

HAND IN HAND: CONSERVATION OF LATEX

Working with contemporary artist Susie MacMurray on flock-lined latex gloves for *A Mixture of Frailties* (Part I)

Martha Singer (1) and Jason Church (2)

(1) Conservator, *Atelier de Conservation*, West Orange, NJ 07052 martha_singer@hotmail.com; (2) Materials Conservator, NCPTT, Natchitoches, LA 71457 jason_church@contractor.nps.gov

OVERVIEW

Can conservators play a role in the conservation of an artwork by collaborating with artists prior to the work's creation? Should conservators influence the materials and working methods of artists? Or is it the responsibility of the collector or institutions who purchase the pieces after manufacture? What is cheaper? This poster explores these issues.

Susie MacMurray, a contemporary artist, created a dress mainly composed of inside-out yellow latex rubber gloves called "A Mixture of Frailties" (73" h x 128" diameter). Thin cotton "flocking" on the inside of the glove is the side seen by the viewer.

Over time, this dress will change. If no treatment is done, the latex will start to degrade and plasticizer may become sticky, attracting more dust and further compromising the flocking's appearance. The gloves will become stiff, crack and darken.

This poster presents the working methods of the artist Susie MacMurray and describes how we collaborated to find a solution to the problems associated with aging latex. Colorimetric readings and artificial aging tests on treated and untreated gloves were carried out in collaboration with Jason Church, NCPTT (and presented in a companion poster). The results of these analyses form the basis for our recommendations. We present our various solutions and the artist's responses to them. We conclude with a cost analysis.

"A MIXTURE OF FRAILTIES" BY SUSIE MACMURRAY



Background: The original dress was made in 2004. However, it had become grey and grimy from being on display several times at museums and art galleries. Yet, according to the artist, the gloves of the dress were not brittle or in bad shape. Because the original dress was unappealing due to dust and grime, the artist and gallery decided to make a new version of the dress in 2013 for an opening at Danese/Corey Art Gallery.

How the 2013 dress was made: The original dress was cut apart (by the artist), with a seamstress, and together they made a pattern (so the dress, if necessary, could be made again). The artist, based on the pattern, used a base fabric (cotton calico) and then sewed the gloves to the fabric with cotton poly-thread. The gloves, latex and yellow, were turned inside out so the thin cotton flocking on the inside of the glove--is the side that is shown. The dress was finished by sewing up the back seam. The whole dress was then attached to a dressmaker's manikin.

The dress is made up of about 1400 gloves. The artist started at the bottom. Each row is the same hand (right or left) and the following row is the other hand, alternating up the dress. MacMurray says that it becomes heavy and difficult to sew and manipulate as she nears the top. There is some color variance in the gloves. They range from a white to a creamier yellow. She prefers the white, but is not bothered by the subtle difference. She knows it will change color as it ages and that does not bother her.



What the sculpture is about: The sculpture is about vulnerability and showing ones inside --outside. A review of the NY Danese show in the Huffington post reports, "The gloves MacMurray turned inside out to reveal their downy insides -- their vulnerable underbellies. Subversive and yet ordinary, this resplendent frock has the corporeality of flesh. A surreal concoction of disparate conditions: Domestic cleaning gloves and high fashion, that brought together, creates a third entity. Something absurd and newly wonderful, like a bloom on a cactus."



INFORMATION ON THE ARTIST

Originally a professional musician, MacMurray became a professional visual artist in 2001, when she completed a Masters in Fine Art. As Gabrielle Selz writes in the Huffington Post (September 20, 2013): "MacMurray herself is a confluence of the improbable. At 54, she's only five years out of art school [sic]: a middle-aged woman artist fast-tracking it through the art world exhibiting widely in galleries and museums. She's undertaken a number of large site-specific installations in historic locations in the United Kingdom and Europe."

On MacMurray's website are several essays of art historians describing her approach. The following is taken from the catalog essay, "Eyes of the Skin" by Kathleen Soriano, Director for Exhibitions at the Royal Academy for the Arts in 2011: "Her [Susie MacMurray's] work, most particularly her installations, are immersive, part spectacle and drama. The sense of performance comes from MacMurray's first life in which she was a bassoonist with the Halle and the Gulbenkian Orchestras. The nature of a shared theatricality with the orchestra members has continued in her own art practice and production methods....The experience of sitting at the centre of a Richard Strauss performance with music physically coursing through her body provoked her to understand that 'intellectual ideas and understanding are important, but it means nothing if it doesn't get you on a visceral level' and, as she goes on to say 'what is the point of making art that you can completely explain through words?'. That sense of the haptic, that demand for the physical experience, the call to touch that emanates from her objects, notes the vibrations that her works seek to cause in all of us. It also sees her transform the humble into the monumental... each work involving a level of attention to detail and delicacy more akin to love than to the mechanical activity of creating the pieces".

