symbolizes Winter. Preachers and spiritual leaders of the seventeenth to the nineteenth centuries are included in this window. These preachers and spiritual leaders include Jonathan Edwards, Ralph Waldo Emerson, Thomas Hooker, Roger Williams, Count Zinzendorf, and Cardinal Newman.

Three Christian epics are the subjects of the three narthex windows. These are Bunyan's "Pilgrim's Progress," Saint Francis's "Canticle of the Sun," and Malory's "Quest of the Holy Grail" in his "Le Morte D'Arthur." The text of the Malory Window is: "For the way on the right hand betokeneth the highway of our Lord Jesus Christ." Its dominant figures are Sir Galahad with his sword and Percival's sister with the cross. The tracery piece symbolizes the knightly quest and the final achievement of the Holy Grail.

Brother Sun and Sister Moon, personifications of Air, Water, Fire, and Earth, and a host of stars, birds, fish, and hovering flames sing their praises in the Saint Francis Window.

In as much as the entire Canticle is in praise and thanksgiving to the Lord, his symbol appears at the center of the tracery for this window. A fitting text is: "Praise ye and bless the Lord and give Him thanks and serve Him with great humility."
The central narthex window interprets Bunyan's "The Pilgrim's Progress." Christian and hopeful are the two most important figures in this window, and the New Jerusalem is symbolized in the tracery piece. Its text is: "Seek an inheritance incorruptible and undefiled and that faeth not away."

Great hymns of the church provide the subjects of the aisle windows which are designed to a scale that invites close inspection. Saint Bonaventura's grand old hymn, "Adeste Fideles," is found near the chancel on the south side. Saint Bonaventura appears with a scroll in the center tracery piece. The Christ Child dominates the twin panels of the window. He is balanced by the kneeling figure of a seraph as leader of the nine choirs of angels. Medallions of the Nativity and a growing form that suggests clouds set with stars, flowers, adoring animals, saints, and happy children are in this window.

The next window in the south wall is an accompaniment to the passages of chapter forty-four of Ecclesiasticus. The author of this hymn, Jesus, Son of Sirach, is shown in the center tracery piece. Chaucer, Shakespeare, Keats, Mozart, Beethoven, and Schubert are all placed in this window.

The Benedict of Daniel in the apocryphal book, the Song of the Three Holy Children, is the subject of the third window in the south wall. The figure of Daniel is seen in the tracery piece. The subjects of the window itself extend from implications of earth and growing things to the sun and the moon and
to the heavenly hosts. Glimmering bits of glass indicate showers and dew, the green things of spring, lightning and clouds, and ice and snow.

The figure of King David is seen in the tracery piece of the north aisle window near the transept. The theme of this window is the 107th Psalm. Large and small medallions are found in this window. Prophets, priests, builders, and toiling men are shown in these medallions.

The "Te Deum Laudamus" is the subject of the other aisle window of the north wall. Tradition says that this hymn was written by Saint Ambrose, whose figure is found in the tracery. Heavenly hosts, apostles, prophets, and the Holy Innocents are seen in the medallions of this window.
CONCLUSION

Consider a community which has a church rich in stained windows. Is it not possible that they would influence subtly, powerfully, the souls round about, calming the strifes with their solemnity, deepening the thoughts and emotions, raising the ideals of each individual who sees them? Week upon week for untold generations of descendants of the same families...would it not be one of the most powerful influences in civilization, in evolving the soul of the Race toward that goodness that is God?

The stained glass window proclaimed and expressed the most deeply religious age of all, when Man sought his soul and God and found them expressed deeply, intensely in the most soul-stirring Art of all -- the Art of the Stained Glass Window.1

Because we believe that not only are these things true of stained glass windows but that they are also instrumental in the transmission of facts, we believe that stained glass should be given greater emphasis as a medium of religious education.

The transmission of a body of imagery to the child is an important part of his education. As pictures produce images that are sharper, more easily recalled, and more permanent than are the images that are produced by either printed or spoken words, so the images that are produced by stained glass windows are sharper, more easily recalled, and more permanent than are the images that are produced by pictures. This is accounted for by the fact that light is more intimately associated with windows than it is with pictures.

It is not enough to present a child with a body of imagery and rational judgments. This must be enlivened by the emotional if the child is to relate the imagistic and rational to himself to such an extent that a change is made in his conduct. Both light and color provide this emotional element.

The men of the mediaeval age realized the importance of pictures and windows as teaching mediums. It has been said that their churches were their picture books. Printing facilities did not permit a wide dissemination of literature, but in the art of the church the people learned almost all they knew of their faith. Biblical history, the teachings of the church, the examples of the saints, and the hierarchy of the virtues all found their places in the stained glass windows of the mediaeval age.

Windows of the mediaeval age, especially in its earlier centuries, were given distinction by their fine color and their splendid sense of design. They were true to their function, permitting the passage of light and yet not weakening the effect of the wall.

There is a popular belief that stained glass is a lost art. In the sense that badly colored glass has been used and that windows have been made that have not obeyed the laws of optics and design, it is true that stained glass has been lost. However, it is not irretrievably lost. Glass can and is being made that is like the glass that was used by the early stained
glass workers. Stained glass craftsmen of our time, notably Mr. Charles J. Connick, have made and are making windows that obey the laws of color, design, and optics.

The sun has been given several glorious opportunities to proclaim the truth to the children of our generation. The Heinz Memorial Chapel at the University of Pittsburgh and the Princeton University Chapel have splendid windows. Four churches having good stained glass windows that present teaching schemes are: the East Liberty Presbyterian Church in Pittsburgh, Pennsylvania; the Riverside Baptist Church and the Cathedral of Saint John the Divine in New York City; and the Trinity Methodist Church in Springfield, Massachusetts.

Just as stained glass windows were used to teach the songs and stories to the people who lived in the Mediaeval Age, they are also used to teach the people of this age. Windows are silent but highly effective teachers. They help us to develop our own selves. It is possible for us to know the world about us, the elements, their combinations, and the forces at work among them. It is also possible to realize such immaterial values as kindness, faith, spirituality, and response to beauty. Stained glass windows help us to realize these immaterial values which are a part of our heritage. If we think of education as a process of moving toward the realization of our heritage, then stained glass windows have a very definite educational function and should be used as a medium of religious education.
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