

Umlauf: Process



Document explaining the bronze process
by Charles Umlauf, c. 1985
(written to explain the commission for *St. Michael and Lucifer*)

- (1.) Preliminary sketches (2) of Saint Michael and Lucifer have been made for the project, modeled direct in wax, as well as many drawings in which detail and expression can more successfully be presented. The preliminary sketches in wax and the drawings were then photographed so they might be viewed by the committee in photographic form.
- (2.) Scale models are the next step. After approval of a preliminary sketch and/or drawing a scale model must be made one third or one half the full size decided upon.
- (3.) After approval of the scale model it is moulded and cast in plaster. This plaster model will be the working model, to be used in pointing up the final enlargement in water clay or oil clay (plasteline). The instrument used for enlargement is known as a pentograph, which is a pointing or calibration device.
- (4.) An armature is pointed in metal from the working model. This will be the supporting structure for the clay which is to be applied to the steel armature, the sculptor directing the total work - indeed doing most of it. The enlarging process may take from five to seven weeks, after which the sculptor takes over completely and will be working alone for a time period lasting from four to six months or until completion of the work in clay and then in plaster.
- (5.) When the clay model is approved (in this case -by means of 8 x 10 photos unless the donors can approve in person) the sculpture in clay must be cast in plaster. When the full-size plaster model is finished and retouched by the sculptor work commences on a gelatin mould. Wax is poured into the gelatin mould until the desired thickness of the bronze is obtained, then the hollow left inside is filled with investment (part plaster, part terra cotta). After this the gelatin mould and plaster mould which covers it are both removed, leaving the wax model for the sculptor to retouch.
- (6.) The retouching of the wax model by the sculptor is the final step and a most important one before preparations are made for pouring of the bronze. What is now wax will be the bronze.
- (7.) When the sculptor has completed the retouching of the wax an experienced craftsman applies gates and vents of wax, then covers the completed form with investment which is left to dry. When altogether dry it is placed in an oven and the burnout begins. It takes about two days to burn out all the wax (lost wax method). Now it must be readied for the bronze pouring, a very dramatic procedure.
- (8.) After the pouring everything is removed from the outside: the investment; the gates and vents; final investment particles being removed by sandblasting; nails and air vents then being cleared by "chasing". Next and last of all the patina or color is applied with heat and acid, then water to stop the action of the acid, the patina having been selected from a wide range of colors.

Umlauf: Process

November 12, 2014 – January 11, 2015

On any given day, visitors to the Umlauf Sculpture Garden & Museum encounter a wide variety of bronze sculptures, each of which is captivating in its own way. Charles Umlauf's work might have a compelling composition, an especially detailed surface, or convey a moving story. But one story not revealed by the bronzes is the intricate and laborious process involved in their creation. This exhibition offers a rare view into the creative process behind Umlauf's bronze sculptures, emphasizing the lost-wax casting technique. Umlauf's longtime mold maker and caster, John Kasson, put it simply, "In bronze casting there are fifty ways to do each step, and fifty ways to mess up each step. It is truly misunderstood by most people."

In Chicago, working under renowned sculptors Lorado Taft (1860–1936) and Albin Polasek (1879–1965), Umlauf learned every phase of creating bronze sculpture using the ancient technique of lost-wax casting. Beginning in 1941, his professorship at the University of Texas at Austin increased his facility and allowed summers off to make sculpture.

All of Umlauf's sculptures originated in two-dimensional drawings. He drew incessantly—in sketchbooks, on loose-leaf and notebook paper—even on wood. After selecting a particular composition, he created a small, three-dimensional clay model. At this stage, if the sculpture was commissioned, Umlauf submitted photographs of the drawings, model, and a detailed explanation of the process to the committee or patrons.



Fig. 1: Charles Umlauf, untitled [*Torchbearer study*], pencil on paper, c.1960

Next, he created an intermediate-sized, highly detailed scale model. Once he was satisfied with the model (and, for commissioned works, it was approved), he cast it in hydrastone, a hard-setting plaster. The plaster torchbearer in the exhibition is a scale model that was cast in bronze at the same size. The bronze *Torchbearers* are on the island in the UMLAUF's parking area.

Early on, Umlauf shipped his working models to the venerable Roman Bronze Works in New York. Established in 1897 by Genoese native Riccardo Bertelli, it was the first American foundry to specialize in lost-wax casting. (Both Frederic Remington and Charles Marion Russell cast exclusively at Roman Bronze Works.) Umlauf's *Man of Sorrows* displayed in the Gallery bears the foundry's tiny stamp, as does *Young Girl* (1954) in the Garden.

