

A Memory of Materials: From Production to Documentation of Outdoor Painted Sculptures

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Abstract: *The art foundry Kunstgiesserei St. Gallen AG in Switzerland is working closely with the Sitterwerk Foundation to develop a form of documentation that describes the process of producing an artwork as comprehensively as possible. Samples of materials used in tests and experiments during the production process are documented and archived. It is not only the final solutions and materials chosen that are of interest but also the steps in between, as these give valuable insights into the production process. The development of the internal Company Archive and the public Material Archive stimulates active exchange between different professions and creates a network that can offer valuable clues to the correlations and background of an artwork.*

Introduction

Felix Lehner established his Kunstgiesserei (art foundry) with a staff of two in Beinwil am See in Switzerland in 1983. In 1994 came the move into the larger work halls of the former Sittertal dye works on the outskirts of the city of St. Gallen. Today the operations include some fifty staff. As a result of the openness to new ideas and technologies, the Kunstgiesserei has continued to grow and has established itself as a specialist center for the production of three-dimensional artworks as well as for consultation relating to the restoration of artworks.

Over the years various noncommercial cultural initiatives and collaborations with the Kunstgiesserei were established: the Art Library, the Material Archive, the Studio House with guest studios for national and



Figure 1 Aerial view of the Kunstgiesserei art foundry and the Sitterwerk Foundation offices, situated in the Sittertal, St. Gallen, Switzerland. Photo by Katalin Deér.

international artists, and the Kesselhaus Josephsohn. Ultimately these were united under one roof in August 2006 as the Stiftung Sitterwerk (Sitterwerk Foundation). In its close relationship with the Kunstgiesserei, the Sitterwerk Foundation sees itself as a center for art and production where traditional crafts and the most modern technologies are directly connected in both theory and practice (fig. 1).

The Production Process

From the very beginning, the Kunstgiesserei pushed the production of art pieces beyond the boundaries of the traditional craft of art casting. It shared the curiosity of contemporary artists to work with the latest materials and techniques to achieve the desired results. In addition



Figure 2 An aluminum alloy casting at the Kunstgiesserei St. Gallen. Photo by Katalin Deér.



Figure 3 A technician at work on a plaster reconstruction of an old fountain. Photo by Katalin Deér.



Figure 4 Rough cut of polystyrene by a 5-axis milling robot in the in-house milling center. Photo by Katalin Deér.

to producing castings in copper-based alloys, aluminum, and iron, the Kunstgiesserei investigates and pursues mechanical and digital solutions (figs. 2, 3). White-light scanning and computer tomography are used in the foundry's 3-D studio to digitize objects, which can then be altered through virtual modeling. From there, 3-D printing, laser sintering, stereolithography, and five-axis milling at the Kunstgiesserei's own milling center are used to create models of virtually any size or shape (fig. 4). Objects cast in larger dimensions or enchased by hand are produced at the company's subsidiary in Shanghai, Kunstgiesserei Sculpture and Production Co. Ltd.

The diverse skills of the Kunstgiesserei's staff ensure that each step in the production process is indi-

vidually planned and thought out. Throughout all stages, the foundry team works with the artist, adapting methods to his or her wishes or suggesting alternative methods if these would serve the results intended. This way of working often leads to a controversial usage and combination of materials and techniques, especially when the finishing touch—the top coat of paint—is applied to the artwork.

Although most coats of paint play a primary role in protecting the substrate (especially in the case of outdoor objects), at the Kunstgiesserei the selection of exactly the right color, gloss factor, or surface structure for the object is at least as important as the protective role. In the case of most of the cast objects, the coat of paint is used to mimic the characteristics of materials other than that of the substrate; for example, the thick buildup of the 2K polyurethane coat of paint for Urs Fischer's monumental sculpture *Untitled (Lamp/Bear)* (2005–6) is intended to imitate the soft texture of a teddy bear (fig. 5). In contrast, the thin acrylic coating for Ugo Rondinone's series of sculptures titled *MOONRISE. east* (2005–6) is supposed to make the aluminum casts look as if they are made out of moist clay, without covering up the subtle fingerprints on their surface (fig. 6).

