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KISS AND TELL: THE CONSERVATION OF LIPSTICK-BASED WORK BY RACHEL LACHOWICZ

ELIZABETH HOMBERGER AND CARL PATTERSON

ABSTRACT

This paper seeks to further the study of the conservation of contemporary art composed of non-traditional art materials through a discussion of the treatment of two lipstick-based sculptural works by the artist Rachel Lachowicz. The reinstallation of *One Month Late* and *Untitled (Lipstick Urinals)* afforded conservators at the Denver Art Museum the opportunity to develop a holistic approach to the preservation and installation of the works. This approach included collaborating with the artist to document her techniques and intent, as well as materials analysis and research to understand the deterioration processes of lipstick. Examination of the works revealed similar condition issues including "sweating" and mechanical damage. The composition and deterioration of lipstick are discussed, as are the treatment and preventive conservation plans for the lipstick-coated urinals and ties.

1. INTRODUCTION

Rachel Lachowicz is a Los Angeles-based artist perhaps best known for her use of cosmetics to re-contextualize iconic works by male artists, such as Carl Andre's tiles, Donald Judd's boxes, and Marcel Duchamp's and Robert Gober's urinals. The Denver Art Museum (DAM) has in its collection two lipstick-coated works by the artist that were recently installed in their galleries. A third work in the collection titled *Birthday Card* was not included in the exhibition, but was fabricated using similar materials. This group of works provides a useful and interesting case study for addressing the primary issues in conserving and preserving what could be considered ephemeral art. To understand the works better, research into materials, construction, and artistic intent was carried out. Conversations with the artist proved essential in preparing the works for installation and, it is hoped, gaining years of useful exhibition life.

2. BACKGROUND: DESCRIPTION OF WORKS

One Month Late, *Untitled (Lipstick Urinals)* and *Birthday Card* are examples of Rachel Lachowicz's work from the 1990s. They represent the artist's early experiments in applying lipstick to recognizable substrates. Realizing the full cultural significance associated with lipstick, Lachowicz's recast or altered objects are both deconstructions and parodic appropriations that act to assert her "feminine/feminist presence" (Marino 1995). The artist's manipulation of lipstick and other cosmetics within the art historical context operates on many levels. It can be described as an acknowledgement of gender roles and stereotypes as well as the desire to beautify and, in some cases, express her admiration of the male artists from whom she appropriates.

After almost 20 years in the museum's collection, condition changes had become obvious in both pieces. The lipstick-coated works exhibited "sweating" on all surfaces, dust accumulation, cracks, and other challenges associated with conserving contemporary art created with non-traditional materials. When originally made the surfaces were smooth and silky, much like those of recently cooled candle wax. Soiling, oily material migration and minor surface damages altered this.

Fig. 1. Detail of sweating with trapped dust (Denver Art Museum, 1992.548) (Photograph by Liz Homberger)

Fig. 2. Rachel Lachowicz, *One Month Late*, 1992, lipstick, wax, ties, resin, high heels, metal hanger, dimensions variable, Denver Art Museum (1992.548) as installed in 2002 (Photograph by Jeff Wells)

2.1 DESCRIPTION OF *ONE MONTH LATE*

One Month Late is an installation piece composed of neckties, a metal hanger and a pair of hot pink high-heeled shoes—all coated with layers of bright red lipstick. The ties are actual fabric neckties of varying lengths and widths, coated with resin and then lipstick. The hanger and shoes were not treated with resin before coating with lipstick. When installed, the ties and hanger are suspended from the ceiling with monofilament and the shoes are placed on the floor below the hanger. The ties are hung at natural heights, as if worn, to represent a realistic group of men. The shoes are situated below the hanger in a position evocative of a woman whose body is demarcated by the suspended hanger. The artist describes the relationship between the components as fundamental to the piece, but their precise positioning is dependent upon the space in which the work is installed. "The dimensions are variable and the work is site-specific. So, whatever looks good in the space should be done. I'd hate to give more detailed plans and then have the installation not fit or work in the space…the work is meant to feel like you're in a surrealist painting" (Lachowicz 2008).

2.2 DESCRIPTION OF *UNTITLED (LIPSTICK URINALS)*

Untitled (Lipstick Urinals) is a work composed of three Hydrocal plaster casts of small plastic urinals that have been coated with a mixture of lipstick and wax. The artist made several editions of the work; another set is in the collection of the Los Angeles County Museum of Art. Each urinal measures approximately 15 x 8 x 5 inches, although the overall measurements vary with each installation. The installation of this piece is straightforward: the three urinals are hung side by side on a wall with mounting cleats. In the first installation (at the Shoshana Wayne Gallery) Lachowicz installed the urinals at "child height." However, in recent discussions with the artist, she altered her instructions so that the height and distance between the urinals be adjusted according to the installation site, so that the piece "fits" the space.

