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Authors: Brittany Webster, Anne MacKay, and Alexander Gabov
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THE EFFECT OF AN UNEXPECTED SPRING THAW IN MONTREAL: NATURAL DISASTER AS “FIFTH BUSINESS”

BRITTANY WEBSTER, ANNE MACKAY, AND ALEXANDER GABOV

Totem urbain/Histoire en dentelles by Pierre Granche pays homage to past and present Montreal, its geography, and its culture. Composed of 15 elements in brass and six levels of glass panes and fragments atop an aluminum substructure, the entire sculpture both figuratively and literally bridges the old and new McCord Museum edifice. Completed in 1992, the sculpture remains one of Granche's major public commissions.

Although regular maintenance tracked and mitigated preservation issues typical in the care of an outdoor sculpture, the sudden and violent impact on the sculpture from falling ice on the morning of March 11, 2015, led to the complete dismantling and conservation of the artwork. The accident not only allowed for the repair and replacement of damaged elements but also provided an occasion to improve the structural stability and durability of the work.

The fall of ice from the cornice of the museum recalls the fateful snowball thrown by Percy Boyd Staunton in the iconic Canadian novel Fifth Business by Robertson Davies. As the effects of that snowball reverberate throughout the remainder of the book, so did the impact of the ice: although devastating to the sculpture, it set in motion the type of discussion and conservation treatment needed to preserve this emblematic Canadian artwork for decades to come.

KEYWORDS: Pierre Granche, Outdoor sculpture, Brass, Aluminum, Glass, Ice damage, Fifth Business

1. INTRODUCTION: FIFTH BUSINESS

In the preface to Robertson Davies' novel, he defines Fifth Business as follows:

Those roles which, being neither those of Hero nor Heroine, Confidante nor Villain, but which were nonetheless essential to bring about the recognition or the denouement, were called the Fifth Business in drama and opera companies organized according to the old style; the player who acted these parts was often referred to as Fifth Business. (Davies 2014, vi)

The novel opens with Dunstan Ramsey and Percy Boyd Staunton as children, sledding in the wintertime. Walking home, Percy launches a snowball at Dunstan. Although none of the characters realize it at the time, from that point forward, Dunstan Ramsey is cast in the lifelong role of Fifth Business and that event will forever bind the lives of all involved.

As conservators of outdoor public artworks, we are often called upon to assess the condition, treat, and make recommendations for the future preservation of a work of art. Sometimes conservators are contacted due to accidents or natural disasters. Rather than concentrate on the negative aspects of such an event, we tried to see it as a starting point to better understand and treat the artwork: the effects of public interaction, the artwork’s material composition, and Pierre Granche’s method of creating the artwork.

2. THE ARTIST: PIERRE GRANCHE

Pierre Granche (1948–1997) was an influential figure in Quebec’s artistic community and a strong advocate for the integration of public art with architecture. After graduating from the École des beaux-arts de Montréal in 1969, Granche pursued advanced studies in sculpture at the Université de Vincennes in Paris (University of Montreal 2013). As a teacher at the Université de Montréal from 1975 until his death, Granche helped found the studio arts section in the art history department and often involved his students in art projects, teaching by example. Granche created more than 100 works of art, and many of his public artworks, such as Comme si le temps...de la rue and Système, can be found in Montreal’s metro stations and public spaces.
Granche had an architectural understanding of space and created artworks that not only spoke to the history of a site but to human interaction. He was involved in the creation of his artworks throughout the entire process, from months of research while conceptualizing a design to manufacturing individual elements in his workshop (Benoit and Surugiu n.d., 3-4). Thus, each of Granche’s choices, from materials used to placement of individual elements, play an important role in the realization of his artworks.

3. THE ARTWORK: TOTEM URBAIN/HISTOIRE EN DENTELLES

Totem urbain/Histoire en dentelles was completed in 1992, for the official reopening of the expanded McCord Museum in Montreal. The artwork was purchased by the museum as part of the Quebec government’s Art and Architecture Integration program (la Politique d’intégration des arts à l’architecture et à l’environnement), wherein part of the construction budget, typically 1% of a publicly funded structure, is devoted to the commission or purchase of an artwork for permanent integration into the building or public space.