INITIAL CONTACTS WITH THE ARTIST & GALLERY

Is there a way to preserve the latex gloves?
I was contacted by the Danese/Corey gallery to determine whether there was a way to preserve the latex gloves. While the dress had already been made, they were hoping that something could be applied onto the gloves to prevent the latex from degrading. If someone purchased the piece, they were also considering the possibility of undoing the dress, treating the gloves, and re-making it.

How much aging is acceptable to the artist?
I interviewed the artist at the Danese/Corey gallery in September 2013. We looked at the gloves together and I asked her a series of questions about the material, how she felt about its aging and what was important to maintain. She was open to some color change in aging. As is commonly known, the question that conservators (and curators) are often trying to capture is defining the line of when something crosses from acceptable to unacceptable.

Can better gloves be produced to begin with?
I first attempted to contact the glove company to determine if they could make the same gloves, but with an anti-oxidant and anti-ozone layer added. As the company is in Asia and did not have an English-speaking representative, this approach was dropped. I tried contacting glove companies in the United States as well, and had trouble finding receptive interlocutors. These setbacks led me to consider the causes of latex decay and treatment options.



BACKGROUND INFORMATION ON LATEX GLOVES

What is latex? Latex can be made from natural rubber latex, synthetic latex (such as Styrene Butadiene Rubber, usually a dispersion in an aqueous solution) or a blend of the two. The gloves used in the artwork are natural rubber latex.

Natural latex is a white sticky colloid that drips from *Hevea Brasiliensis* (rubber tree), when the bark is cut (similar to tapping for maple syrup). The collected liquid is then processed to get the basic unit polymer, *cis-1,4-polyisoprene*. To make gloves, a ceramic form is dipped into vats of latex, removing the form and then vulcanized by heating it with sulfur. Vulcanization makes the rubber stronger (more tear resistant).

Additives:
To endow the latex gloves with specific properties, the following additives are used: vulcanizing agents, accelerators, activators, blockers, retarders, anti-oxidants, preservatives, odorants, colorants, or stabilizers.

Degradation of natural latex: Multiple factors contribute to the degradation of latex but the underlying mechanisms are incompletely understood. These factors include:
– Oxidation (including photo-oxidation)
– Ozone damage
– Sulfur reactions
– Degradation from other components in latex:
– Metal contamination: metals such as copper or manganese can catalyze the decomposition of the latex.
– Biological attack: micro-organisms can attack additives in the rubber.
– Anti-oxidants can become yellowed and darker.
– Migration of plasticizer

EXPERIMENTAL LATEX TREATMENT

Method:
After researching the relevant literature and consultation with Thea van Oosten, expert in the degradation of plastics, the following approach was selected. Apply a mixture of adhesive and anti-oxidant on the gloves to retard the degradation.

Adhesive/anti-oxidant solution:
10 ml Tinuvin B75 mixed with 12.5 ml isopropanol
50 ml Plextol D498 mixed with 12.5 ml isopropanol
115 ml de-mineralized water



Three application methods:
On different gloves, the solution was nebulized, sprayed, or painted.
–Nebulization (20-40 psi) through a Micro Mist® Nebulizer with Tee, Tubing and Mouthpiece (item 1882, made by Hudson RCI®). The compressor we used was a DeVillbliss® 8650D Heavy Duty Aerosol Compressor.
–Sprayed with: Preval Spray System (has a power unit and a 6 oz. glass reservoir for sprayer).
–Painted with a wide 1" brush (to ensure the process was not too time-consuming given the number of gloves to be treated).



Protocol:
Colorimetric readings were taken before and after artificially aging the latex gloves. The treated and untreated gloves were exposed to UV and then examined to assess how they reacted. They were also **stretched and pulled to see how much elasticity remained** (subjective interpretation).

Summary of results:
(see adjacent poster by Jason Church):
Painted samples best protected the latex rubber. However, it also caused more darkening. Fortunately, because the gloves are inside out, the affected area is not accessible to viewers. Nevertheless, the color change may be too "ugly" for the artist. These results led me to consider applying the material only to the top of the glove (around the wrist). Given the dress' method of fabrication, this is the part of the glove subject to most tension. The upper portion of the glove (around the wrist) needs to be in good condition in order for the dress to stay together, but is hidden by the overlapping layer above.