2.3 DESCRIPTION OF *BIRTHDAY CARD*

The third piece by Lachowicz is titled *Birthday Card*. The work is a rectangular paper support coated with a mixture of lipstick and wax. The surface is heavily textured from the application of multiple layers of the lipstick mixture. The coating extends off the bottom edge in uneven drips.

3. LIPSTICK

Before continuing with a discussion of the condition of the works, it is worth discussing the composition and properties of lipstick. Over the course of its 5,000 year history, lip colorants have included henna, fucus, cinnabar, and carmine dye (made from cochineal). As a commercial product, lipstick was first available in the US in 1915. By 1925 the product had changed significantly to incorporate dyes that enhanced its indelibility. Since then, the basic formula hasn't changed greatly. When there is change, it is driven by fashion.

Fig. 3. Rachel Lachowicz, Untitled (Lipstick Urinals),1992, lipstick, wax and plaster, dimensions variable, Denver Art Museum (2001.772.1-3), installed in 2002 (Photograph by Jeff Wells)

Fig. 4. Rachel Lachowicz, *Birthday Card*, 1992, lipstick, wax and paper, 11.5 x 8.5 inches, Denver Art Museum (1992.659) (Photograph by David Turnbull)

3.1 COMPOSITION OF LIPSTICK

The expectations of lipstick are great: it should produce the desired color and effect; be long lasting, moisturizing, nearly indelible; remain a solid in a range of conditions; cover evenly; and be non-toxic. As an art medium, it is the cultural significance that is most appealing. Lipsticks can be complex combinations of 20 or more ingredients. Although the composition of modern lipstick varies from product to product, the main components responsible for its basic properties are oils, waxes, and colorants. The percentages in which these are added have been reported as ranging from: 15-25% wax, 65-80% oil, and 5-10% pigment (Matsuda et al. 2001). Other additives include fillers (~10%), emollients (~25%), and perfumes (<1%).

Oils give lipstick its shine and easy application quality, and include olive, silicone, mineral, and castor oils. Animal, vegetable and hydrocarbon waxes, including beeswax, carnauba, candelilla, and paraffin, contribute to the crystalline structure of the stick as well as its "staying power" and texture. Often other fatty materials are present, such as cocoa butter, lanolin and other esters. These materials are the link between the waxes and oils and play a role in the creaminess and hold of the film (Salvador and Chisvert 2007).

The vivid colors of lipsticks are created with the addition of pigments, lakes or dyes, including iron oxides and bromofluorescein (bromo acids). Color is imparted either by staining or covering. In some cases the color reaches its final form when applied to the lips as the dye chemically reacts with amino acids in skin. Titanium dioxide is often added for its superior covering power and also to produce pink hues. Bromo acid dyes are the most common staining colorants; two frequently used bromo acid dyes are 4', 5'-dibromofluorescene and 2', 4', 5', 7'-tetrabromofluorescein (also known as eosin, D&C 21). The lightfastness of these colorants varies greatly: the iron oxides have excellent stability while some lakes and many of the bromo acids exhibit poor lightfastness. Generally, lipsticks contain a mixture of colorants.

In terms of processing, aside from the ingredients, temperature manipulation is key to producing a stable stick. The basic steps of manufacture include pre-wetting the pigments in oil; passing the dispersion through a mill; heating the oil and wax to just slightly above the melting point of the highest melting point wax; cooling the mixture slightly; adding colorants while stirring; filling molds at a slightly cooler temperature (approximately 70˚C); and finally, flaming of the tube (Finkenaur 2000).

The composition and overall manufacture of a tube of lipstick is the result of extensive research. As much as the aforementioned materials are necessary to achieve the desired color, texture, melting point and film flow, their interaction with one another and with the environment can also hasten the deterioration of the product. The most common types of deterioration are described below.

3.2 DETERIORATION OF LIPSTICK

In a review of scientific literature, it was found that the most frequently cited problems in the deterioration of lipsticks are the oxidation of oils and "sweating." Extensive research has been carried out by the cosmetics industry to better understand the causes of these issues.

