

# Behind the Scenes with the Rio 2016 Cauldron

By Myles A. Garcia

Ever since the Olympic Opening Ceremonies have become global viewing feasts, the hoopla surrounding the climax of the show has become one of the most closely guarded secrets of our time. The lighting of the cauldron is the anticipated event: who will light it? How will it be unveiled? How will it function? It's like being a state secret, or holding on to nuclear codes, or when to reveal the name of the newly elected pope.

Soon after the Opening Ceremony broadcast in Rio on 8<sup>th</sup> August 2016, when the cauldron was unveiled to the world, two individuals involved in the design and creation of the 2016 cauldron participated in an online discussion on [www.gamesbids.com](http://www.gamesbids.com) about the origin of the project. They broke tradition by publicly revealing themselves in the process rather than participating in the discussion anonymously.

Previously, creators of any facet of an Olympic Opening Ceremony would have been loathe to reveal their identities so publicly and were constrained by confidentiality agreements. This time, however, such agreements did not seem to be an impediment. The designer of the cauldron revealed himself to be American sculptor Anthony Howe, a Washington state-based artist, best known for his so-called metallic, 'kinetic', perpetual-motion, free-standing sculptures.

The second person involved in the creation of the cauldron who participated in the open forum was Jean-Benoit Aubry, the project manager for Show-Canada. This was the company which crafted the model

used in the Opening Ceremony. While J.B. Aubry used a pseudonym in his participation ("*Buddy LeChat*"), Howe did not disguise himself initially, messrs. Howe and Aubry participated freely and openly, but when others posted comments, including myself, and pressed for more details, Howe quickly clammed up. Some confidential information had already been shared, and by piecing together other bits and clues, the story which emerged became an intriguing one.

It started as Howe himself revealed in some of the YouTube videos, in August 2015 when he received an email from Marco Ballich, executive producer of the Rio 2016 ceremonies team ("*CC*" or *Ceremonias Cariocas*). Ballich asked Howe if he was interested in designing the cauldron for the 2016 Olympic Games in Rio de Janeiro.

Howe's website, as late as mid-2016, stated that he did not accept commissions. This disclaimer was posted on Howe's website:

*Anthony's work is not available for commission. His process keeps him working through the nights in his remote island workshop. The pieces resulting from that work which are not sold, are listed on this website in the ordering section.*

However, Howe quickly warmed to this offer. Negotiations and deadlines were soon agreed upon. From fall 2015, there was less than a year left to execute and finalize the project. Since CC was already familiar with Howe's type of sculpture (of which there are

Anthony Howe, sculptor and designer of the Rio 2016 cauldron.



Far right: As Brazil is a Roman Catholic country, could the sun-burst crown of this statue of the Holy Virgin Mother also have been the inspiration for Rio's 2007 and 2016 cauldrons?



countless videos viewable on YouTube), CC did not expect a radically changed look from his usual work. One thing was certain, the Rio organisers wanted to retain a "solar" motif (also used at the 2007 Pan American Games in Rio).

There was also this interesting information from the "Ordering" section of Howe's website in mid-2016:

*I have five large scale works between 22' and 35' feet high under fabrication at various facilities around the world, including the Foundry in Walla Walla, Washington; Zahner in Kansas City, Missouri; and also Huttinger in Nuremberg, Germany. They should be completed later in the year and will be posted on my website when done. Prices will most likely start at US\$250,000 for these new pieces. No small-scale work is available at this time nor is it commissionable.*

For the Olympics, however, Howe was willing to make an exception and conceive a new idea for the 2016 cauldron. He quickly began work and by October 2015, submitted this first iteration, placing his normally upright sculptures on a horizontal plane with what I would call a small "goblet of fire" strategically situated in the center of the "crown" (see photos right).

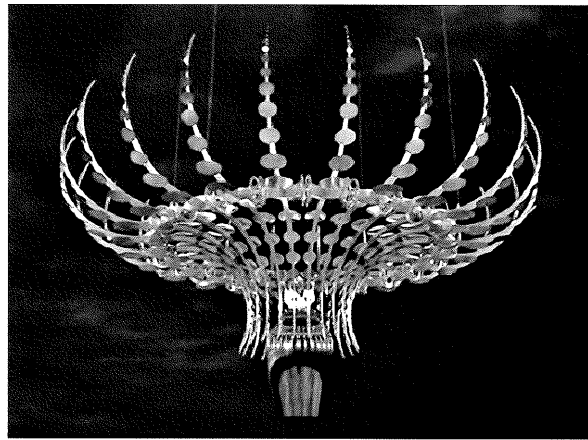
In this scheme, the flame appeared to be an integral part of the whole design. The armatures would rotate in-and-out, like a perpetually unfolding flower with the petals (the spindly armatures) peeling up and out in a symbiotic relation with the flame.