Is the pre-treatment worth it? Despite all the precautions taken, it may not be effective or aesthetically acceptable. The latex may still degrade and with an anti-oxidant applied on the surface, it will get browner. Another factor to consider is cost. We considered two possible approaches: before-creation treatment of the gloves, as described above, or after-creation treatment, which involves the creation of an anoxic environment and keeping the piece in the dark. Note that different individuals would assume the cost of these two approaches: the artist (or gallery) vs. the collector, respectively. Also, the post-creation scenario does not interfere with the artist's creative process.

PRE-CREATION TREATMENT OF GLOVES
Upper part of gloves only (materials and labor): **\$2,246**
Coating of full gloves (materials and labor): **\$6,586**

POST-CREATION TREATMENT
(CONSTRUCTION ANOXIC ENVIRONMENT): **\$2,829**
Pre-made anoxic bag to fit around dress
(by Protective Packaging Corp): \$ 500
Ageless zpt 3000 mbc: 1400 pieces \$1029
Sealer, \$100; Labor, \$1200

PERSPECTIVE OF THE ARTIST

Choice of treatments:
The artist preferred no treatment. The idea of exploring treatment options originated from the owners of the Danese/Corey gallery. They worried about the work's degradation after sale. In contrast, the artist expected little degradation. In part, her optimism stemmed from the experience of re-making the dress seven years after creation. To her surprise, the gloves were still in good shape.

On re-making the dress in her lifetime: The artist feels that if the dress degrades, the "most honest thing to do is to remake it".

In 200 years, would you want someone to remake it?
MacMurray thinks it would be good for the gallery, if they had instructions. But they themselves may not still exist. She started to muse that "Maybe the right to remake the work should go with the ownership of the work". MacMurray also stated: "You have to take a risk on things. I am not making stuff because I want it to be around in 200 years time. I am making things to find out what happens. What will this be like? It is the "what if" is what I am interested in. Which are not connected to--keeping something. As soon as its made, I am onto the next thing. I am not interested in it anymore."



Can an artwork have a limited lifespan? Who declares it dead?
It all depends on everybody's understanding when the purchase is made. MacMurray believes that "You can choose whatever you want it to be, but it has to be decided at the time of sale." The downside as she states is that it would "put the museum world off because once they bought it they are responsible and they are spending other people's money."

The artist feels that "If it is going to have a limited life span...get it out and let people see it and so be it. That is life." The artist likes the idea that it is out of her control and the artwork goes on its journey. Her thoughts on sculptures lasting: "My late husband and I talked a lot about the business of needing to possess things. Having the house, having the two cars... These things being ultimately unsatisfactory. The things that really fed the soul in the end were the experiences." She continued: "The experience of vibrating in front of an art work and that's you being connected to it by physically experiencing it, being more important than a photograph of it or buying it or have it. In the end, the family is not the house and the cars. It's the relationship between people, the shared experiences, the joy, the silliness, and the deep moments. None of those things are tangible."

MacMurray on making another copy of a sculpture:
MacMurray is very comfortable with something not lasting. One "de-values" the work by copying, "It is like music, you have to be there. More special because of that. Otherwise the more you have things, the less valuable it is. Taking away the uniqueness of it."The second time around is boring for artists...there is nothing interesting about it because you are just regurgitating it." In reference to another sculpture she had to remake: "It seemed like such a creative void...such a waste of time...It was taking up brain space. I would rather have been doing something else. I am not interested in having and holding."

REFERENCES AND WEB RESOURCES

Plastics and latex:
Loadman, J. 2005. Tears of the tree: The story of rubber—a modern marvel. London: Oxford University Press. 188-276.

Waentig, F. 2008. Plastics in art: A study from the conservation point of view. Petersberg: Michael Imhof Verlag. 172-202.

Snijders, E. et al. 2011. "The treatment of a polyurethane rigid foam floor piece by Ger Van Elk: A study in the conservation of plastics." ICOM-CC 16th Triennial Conference, Lison, 19-23 September 2011.

van Oosten, T. 2011. PUR Facts: Conservation of Polyurethane Foam in Art and Design. Amsterdam: Amsterdam University Press.

Video on how cotton-flocked latex gloves are made:
<https://www.youtube.com/watch?v=h-sLHYq771>

Information on Artist:
Gabrielle Selz's article on the artist in the Huffington Post:
http://www.huffingtonpost.com/gabrielle-selz/susie-macmurray_b_3953201.html

Tinuvin was obtained as a sample from manufacturer, BASF.
Plextol D 498 was obtained from Kremer Pigments, New York City.