Many of the oils used in lipstick are susceptible to oxidative cross-linking, chain scission, and yellowing through the incorporation of oxygen (Mills and White 2003). In cosmetics, oxidation can result in a number of undesirable changes including fading or color shift, rancidity, and brittleness. Antioxidants such as propyl gallate are added to inhibit or slow the oxidation of fats, oils and perfumes in lipstick. One post-manufacture solution to oxidation is improved

packaging: airtight containers with multiple seals can slow the process and also reduce water vapor loss in water-based cosmetics.

Sweating can be defined as the migration of liquid, in the form of droplets, to the surface of a mixture. The phenomenon is caused by solid-liquid separation. Droplets produced under experimental conditions have been found to be composed of oils and esters of waxes. The loss of these components can lead to brittleness and poor spreadability. Although the exact mechanism of sweating in lipstick is unknown, studies have described the factors influencing the phenomenon to include: ageing, temperatures above 20˚C (68˚F), relative humidity above 55%, the presence of hygroscopic organic pigments in the lipstick, pigment load, compatibility of the oil and wax (i.e. the coefficients of expansion and solubility parameters), and the density of the wax matrix (Matsuda et al. 2001; Salvador and Chisvert 2007). The ratio of oil to wax is frequently cited as a factor, and in simple terms, there seems to be less sweating when more wax is present.

One proposed mechanism describes the difference in the coefficients of expansion between waxes and oils and this relationship to temperature. Briefly, with increased temperature the less stable components—oils generally—expand to a greater degree than the wax and migrate to the surface through channels in the matrix. A study of simplified oil and wax systems found the phenomenon to be temperature dependent: by holding RH constant and manipulating temperature, sweating was observed beginning at 20˚C and as the temperature increased, so did the size and number of droplets (Matsuda et al. 2001). Other studies have described the compression effect of extrinsic water on oil by moisture sorption with increased temperature and RH.

In short, temperature and relative humidity are the most significant post-manufacture factors contributing to the sweating of lipsticks. Industry's recommendations for the prevention or reduction of sweating include the use of inorganic pigments, the inclusion of gelling agents and, post-manufacture, the maintenance of temperatures below 20˚C and RH below 55%.

4. CONDITION

Considering the potential vulnerability of lipstick, both *One Month Late* and *Untitled (Lipstick Urinals)* were found to be in fair condition. *Birthday Card*, on the other hand, exhibited cracking of the lipstick coating. The fragrance, an important part of the experience of the works, was still readily apparent. The main condition issue exhibited by all three works was the sweating of coated surfaces, which resulted in a highly glossy surface, speckled with pale yellow droplets and trapped dust. The other major issue was the presence of handling marks, presumably from incidences when visitors touched the work during previous installations. The lipstick coating itself was found to be fairly solid with the exception of areas of mechanical damage or where the greasy material had migrated to the surface. A comparison of the present condition to earlier reports indicated that this was not newly occurring, but was more extensive. This points to the exacerbation of the sweating by storage in sealed containers.

Fig. 5. Glossy surface on tie (Denver Art Museum, 1992.548AD) (Photograph by Liz Homberger)

Fig. 6. Detail of surface including areas of "sweat", dust and handling marks (Denver Art Museum, 1992.548S) (Photograph by Liz Homberger)

4.1 CONDITION OF *ONE MONTH LATE*

In addition to the issue of sweating, many of the ties were found to have highly glossy areas where the lipstick and migrated material had been in direct contact with Mylar used in the housing of the objects. Out of the 32 components, 53% were found to have moderate to extensive areas of droplets and glossiness. Sweating appeared to be random in location. A significant amount of dust had become trapped in the residue. Additionally, several of the ties exhibited small cracks in the lipstick coating and scratches from handling.

4.2 CONDITION OF *LIPSTICK URINALS*

The urinals were found to be in excellent structural condition, despite extensive sweating and minor marks from handling. For the most part, the handling marks were fingerprints and streaks that appeared to be mostly present in the greasy layer atop the lipstick (Fig. 7). Additionally, a moderate amount of dust had accumulated on the top surfaces of the urinals during previous exhibitions.

Fig. 7. Sweating with streaks (Denver Art Museum, 2001.772.1) (Photograph by Liz Homberger)

4.3 CONDITION OF *BIRTHDAY CARD*

Although *Birthday Card* was not selected for installation, brief examination revealed extensive sweating and cracking. The cracks are probably the result of inherent vice: the use of a flexible substrate for the heavy, stiff lipstick coating.

5. RESEARCH

As noted in previous papers and presentations on the conservation of contemporary art, it is often critical to the preservation of a work that there be a relationship or collaboration between artist and museum (Coddington 1998; Sloggett 1998; Foundation for the Conservation of Modern Art 1999). It is important to remember that "the meaning of the work prior to conservation is the foundation for responsible decision making in the conservation of modern art" (The Foundation for Conservation of Modern Art 1999, 167). In the case of this project, determination of the meaning and understanding of the work was achieved through analysis, research into lipstick, and discussions with the artist.

