Donated to the Department of Materials Science and Engineering by Pilgrim Glass Corporation Alfred Knobler, President

The Alf Knobler Glass Collection
Cameo glass is one of the most highly esteemed types of glass. It can be traced back to ancient Rome between 25 B.C. and A.D. 50 and was a cherished possession of emperors and patricians. The revival of the cameo technique in glass making was spearheaded by the Pilgrim Glass Corporation, founded by Alfred Knobler, a ceramic engineering alumnus, in 1949. This exhibit includes several pieces of American cameo glass, as well as cranberry, cobalt, and other glassware for which Pilgrim Glass has become internationally known. Currently, there are 72 pieces in the exhibit.

Alfred Knobler is one of the MSE Department’s most beloved alumni. Much like a cameo glass, his life story is itself a product of hard work, precision, and endless creativity. In 1949, Alf Knobler founded what is now internationally known as the Pilgrim Glass Corporation, where specialty glassware is produced.

In 1997, Alf Knobler and the Pilgrim Glass Corporation donated several pieces of cameo glass for the department to keep and exhibit. For this rare collection, special considerations had to be made for the display case including lighting and temperature control.

Fusion of Art and Engineering
A perfect cameo glass is equal parts engineering technique and artistic precision. Traditionally, the term ‘cameo’ refers to a technique of layering one material over another, so that a raised motif emerges as the artist carves away surrounding material, exposing the background layer. However, in cameo glass, two or more layers of glass of similar compositions are cast together while still molten. The outer layer is carved to leave a design in relief with the effect depending upon the extent and depth to which the outer color is removed. Because of the layering of glass over glass, thermal expansion and stress factors must be carefully matched because even a tiny defect in the process can result in explosion.

At Pilgrim Glass, seven colors of cranberry, green, cobalt, crystal, pink, topaz, black and white are layered. All colors must have the same or compatible coefficients of expansion.

For the engineer, cameo glass represents an amazing phenomena from the standpoint of the stresses that can build up between the glass layers. Molten glass can be compared to hot lava, capable of chewing its way through anything in its path. The facilities required to produce this glass must be insulated against the high temperatures needed for processing. When the cameo blank is cooled and ready to carve, artisans must wear protective clothing and work in specially designed room. This increases the difficulty of trying to carve intricate detail into the glass, thus making the completed product even more of a marvel.

Back in the Art Nouveau era, carving and removing ten layers of glass using acids, hand-tools and engraving wheels would have required years rather than weeks. Kelsey Murphy, Pilgrim Glass’s art director, uses sandblasting at extreme pressure, a faster but trickier technique.

The product is a piece that comes alive with a spectrum of color and three-dimensionality, and which powerfully conveys the mood of the artist to the viewer appreciating it. More so, the product is affirmation of the connections between ceramic art forms and the science and engineering of glass making.

The Pilgrim Glass Corporation closed its doors forever in March 2002. However, Mr. Knobler worked with Margaret Mary Layne, the executive director at the Huntington Museum of Art, to develop the Legacy Cameo Glass Project, which allows some of the artists from Pilgrim Glass to continue their work. Here, the thousands of cameo glass blanks already created will be brought to life by these talented artisans.

Sources:
MSE Glass Exhibit Photo: Ben Poquette and Liz Jeffers, MSE