Because there are such high aesthetic demands on many coats of paint, which nonetheless still need to withstand the outdoor elements, the Kunstgiesserei often experiments with paints from the automotive and aviation industries. Although these paint systems are developed to be durable, the procedures for apply-



Figure 5 Urs Fischer, *Untitled (Lamp/Bear)*, 2005–6. Cast bronze, epoxy primer, urethane paint, acrylic polyurethane topcoat, acrylic glass, gas discharge lamp, stainless-steel framework, 700 × 650 × 750 cm. Private property. © Urs Fischer. Courtesy of the artist.



Figure 6 Ugo Rondinone, *MOONRISE. east* (sculpture series), 2005–6. Cast aluminum, epoxy primer, acrylic topcoat, diverse formats. Installed in front of Art Basel, Switzerland, 2008. © Ugo Rondinone. Photo by Katalin Deér.



Figure 7 Compilation of paint-coated samples related to Urs Fischer's *Untitled (Lamp/Bear)*, documenting the artistic, practical, and material-related process. © Urs Fischer. Courtesy of the artist.

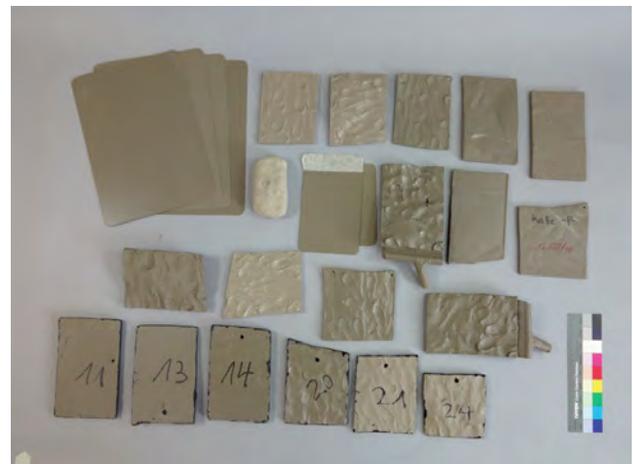


Figure 8 Compilation of paint-coated samples related to Ugo Rondinone's sculpture series *MOONRISE. east*, documenting the artistic, practical, and material-related process. Photo by Julia Lütolf.

ing them are often so strict that, when dealing with unusual surfaces, the final results are difficult to predict. Experiments are conducted in search of the right combination between what the artist desires and the functionality of the material. Sample paint coatings from these experiments have been collected and stored in the Company Archive and in the Sitterwerk Foundation's Material Archive for future scientific and inspirational reference (figs. 7, 8).

Documentation

The Company Archive of the Kunstgiesserei

In a company such as the Kunstgiesserei, where close collaboration with artists is a key factor in the creation of the artworks, the line between the input of the artist and that of the producer tends to be quite fine. For the documentation of the projects, it is therefore of great importance to try to define the artist's intention for the particular artwork.

At the Kunstgiesserei, work is under way on developing a form of documentation that will communicate the knowledge of the employees who experiment with materials within the framework of the projects commissioned, who conduct conversations with the artists, and who execute the technical realization as comprehensively as possible. This documentation will compile not only solutions and end products but also the intermediate steps that help comprehend the artistic, practical, and material-related decisions made during the process. In the production of art, the use and combination of materials is often unconventional, and it is not possible to standardize the sequence of operations in the production of individual pieces. To refer to and label the intermediate products that are created in the various production departments of the Kunstgiesserei, sample boxes are available as an aid. These contain the various casting molds, labeling material, and a form to which notes, recipes, and sketches of the material sample can be added (fig. 9).

After completion of a project, the information is brought together in the internal Company Archive. Photos of the existing material samples are linked to written details in an image database and supplemented

with keywords. This facilitates flexible digital searches that can be used across projects.