5.1 ANALYSIS

Analysis of both the coating and sweat droplets was carried out in order to understand the sweating phenomenon. Fourier-Transform Infrared Spectroscopy (FTIR) and non-destructive x-ray fluorescence (XRF) spectroscopy were performed to characterize the coating and the droplets.

5.1.1 Analysis of the Coating

Non-destructive analysis of the lipstick coating was carried out using a Bruker AXS TRACeR III-V handheld XRF unit. XRF analysis was carried out with the goal of detecting inorganic elements that may have been used as colorants. Of note is the presence of bromine in the coating (Fig. 8), which may indicate the use of a bromo acid dye as colorant. Such dyes are common ingredients in lipsticks as they provide good staying power by staining the lips.

A small sample of the coating from *Birthday Card* was collected and analyzed using FTIR. The sample was placed onto a sodium chloride window for analysis in transmission mode using a SpectraTech IRPlan FTIR microscope attached to a Mattson Polaris FTIR spectrometer. The spectrum for the coating was found to match closely to the reference spectrum for a high-melting-point wax identified as "Concord Wax" (Fig. 9). Of note in the spectra are the peaks around 1700 cm^{-1}; these carbonyl absorptions are probably from esters and carboxylic acids in the wax. Considering the presence of the carbonyl vibrations, it seems likely that the wax is something like a carnauba wax, which contains esters, and not a refined hydrocarbon wax. Of course, the coating is known to be a mixture, so the presence of other waxes and materials cannot be ruled out. It should be noted that while FTIR gives molecular structural information and can be used to distinguish between mineral waxes and the more complicated spectra of plant and animal waxes, it cannot be used to identify specific waxes because of the similarity of their chemical structures. Other techniques such as gas chromatography mass spectroscopy (GC-MS) would provide more complete chemical identification of the material (White 1978). Unfortunately, due to time and budget limitations this was not within the scope of the project.

Although further analysis was not possible, it would also be worthwhile to confirm the presence of a bromo acid dye and other colorants in the coating. This would allow for a better understanding of the sensitivity of the coating to light. Also important would be to fully characterize the composition of the lipstick coating for each of the three works; having a better idea of specific waxes used as well as the proportion and compatibility of oils and waxes could further the understanding of the sweating mechanism.