The outdoor sculpture measuring 10 ft. high x 20 ft. wide x 4 ft. deep rests atop a custom-built limestone niche along Victoria Street. Placed in front of a large window, the sculpture is visible both outdoors from street level and from the interior of the museum. In the evening, spotlights beneath the glass and inside the brass “camera” element dramatically illuminate the sculpture.

Totem urbain/Histoire en dentelles is one of Granche’s most intricate and recognizable sculptures in Montreal, forming an integral part of the history of the McCord Museum. Paying homage to both past and present Montreal, its geography and culture, the artwork draws on imagery from different periods in the history of Montreal. Granche, pictured beside the artwork in figure 1, references Montreal’s legends and traditional trades, as well as the McCord Museum’s costume and textile collection and Notman Photographic Archives.
4. PREVIOUS INTERVENTIONS AND CONDITION

Over the course of 23 years, the sculpture had begun to show signs of deterioration, including pieces of glass pried loose by the public (fig. 2), the dismantling and moving of one of the brass figures overnight, issues with moisture entering between the layers of glass and subsequent algae growth (fig. 3), and accumulated dirt and debris. Many of the screws attaching brass panels corroded, making access below the glass table very difficult and preventing the spotlights’ lamps from being changed.
Prior to spring 2015, the artwork’s condition had been documented since 2000 by Anne MacKay and by several conservators, including Dolléans Inc., Nathalie Richard, and the Centre de conservation du Québec. Small interventions such as cleaning and graffiti removal had also taken place. As pieces of glass or elements of the sculpture became loose or detached, the museum brought them indoors and housed them in storage until they could be reintegrated (fig. 4).

5. NATURAL DISASTER: AN UNEXPECTED SPRING THAW

On March 11, 2015, in the early morning hours, a large block of ice fell from the cornice of the McCord Museum, gained momentum over several stories, and smashed through the north end of the sculpture below. A security camera on Victoria Street captured some of the resultant damage on film, as ice and broken shards of glass were thrown into the street by the impact. Figure 5 highlights some of the resultant damage at the north end of the artwork.

Just as the fateful snowball in Fifth Business set in motion a series of events, so too did the falling ice at the McCord Museum. Although undeniably devastating for the artwork, the unexpected natural disaster created a conservation opportunity not only to repair the sculpture’s damaged elements but to reconsider the original materials used and how they had aged, address security issues, and start a dialogue concerning the artist’s intentions and public interaction.

6. TREATMENT

Conservation takes many forms, and often when it comes to outdoor public artwork, conservators are called upon to deal with extreme circumstances such as vandalism, natural disasters, and severe
deterioration. Over the course of eight weeks, *Totem urbain/Histoire en dentelles* was completely dismantled and rebuilt. Treatment, carried out by Conservation of Sculptures, Monuments and Objects (CSMO) involved research into the artist's methods of creating the sculpture, mapping out the location of individual elements, and recreating the broken and unsalvageable layered glass element.

6.1 ENCLOSURE AND TAKING STOCK

CSMO began work in early August, with a view toward finishing by October 4, as the McCord Museum had permission from the city to close off Victoria Street to traffic for this period. Work began with pretreatment photography, photogrammetry, taking down the temporary wood protection, and building an enclosure around the entire sculpture and surrounding sidewalk (fig. 6).

The artwork was carefully dismantled, and CSMO staff named and documented the placement of each of the 14 brass elements on the glass and 9 brass spacers between glass panes. The entire artwork needed cleaning, there was some structural damage to the substructure, and a significant amount of glass needed replacing. Masonite templates were cut to the size of each of the 10 sections of glass to mark existing anchor holes and determine new anchor holes as needed. These became the templates that were sent to the glass company at a later stage.