The Material Archive of the Sitterwerk Foundation

In addition to the collection that serves as a reference work for artists, specific material samples from the production of artworks are in the publicly accessible Material Archive of the Sitterwerk, decoupled from the art project (fig. 10). They are present within a collection of materials being developed by the foundation in cooperation with seven other institutions in Switzerland, including three art schools, three schools of architecture, and one museum.¹ Material samples are collected and exchanged between all of these sites and made accessible to interested professionals from the fields of design, art, architecture, and conservation. Radio-frequency identification (RFID) chips are attached to the materials to allow direct access to background information in the database via a reading station.²

At the Sitterwerk, further information on the material and techniques for handling can be accessed in the Art Library. Housed in the same space as the Material Archive, the library has an inventory of 25,000

Figure 9 Sample box containing casting molds and labeling material. Photo by Julia Lütolf.





Figure 10 Material samples stored in the Sitterwerk Foundation's Material Archive. Photo by Katalin Deér.



Figure 11 The Art Library and the Material Archive at the Sitterwerk Foundation. Photo by Katalin Deér.

books dedicated to art (with a focus on sculpture and statuary), architecture, photography, material technology, conservation, and restoration (fig. 11). A special feature of the library is its dynamic system of order. Users specify the arrangement of the books on the shelves, as no fixed location is assigned to them. A robot identifies the location of the books with the help of RFID labels and continuously updates the catalog.³ A combined search for books and materials can also take place on this digital level, allowing visitors to do multifaceted research (fig. 12).

In the surroundings of the library, in the production of artworks, and in active exchange with other institutions, stimulating references and discussions

arise in the Material Archive and are made accessible to interested visitors through exhibitions and symposia.⁴ The exhibition by Peter Fischli and David Weiss, *Books, Editions and the Like*, which was presented at the Sitterwerk in 2006, is one example of an interdisciplinary project that developed out of many years of collaboration and friendship between Fischli and Weiss. Works by this artist duo continue to be realized in the Kunstgiesserei. The exhibition provided further insights into their method of working and simultaneously cross-linked the topics of art, books, and materials.

Content-related connections between the Material Archive, the Art Library, and the Kunstgiesserei and, correspondingly, with the artists are a central component of events and exhibitions at the Sitterwerk. The Kesselhaus Josephsohn should also be mentioned in this context. The exhibition and storage space where the plaster models and bronzes of the Swiss sculptor Hans Josephsohn are presented and mediated is another example of the foundation's approach to artistic work holistically over many years.



Figure 12 The web page for the Sitterwerk digital catalog. By conducting searches for books and materials online, visitors can perform multifaceted research. Photo by Julia Lütolf.

A Memory of Materials

In the course of examining how material samples can be documented and archived, two different collections are being developed. In the Company Archive, project-related reference samples are archived and, when supplemented by written information on the production process, make the very specific experiences and information tangible. This is of use not only to the

Kunstgiesserei itself but also to the artist who created the work as well as to conservators. In the publicly accessible Material Archive, superordinate subjects stand in the foreground. The extensive collection of materials is an indispensable tool for in-depth research on both the haptic and the digital levels.

Samples and associated texts are available to users who are active in the design field and wish to examine materials and approaches to working with them. The collection serves as a source of information and inspiration and has set a goal of raising awareness and increasing sensitivity to different material qualities.

The development of the two archives forms an important interface between the Kunstgiesserei and the Sitterwerk Foundation and promotes active exchange and collaboration between the various professional groups involved in the execution of art projects. This cross-linking reveals connections as well as the backgrounds of artworks and, in the case of conservation or restoration work, creates the basis for the prudent handling of objects.

Notes

1. The three art schools are Zürcher Hochschule der Künste, Hochschule Luzern Kunst und Design, and Hochschule der Künste Bern Fachbereich Konservierung und Restaurierung. The three architecture schools are Eidgenössische Technische Hochschule Zürich Baubibliothek, Hochschule Luzern Technik und Architektur, and Zürcher Hochschule für Angewandte Wissenschaften Departement Architektur. The museum is Gewerbemuseum in Winterthur.
2. The Material Archive can be accessed at www.materialarchiv.ch.
3. The catalog can be accessed at www.sitterwerk-katalog.ch.
4. The publication *Archive der Zukunft* (Archive of the Present) is a compilation of texts by various speakers who address the dynamic system of order in the Art Library and associated questions regarding how knowledge can be structured within the framework of the symposium of the same name.