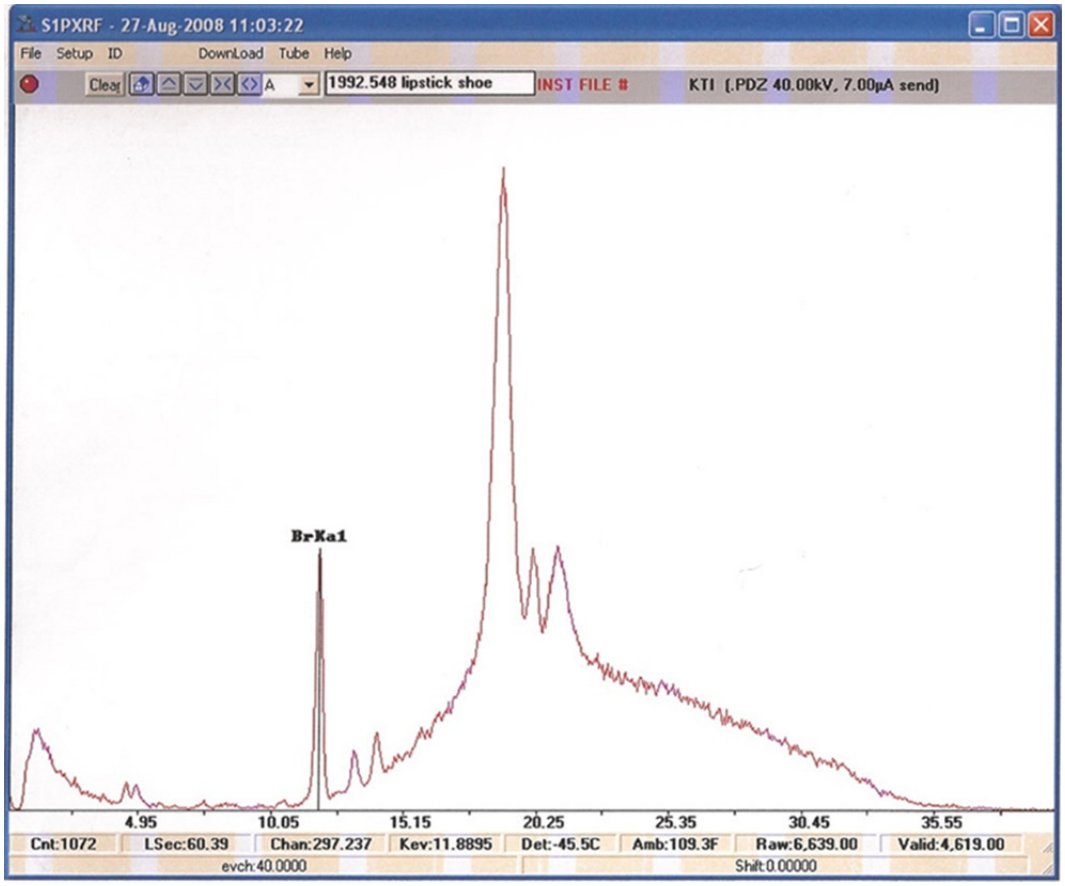

Fig. 8. XRF spectrum of coating

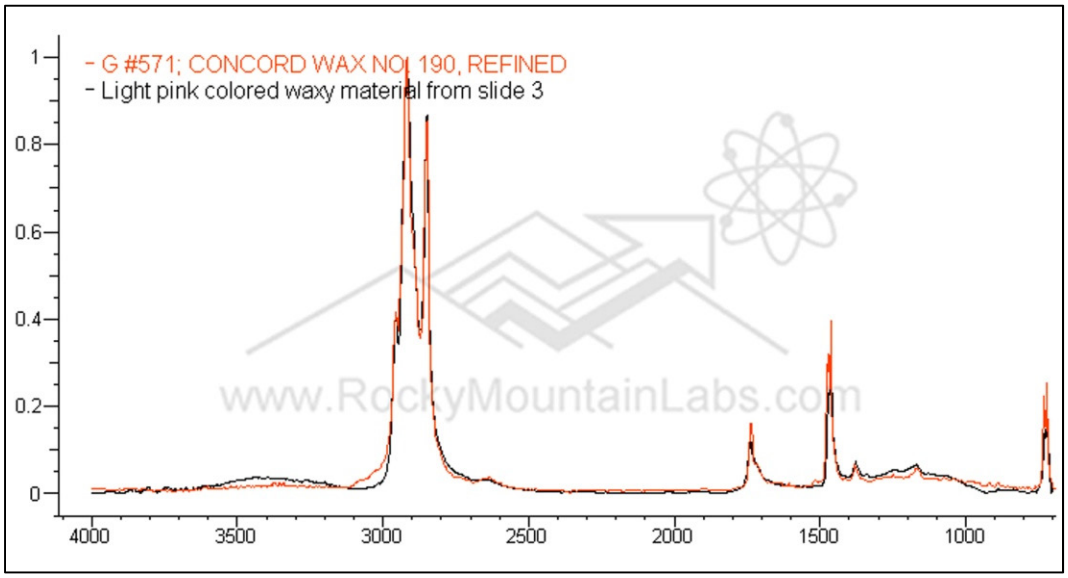

Fig. 9. FTIR spectra of coating and reference match

5.1.2 Analysis of Sweat Droplets

Samples of "sweat" were analyzed by Rocky Mountain Laboratories, Inc. using FTIR. Samples were placed onto a sodium chloride window for analysis in transmission mode using a SpectraTech IRPlan FTIR microscope attached to a Mattson Polaris FTIR spectrometer. The resulting spectrum was found to be a close match to a reference spectrum for lanolin (Fig. 10).

Lanolin, also called "wool grease," is a semi-solid, waxy material produced by the sebaceous glands of sheep. Extracted from wool and refined, lanolin and its derivatives, such as cholesterol/lanosterol and lanolin oil, are commonly used as ingredients in cosmetics (Finkenauer 2000). In the past lanolin has been used in the conservation field as a leather dressing and as a coating to prevent corrosion of iron alloys. Although its structure and composition have not been fully characterized, lanolin is a complex mixture of esters of fatty acids and high molecular weight alcohols. One notable property of the material is that its melting point is significantly lower than that of other waxes, ranging from 36-43ºC. Another important characteristic is that lanolin readily forms emulsions with water.

