Stained Glass Production Techniques

Stained glass production techniques began during the Romanesque period, but really flourished during the Gothic period of the 12th and 13th centuries. The Gothic structures were illuminated with the brilliant blues and reds which seemed to glow like jewels which told the stories for the church. The colored glass told a literal as well as a symbolic story. These glass pictures replaced the use of many wall paintings (frescoes) in buildings.

Glass could be cut to fit the shapes that the artist required. A full-scale line drawing, called a cartoon was first put on a large board. The sheets of glass were placed over it and cut according to the lines. The pieces were put together like a giant jigsaw puzzle and later sautered into place with I-shaped lead strips. Stone tracery or iron bars were used as supports for carrying the weight of the entire glass plate. In addition, paint was used on certain parts of glass to create lines, shading, and details. The individual pieces were placed in a kiln to harden the pigment being used. (Brommer, 2007)

It is interesting to note that the color symbolism was common knowledge to artisans working with glass as well as painters and illuminators of the time. The following is adapted from information from the Browning Library at Baylor University.

RED or vermillion in its pure form is the color of divine love, the Holy Spirit, of courage, self-sacrifice, martyrdom, and all the warm impulses that belong to the greathearted everywhere. RED is the warm, active color.

BLUE of the Middle Ages was a pure cobalt, often shading from deep to light, approaching sapphire. BLUE is the light of heaven; BLUE is the cool, contemplative color, the perfect foil for red. Blue is also symbolic of profound meditation, of enduring loyalty, of eternity.

GOLD (Yellow) is the symbol of the sun, of the goodness of God, of treasures in heaven. GOLD is the color of spiritual achievement, of ripe harvests, or of the good life; and, as it merges into golden browns and orange tans, it recalls the good treasures of the earth.

GREEN, uniting the “wisdom” of blue with the “wealth” of gold, symbolizes hope and victory over dullness and ignorance; GREEN symbolizes happiness with the gaiety we associate with springtime and youth; it symbolizes good humor and fun.

WHITE is the color of serenity and peace, of purity and of the joy that belongs to the pure in heart; WHITE is the symbol of faith as well as innocence.

VIOLET (or purple), uniting the “wisdom” and “love” symbolized by blue and red, is the symbol of justice and of royalty. PURPLE also stands for suffering and mystery, and was the glassman’s color for the color black, expressing negation, mourning, and death. When set forth with white, it stands for humility and purity.

During the 15th century, the way stained glass was viewed changed with the use of paler colors and the paint work that had been incidental now became primary and more sophisticated like easel painting. Stained glass artists became more like painters and the lead lines which were previously accepted as not only part of the structure but also of design were evils to be
camouflaged by the design. The Renaissance brought the art of stained glass into a period of white glass which was heavily painted. At the same time it became fashionable to have stained glass in residences, public buildings, and churches. A good example would be heraldic symbols placed in glass with a transparent background.

During the 18th century the removal of many medieval stained glass windows took place. They were destroyed as hopelessly old-fashioned and replaced by painted glass. However, during the mid 1800’s in England there was a revival of interest in Gothic architecture. This brought about a research and rediscovery of the colors and techniques of the Gothic period. The painted figural windows and revived Gothic style windows were the norm until the development of American style came from John LaFarge and Louis Comfort Tiffany. As painters they began to experiment with glass. Contemporaries and competitors they sought to create a new range of visual effects without painting. LaFarge copyrighted opalescent glass in 1879. Tiffany popularized it and his name became synonymous the American glass movement. They both used intricate cuts and richly colored glasses to make intricate flowing designs. They made windows for churches and for private homes.

They developed the technique of using thin strips of copper as a substitute for lead allowed for more intricate sections within windows. Tiffany adapted the technique to create lampshades for the newly created electric lights. His work was valued by the wealthy Astors and Vanderbilt's and was popularized through the turn of the century.

With a change in tastes, came a decline in the use of stained glass. Tiffany’s studio went bankrupt shortly after his death in 1933. Except for church windows, stained glass remained in decline until after WWII era. The exploration of new mediums through the abstract and expressionist movements.

Stained glass is all around us today. An explosion of interest in the last 30 years has given rise to many new and imaginative forms of this art. The rise of the individual artist, new technologies and the growing interest in stained glass as a hobby. There are windows found in entryways and bathrooms. Tiffany style lampshades along with decorative panels are purchased just to hang in a sunny window.

Enjoy the colors and the styles of stained glass to be found today.

Advance, CXXXVI, No. 4 (April, 1944) 6.