6.2 LAYERED GLASS: DISMANTLING AND OPTIONS

When reviewing the artist's proposal and associated documentation, and in speaking with museum staff who remembered the installation process, it was clear that the creation of the artwork was a team effort. The layered glass component was assembled in situ from commercial glazing off-cuts. Granche and his team worked organically, breaking glass panes and piecing them together according to his desired aesthetic appearance. According to an interview in 2012 with the artist's daughter Catherine, “the purpose of the glass is to reproduce the movement of water and during its restoration the most important aspect is to preserve the colour and thickness of individual glass pieces” (Poisson 2012).

As conservators, we were very aware of the importance and intrinsic value in each of Granche's choices, including the color and thickness of glass panes. As the layered glass component was disassembled, it was discovered that aside from silicone, another adhesive had also been generously applied in many areas.

Fig. 5. The damaged artwork *Totem urbain/Histoire en dentelles*, March 2015 (Courtesy of Anne MacKay, McCord Museum)
to attach glass shards. Tests with various solvents revealed that the separation and cleaning of individual pieces would not be viable given the budget and time frame. Thus, we decided to replace the entire multilayered glass component, recreating the artist’s technique and matching the glass color and thickness, to ensure that the entire piece would appear unified. A hole was cut out in the north side of the shelter, walls were extended to accommodate a large bin, and all glass was carefully removed by hand.

Discussions concerning public safety, should the layered glass element be subject to impact damage in future, led to the consideration of other types of glass for either the top or both top and bottom layers of solid 15-mm glass panes. Informed by the experience of MD Glass Tempering Limited, discussions centered around the benefits of using tempered and laminated glass and took into consideration our timeline, budget, safety factors, aesthetic appearance, and artistic intent.

Tempered glass requires that a film be adhered to the glass pane so that once broken, pieces remain in place. Normally, caulk is applied to all edges and the assembly is framed to hold everything together. There was thus concern that in our situation the unframed film would be less predictable in terms of adhesion and reaction to glass breaks. Furthermore, questions arose concerning the film’s ability to stay in place and withstand an outdoor environment over time.

A sample of laminated glass was created for review and was found to be visually unacceptable due to the additional thickness required and horizontal seam created by the laminate interlayer. Regular glass was decided upon for all levels of the glass element due to the preferred aesthetic it affords in keeping with the artist’s vision.

6.3 ALUMINUM SUBSTRUCTURE

The bent horizontal crossbar at the north end of the sculpture was realigned and two vertical aluminum braces were manufactured to better support the substructure at each end.

When removing brass panels along the west side of the sculpture to access the interior, a thick layer of aluminum oxide was noted. According to the artist’s specifications, the aluminum substructure
has a mill finish (“fini moulin”) that naturally oxidizes as it is exposed to air and moisture. In the presence of atmospheric moisture and salt, wherever the aluminum substructure came into direct contact with the brass panels, galvanic corrosion was encouraged. Given that aluminum is the less noble alloy of the pair, it was preferentially corroded (fig. 7).

Due to the corroded copper screws holding panels in place and built-up aluminum corrosion, undoing the brass panels necessitated shearing off the individual sections, with a risk of damage. It was therefore decided to clean and coat the exposed aluminum with paint to isolate it from the brass and use a metal oil in areas where the aluminum had not been exposed. The corrosion is a problem that will need to be addressed in the future, approximately 75 years from now.

6.4 BRASS FIGURES MOUNTED ON GLASS

Brass figures were cleaned with an anionic detergent and rinsed outdoors. At this time, any residues and graffiti were removed using fine tools and custom poultices, taking care not to disrupt the established green patina on brass figures. Silicone was removed from the base of brass elements using fine tools, and they were treated with a solution of 2.5% benzotriazole (BTA) in B-72, as several bases showed signs of bronze disease (fig. 8). This will also provide some protection from moisture for the undersides of brass figures.

6.5 RECREATING THE LAYERED GLASS

Once glass panes had been cut and finished, with predrilled holes, the glass table was carefully recreated. This was done one layer at a time, ensuring that all anchor holes were given ample space and joints were staggered, to recreate the artist’s original organic water-like appearance. Rather than replicate the exact size and shape of glass pieces, we sought to replicate the artist’s technique and aimed to capture the same feeling of flowing water, referencing photographs taken prior to dismantling. We tested various

Fig. 7. Detail of corrosion products on brass panels, Totem urbain/Histoire en dentelles, 2015 (Courtesy of Alexander Gabov, CSMO)
techniques when smashing the glass panes, including leaving the pane in its wrapper, scoring the glass before hitting it, and changing the impact angle and part of the hammer used (figs. 9, 10).