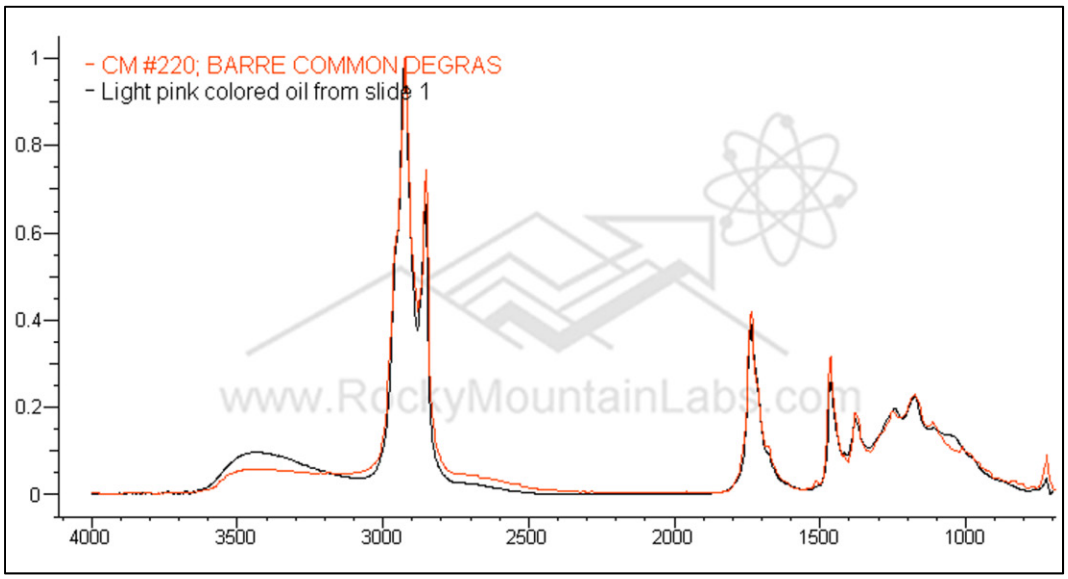

Fig. 10. FTIR spectrum of sweat droplets

5.2 COMMUNICATION WITH THE ARTIST

Several informal conversations with Lachowicz were carried out by telephone in order to understand the artist's thoughts about specific condition issues as well as the construction of the works and their meaning. A recorded interview was conducted during a visit to the artist's studio as a part of the Denver Art Museum's project to document artists' techniques and positions about conservation. Specific questions about technique and preservation were asked in order to gain greater perspective about the "lifetime" of the works. A second interview was carried out by assistant conservator David Turnbull when the artist visited the museum.

5.2.1 Meaning, Materials and Fabrication

The materials Lachowicz selected have paramount significance to the meaning of the works. This is perhaps even more relevant in the case of the urinals than with *One Month Late* because the lipstick is covering/altering an object that can be described as emblematic of

masculinity. A material with stronger associations to Western ideals of femininity and beauty is hard to find, and in Lachowicz's words, lipstick is "indexical of women." In this sense, it is not just the material itself that is important, it is the concept and that the material indexes a changing standard of beauty. Any imperfections in the coating would detract from the richness of the experience as well as the appreciation of the message. When asked specifically if the oily droplets and residue should be removed from the surface, Lachowicz remarked: "Yes…especially because there's usually dirt associated with the sweating." In the past she has washed her works to remove the oil and grime, stating "I want the work to look good, not to communicate 'this gets damaged over time,' or 'boy this looks like a mess' " (Lachowicz 2008). Lachowicz noted that she has seen sweating in many of her lipstick pieces, but particularly in those that have been stored in sealed containers. Also of note is that lipstick is so much a part of the artist's practice that it has been recognized as a signature (Porges 2006).

Lachowicz described the purity of materials (or the fact that in *One Month Late* real ties, high heels and hanger were used instead of fabricated objects) as being important to the meaning when she first made them. She has always used the same source for the lipstick—a small company in Los Angeles—from which she orders the lipstick "greasy" (i.e. without much wax) and has always modified it with a low melting point, artist-grade wax. The wax is added until the lipstick is more durable and workable, and also to give the nuanced appearance she wants. Lachowicz has remarked that although she varies the amount of wax in order to achieve the workability and appearance she wants, she has at times bulked the lipstick with "as much wax as possible before it is technically a candle."

In terms of their fabrication, the components of the three works were repeatedly dipped in the molten lipstick/wax mixture so that they are coated with multiple layers of lipstick. The process of combining the wax and lipstick is time consuming and must be carried out at low temperatures over the course of hours so that the mixture does not separate or burn. The artist has never recorded the exact temperature of melting because she relies on the physical characteristics, such as the flow of the material. This information would be important to collect since the temperature of heating and pouring is known to influence the stability of the final product.