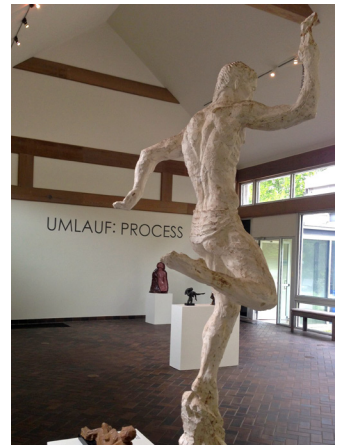


Fig. 2: Charles Umlauf, plaster study for *Torchbearer*, c.1960

In 1959, Umlauf was awarded the prestigious and career-altering commission for the grand sculptural entrance at the new Dallas Love Field Airport. The scale model for this important commission, *Spirit of Flight*, can be seen on the UMLAUF terrace. The immense project includes a fountain with a 17-foot allegorical winged figure on a 24-foot granite plinth, encircled by 18 birds with wingspans up to 8 feet. Unable to find an American foundry that could produce the massive sculpture's components within the \$60,000 budget, Umlauf learned of a foundry in the medieval town of Pietrasanta, Italy. This foundry cast the full-scale sculptures for a fraction of the American foundries' estimates. And so began Umlauf's 25-year Italian era, during which

he spent part of every year in Milan or Pietrasanta. Ever productive, Umlauf continued casting small sculptures domestically with Kassons Castings, founded in 1975 by William and John Kasson, and Falcon Art foundry, operated by Umlauf's former UT Austin student, Roberto Garcia.

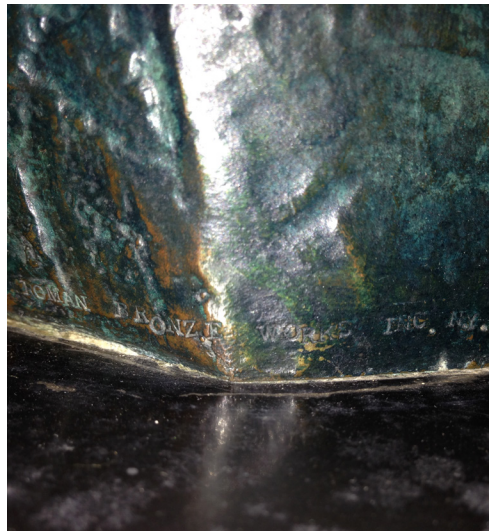


Fig. 3: Charles Umlauf, *Man of Sorrows*, 1950, bronze

Fig. 4: Roman Bronze Works foundry stamp from *Man of Sorrows*, 1950



Fig. 5: Fonderia d'Arte del Chiaro, Pietrasanta, Lucca, Italy foundry stamp

Umlauf's ceaseless curiosity gave way to new sculptural ideas from each project. He sometimes reduced the scale of a large composition to create a smaller, more intimate version. At other times, he cast an entirely new sculpture based on part of a larger composition, such as the two versions of *St. Francis with Birds* in the Gallery and Garden and *Uccelli (Birds of St. Francis)*. Conversely, the stoneware *Nun* (1960) in the exhibition is a unique sculpture that later inspired the large, brown-patina bronze *Nun* (1972), visible in the Garden. The iconic, full-size *The Kiss* (1970, Garden pond) yielded a series of intimate-sized works—the *Lovers* and *Amanti*.

The blue fiberglass molds on view in *Umlauf: Process* were made to create full-scale castings of *Rhino*, *Lotus*, *John the Baptist* (all in the Garden), and a small-scale version of *The Kiss*. Umlauf or the foundry worker poured hot wax into the rubber interior of the mold. Then the interior was filled with investment material (a wet mixture of ceramic and plaster). The rubber and fiberglass were removed to reveal a detailed wax impression with a solid core. After Umlauf applied final details to the wax, it was encased within more investment. The wax was then melted out to make way for the molten bronze. Because the process destroys the wax, the fiberglass and rubber molds allowed a new wax and, subsequently, a new bronze to be made.

Insight into the complex processes behind Umlauf's bronze creations reveals his lifelong dedication to the craft of sculpture.



Fig. 6: Mold for Charles Umlauf's *Rhino*, Kassons Castings

Works on exhibit come from the rich holdings of the UMLAUF's permanent collection, including objects from Charles Umlauf's studio. The Umlauf Family Partnership generously lent the fiberglass sculptural molds.

The UMLAUF annually exhibits two foundational exhibitions of work by Charles Umlauf and/or his twentieth century peers and two exhibitions of contemporary art.

INSIGHTS: Live Bronze Pour

Wednesday, January 7, 6-8pm

This exhibition's accompanying INSIGHTS presents a special opportunity: members of Atelier 3D studio will take visitors through the stages of creating a bronze sculpture, culminating in a live bronze pour at the UMLAUF. This event is free and open to the public. (This project is supported in part by the Cultural Arts Division of the City of Austin Economic Development Department.)

On view daily in the Gallery alcove:

Bronze Sculpting, Produced & Directed by Earl Miller

Narrated by Cactus Prior & Charles Umlauf

Filmed on location in Texas and Milan, *Bronze Sculpting* documents the process of creating Umlauf's 17' high bronze Figure of Christ (1968).

The UMLAUF provides art-in-education programs to at-risk youth; touch-tours for visually impaired and special needs; and free tours for every public school child. The UMLAUF is a 501 (c)(3) nonprofit organization. We acknowledge all donations with an official tax receipt.

UMLAUF

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