Each broken edge piece was smoothed with a belt sander to ensure that no sharp edges remained, and we tried to bridge broken shards over previous layers’ gaps to reinforce the strength of the assembly. This stage of the project took the most amount of time overall.

6.6 METHOD OF ANCHORAGE

One of the main areas of concern in terms of artwork safety was the method with which the artist had anchored individual brass figures to the glass. Granche worked from the bottom up, wherein each of the 14 brass elements were screwed to brass L-brackets on the base of both sides, which in turn were screwed to a cross-shaped flat piece of brass; threaded rods were inserted into small brass plates and secured with a nut under the brass plate (figs. 11, 12). The threaded rods and plate were placed on the fourth layer of glass from the top, and remaining glass shard layers were stacked around the rod. For the final glass layer, a corresponding hole with a slightly larger diameter was drilled into the glass and glass panes were lowered over the upright rods. Silicone sealant was used to fill the gap between the rods and glass holes, and corresponding holes were drilled into the cruciform bases. Each brass element was secured to the glass by first applying silicone to the base and then lowering it over the rod(s) and securing with a nut from above.

This method of connection was both visible and easy to unfasten, witnessed in 2000 when one of the brass figures was undone and shifted slightly on the glass base during the night. In addition, once the brass figures were removed, the associated anchors tended to fall inside the multilayered glass, making reattachment with the original anchors very difficult.

CSMO modified the artist’s method of attachment for the 2015 reinstallation, requiring anchors to be accessed from below the glass table (fig. 13). Similar threaded rods were sourced and cut to accommodate all six layers of glass, and holes were predrilled through the top and bottom glass panes to
allow for the anchors to be dropped all the way through and tightened from below. Original materials were reused, with additional copper nuts and Plexiglas spacers added between the metal and glass plates for further support. Double upper nuts were secured in place with epoxy and sealed with polyurethane sealant to discourage the public from attempting to undo the nuts from above. In the future, to unfasten the anchors, one must enter from beneath the glass component of the sculpture, accessed by one of the brass side panels on the west.
Figs. 11, 12. Detail of the anchor, *Totem urbain/Histoire en dentelles*, 2015, and a diagram of the artist's system of anchorage (Courtesy of Anne MacKay, McCord Museum)

Fig. 13. Diagram of new system of anchorage, 2015 (Courtesy of Brittany Webster, CSMO)

### 6.7 LIGHTING

Sometimes problems in accessing certain elements lead to a disconnect between the artwork and the artist’s original vision—for example, difficulty in reaching the interior light bulbs of *Totem urbain/Histoire en dentelles* prevented them from being changed. Previously, incandescent bulbs were specified by
the artist; however, the heat they produced, combined with accumulated salt and water during the winter
and spring, likely contributed to the corrosion of metal components.

The defunct lighting was updated to accommodate LEDs, which will not produce as much heat
as incandescent bulbs (fig. 14). A color temperature of 3000 K was chosen for both the “camera” element
and inside the sculpture’s base, as this is similar in color to the original lighting used.

7. MAINTENANCE

Visual inspection, documentation, and cleaning of the artwork by a conservator will be carried out on a
yearly basis to track the sculpture’s condition over time. For the next five years, CSMO will carry out the
assessment, based on nonintrusive methods of investigation, which may include the use of microscopic
digital photography, photogrammetry, and solvent testing.

All joints and points of connection between materials will be inspected for structural
integrity, concentrating on modes of water ingress and corrosion build-up on the aluminum
substructure. Conservation materials used (including caulking, sealant, replacement screws, and
glass) will be monitored for signs of degradation such as corrosion, biological growth, and physical
damage.