In *One Month Late* the ties were first tied and hung from tubes and then brush-coated with polyester resin in order to make them rigid and to maintain their form as if worn; after coating, the resin was sanded with increasingly fine grits of sandpaper. Small holes were then made in the back of the knots of the ties and eyehooks were screwed directly in to provide a method for hanging. The urinals were cast in plaster directly from plastic urinals purchased by the artist. After casting, the urinals were dipped in large vats of the molten lipstick mixture, allowed to cool, and then sanded with increasingly fine grits of sandpaper. The overall effect of this labor-intensive process was a smooth, pristine surface.

5.3 DISCUSSION OF RESEARCH

Analysis and communication with the artist provided interesting information to consider in relation to the sweating observed in both works. The possible presence of lanolin, a complex mixture of fatty acids, alcohols and free fatty acids, is compatible with the findings of the fatty acid esters in the cosmetic industry's research summarized earlier in this paper. It is possible that the sweating is the result of intrinsic incompatibilities between the materials in the mixture, as well as the closed storage of the works and subsequent establishment of a microclimate. It is also

possible that the reheating and/or pouring of the mixture at too high a temperature caused separation of the phases and subsequent sweating in unfavorable storage conditions.

The deterioration mechanisms of complex mixtures like lipstick are not easily understood. However, additional research into the composition of the mixture may further the understanding of the sweating phenomenon.

6. CHANGING PERSPECTIVES

Contemporary art, particularly installation art, is dynamic. Its orientation and meaning can change with each re-installation. This dynamism can mirror the artist's shifting perspective over time. In the case of these works, discussions with the artist proved to be insightful and truly informed the entire process of preparing the work for installation, but also revealed a change in the artist's intent.

6.1 ARTIST'S PERSPECTIVE

The artist's own feelings toward preservation and even the conceptual focus [of *One Month Late*] have changed since the works were made over 15 years ago. Lachowicz recently explained that: "The medium is the message. In the early days that meant absolute purity, and I think now what it means is taking care that the message is not damage." She expressed interest in protecting the work from environmental damage and handling through the use of vitrines or bonnets, admitting that she would not have wanted the work displayed in this manner when she first made it as it may have interfered with the viewer's interaction with the work. Lachowicz was also interested in being true to the material's natural ageing process provided that the changes were reasonable in this context, and not the result of neglect or disregard. Overall, she considered ageing as part of the "history of the piece"—a factor that was important to understand.

In the case of *One Month Late*, the artist originally intended the work to be politically and emotionally charged. The provocative, conceptual nature of the piece was of great importance initially, however, Lachowicz recently expressed an interest in softening the tone and making it more ambiguous (i.e. less literal) by removing the hanger. The interest now is more on the aesthetic nature of the piece and the symbolic relationship between the women's heels and the men's ties. In spite of the artist's desire to dilute the subject matter, the curator was interested in the historic/evidentiary value of the work, in other words, the work as it was originally intended. Lachowicz understood of the importance of the installation as representative of her early work.

7. TREATMENT

The information collected over the course of researching the works played a key role in the determination of the steps and goals of the treatment. Without the artist's collaboration, the treatment may have proceeded differently to include only the removal of dust, as in the case of the initial installation at the DAM in 2002. The artist described her own interventions as having included remaking or recoating works. She also described re-melting areas of minor damage. In an example of her interest and involvement with pieces in other collections, Lachowicz described remaking a work that had been damaged by a visitor; in fact, she made two pieces, the exhibition copy was installed under a Plexiglas bonnet and the other was kept in storage. She also worked with the museum to alter the housing system to allow for air circulation during storage.

7.1 TREATMENT STEPS

In the case of the works in the collection of the Denver Art Museum, the treatments were nearly identical. It should be noted that the treatments were exhibition-driven, so only the two works selected for exhibition were treated. Treatment was aimed at removing the significant layer of dust accumulated on the surface of the works and reducing areas of sweating and glossiness. Groomstick (a non-vulcanized isoprene material) was found to be the only material that would remove the dust trapped in the oily surface, and it had the added benefit of picking up some of the sweat, thereby reducing the overall glossiness of the piece. A second step was carried out to further reduce the oily residue on the surface: small sheets of acid-free tissue were applied to the surface in a gentle blotting motion. Areas of glossy, burnished residue on the ties were made matte by blotting with Groomstick. Wherever possible, handling marks were minimized by mechanical means. It was found that the fingerprints and streaks on the urinals were largely present in the oily layer and thus, were diminished with reduction of the residue. In many cases, gentle pressure applied through tissue greatly reduced the appearance of other marks. Once clean and lanolin-free, the surface could be lightly brushed with a soft bristle brush to further blend fine scratches and superficial marks. It is worth noting that this should be carried out under magnification with minimal pressure. The few gouges and cracks that could not be reduced will be reworked by the artist at a later date. In the case of detached fragments of coating, the pieces were warmed with a hot-air tool and then reattached.

Fig. 11. Before treatment (Denver Art Museum, 1992.548D) (Photograph by Liz Homberger)

Fig. 12. After treatment (Denver Art Museum, 1992.548D) (Photograph by Liz Homberger)

8. INSTALLATION

The most immediately damaging elements to these works are dust and the visitor's hands, so preventive measures were undertaken to protect the works while on view. After discussions with the artist and curator, it was decided to protect *Untitled (Lipstick Urinals)* with a Plexiglas bonnet. A physical barrier placed about 20 inches above the floor was used to prevent visitors from handling *One Month Late*. Additionally, low light levels of five footcandles were advised because of the uncertainty of the lightfastness of lipstick; these levels also provided better color saturation.

Fig. 13. One Month Late and Untitled (Lipstick Urinals) installed in 2008 (Photograph by Liz Homberger)

9. STORAGE

Proper storage is essential to the preservation of the works. Before they are returned to storage each work will be cleaned to remove dust that has accumulated during exhibition using the same technique described above. Although the exact designs for the storage of the works were not finalized at the time of this publication, basic recommendations include: minimal contact between the coating and housing materials; use of silicone-coated Mylar where there is contact; maintenance of a stable, cool environment below 65ºF; and air circulation to prevent the establishment of a microclimate. In short, the works must be protected from dust, but also require a cool, stable environment with air circulation.

In the case of *One Month Late*, the ties will be stored vertically in order to minimize stress at weak points, such as at the knot, and also to adequately support the weight of the object. Previously, the shoes had been wrapped in Mylar and the ties were stored horizontally, face down in custom-cut foam channels covered with Mylar sheeting; this position led to the formation of stress cracks around the knots of the ties and a burnished, glossy surface where the droplets had been. Vertical storage should prevent undue stress on the ties. The shoes should be stored in custom-shaped channels that minimize contact but provide adequate support.

The urinals do not pose as much of a challenging issue since they can be stored lying on their backs: they will be stored in the same position as before, with the back of the (hollow) urinal flat on silicone-coated Mylar sheets. The sheets will be secured to a slide-out tray within a box that allows for protection from dust but also adequate ventilation.

10. CONCLUSION

Studies on the ageing of lipstick have described the factors that influence its deterioration. Despite its short life in its intended use, lipstick is actually quite durable as an art material, but also extremely vulnerable to external agents of deterioration. While the described treatment improved the appearance of the works, preventive conservation is essential to prolonging the life of lipstick-based art. Recommendations for work composed of or incorporating lipstick include: maintenance of a stable, cool environment (temperature around 65˚F or lower and relative humidity below 50%); protective barriers or vitrines with small fans to circulate air during exhibition; and protective housing that allows for air circulation and also minimal contact with the lipstick in storage.

Parallel tracks of inquiry informed the conservation and installation of Rachel Lachowicz's lipstick-based works. Materials research and collaboration with the artist were essential to the design of a treatment plan as well as the installation of the works. Analysis indicated that the main component of the sweat droplets was likely lanolin or a similar material composed of long hydrocarbon chains and esters. The separation of lanolin from the wax and oil mixture prepared by Lachowicz is similar to the process observed in commercially prepared lipsticks. The process is likely the result of multiple factors including the incompatibility of components, reheating of the lipstick mixture, and elevated temperatures and relative humidity related to the previous housing design. Further research into the composition of the coating may yield important information about lipstick and also further our understanding of its expected lifetime as an art material. It is hoped that the treatment and preventive conservation plans for the lipstick-coated urinals and ties can be applied to works composed of similar materials and that the overall approach may also serve as a model for other projects involving non-traditional materials and living artists.

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SOURCES OF MATERIALS

Groomstick (a non-vulcanizied cis-isoprene rubber)
Talas
330 Morgan Avenue
Brooklyn, NY 11211
(212) 219-0770

Acid-Free Unbuffered Tissue
Talas
330 Morgan Avenue
Brooklyn, NY 11211
(212) 219-0770

Silicone-Coated Mylar
Talas
330 Morgan Avenue
Brooklyn, NY 11211
(212) 219-0770

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