Both the sculpture and surrounding area will be cleaned using a conservation-grade detergent
and rinsed with water to neutralize salts and wash off the sculpture. Any remnants of graffiti, residues,
and/or organic matter not removed by the pressure washer will be removed using a combination of
solvents, custom poultices, and fine tools. Care will be taken to minimize any change to the brass patina
of metal components and rinse cleaned areas.

Following cleaning, an assessment report will be provided to the McCord Museum, outlining a
detailed summary of the sculpture’s condition; recommendations, including ongoing maintenance; and
prioritized conservation treatments such as repairs and restoration.
8. CONCLUSION

With the sculpture completed, the McCord Museum has also installed metal L-brackets along the cornice to prevent ice from accumulating and falling at this point in the future. Like Percy’s snowball from the novel Fifth Business, the incident of falling ice at the McCord Museum had disastrous repercussions but nonetheless has played an important supporting role in this sculpture’s story. Seeing the restored sculpture, especially illuminated at night, gives a sense of Granche’s vision of Montreal, past and present. It is our hope that this vision will live on for centuries to come and shape the lives of future generations in Montreal (fig. 15).

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REFERENCES


SOURCES OF MATERIALS

Aluminum braces
Russel Metals
191 Dalton Ave.
Kingston, ON K7K 6C2
613-542-5200
http://www.russelmetals.com/EN/Pages/Home.aspx

Benzotriazole (BTA)
Cole-Parmer Canada
210-5101 Buchan Street
Montreal, QC H4P 2R9
800-363-5900
https://www.coleparmer.ca

Copper screws, Threaded copper rods, Plexiglas
Canadian Tire
59 Bath Rd.
Kingston, ON K7L 5G3
800-387-8803
http://www.canadiantire.ca/en.html

Glass
MD Glass Tempering Ltd./Verre Trempe MD Ltee.
5825 Rue Donahue
Saint-Laurent, QC H4S 1C3
514-335-6219
http://www.mpglass.ca

Macropoxy 646
Sherwin-Williams Canada Inc.
180 Brunel Rd.
Mississauga, ON L4Z 1T5
800-524-5979
https://protective.sherwin-williams.com
BRITTANY WEBSTER earned a bachelor's degree in Environmental Design at the University of Manitoba in 2008 and a master's degree in Art Conservation from Queen's University in 2012. She has worked with CSMO for the past five years. Now based in Kingston, Ontario, Brittany continues to collaborate with CSMO and takes on smaller projects with her own company, B. Webster Art Conservation & Design, in the capacity of consultant and art conservator.
E-mail: brit.webster@gmail.com

ANNE MACKAY is the Head of Conservation at the McCord Museum in Montreal, where she oversees all conservation and preservation activities. She has interned and worked as a conservator in museums nationally and internationally, including the National Gallery of Canada; the Canadian Museum of History; the Metropolitan Museum in New York; and the Museum of Anatolian Civilizations in Ankara, Turkey. She holds a diploma in Sculpture from the Vancouver School of Art.
(presently the Emily Carr University of Art + Design), a BA in Art History from Concordia University, and an MA in Art Conservation from Queen's University. She has published and lectured on conservation issues, is an associate editor of the Journal of the Canadian Association of Conservation, and has taught courses on the history and theory of art conservation at Concordia University. Anne was accredited by the Canadian Association of Professional Conservators in 1995 in the conservation of sculpture. Address: 690 Sherbrooke St. West, Montreal, QC. E-mail: anne.mackay@mccord-stewart.ca

ALEXANDER GABOV established CSMO in 2000. With offices located in Gananoque, Kingston, and Toronto, CSMO serves the needs of museums, architects, contractors, art dealers, public sector agencies, municipalities, and individual collectors alike. The studio integrates hands-on treatment with research, consulting, and transportation services. The firm is equipped with a mobile conservation lab and access equipment to meet the most rigorous on-site conservation and safety requirements. Alexander was accredited by the Canadian Association of Professional Conservators in 2005 in the conservation of sculpture. Address: 4792 Hwy. 2 W RR-3, Gananoque, ON, K7G 2V5. E-mail: alexandergabov@mac.com