While no size had yet been specified for this iteration, early considerations at that time were:

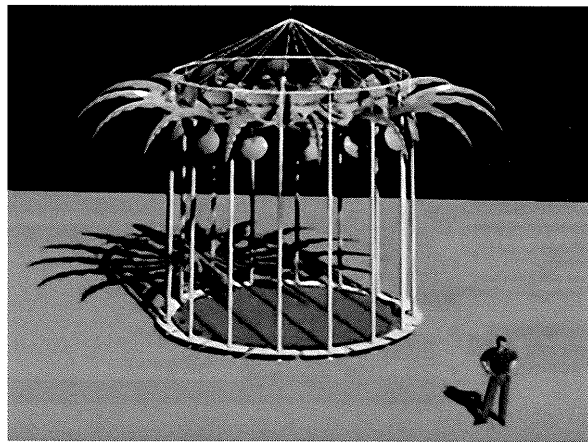
- where to place the cauldron?
- how and where would it be hidden before it was unveiled?
- how would the final torch lighter(s) approach the cauldron and light it (from beneath)?
- would there be one or two cauldrons?

The Opening Ceremony was definitely set for the revered Maracana Stadium. After its major refurbishment in 2013, when the Maracana Stadium was made ready for the 2014 FIFA World Cup finals, the iconic temple of Brazilian football gained a lightweight roof over the stands. That architectural improvement added yet another wrinkle in conceiving the placement of the Olympic cauldron. The last two Summer Games, Beijing 2008 and London 2012, had roofs over the stands, and the last two Winter Games, Vancouver 2010 and Sochi 2014, took place in fully enclosed arenas for the Opening and Closing Ceremonies. How would Rio 2016 follow suit?

Rio 2016 also aimed to be the most environmentally responsible Olympics; thus, all of the above criteria made for very tricky challenges. A global conference in November 2015, however, changed Rio 2016's thinking regarding how and what it wanted for its cauldron.



Howe's first iteration with the actual cauldron in the centre and the armatures as decorative elements. Although this is the computer design, a working model was actually created.



Computer model of the Octo 3 model which Howe presented to Rio 2016 as a working prototype. Notice the ratio of man to the whole structure. The biggest problem with this concept is that it was huge and had to be more or less of a permanent nature. It wasn't compact and portable enough to be easily be hidden and unveiled with a minimum of fuss.



Actual photo of the Octo 3 "mock-up" shown to Rio 2016. A improvised cup of fire was "added" to complete the iteration. It stands 6 m tall, with a diameter of about 4.60 m, making it a massive contraption. This sculpture now resides at City Walk Mall on Al Safa Street, Dubai, the UAE.

When Fernando Meirelles, the famed Brazilian film director ("*City of God*") and now the Rio 2016 creative director with whom Howe interfaced, came back from the Paris 2015 Climate Change Accord conference, the philosophy behind the 2016 cauldron made a complete turn-around.

According to Howe, the following new criteria suddenly became predominant in guiding the final design of the cauldron:

- "... gas aspects were too problematic."
- "The Organising Committee ... wanted to minimize the usage of fossil fuels."
- The closeness of the moving parts to the goblet of fire would "soot up" the decorative tentacles.

The permanent, outdoor installation of the Rio 2016 cauldron, from Howe's *In Cloud Light IV*. Note the "goblet of fire" which looks very much like a Roman Catholic chalice, especially when juxtaposed against the Candelária church in the background.

Photo: Volker Kluge



### Using an Existing Design

In view of the new thinking, the initial horizontal iteration was scrapped. Due to the shortness of time and logistical reality, Rio 2016 had to settle quickly on a final design by December 2015. Since model IV of Howe's "In Cloud Light" series was already in the works at the Hutterer foundry in Germany, it ultimately became the final design for the 2016 cauldron, or at least the decorative part of it.

It was also decided that Rio would follow the Vancouver 2010 model; two cauldrons would be needed. One (the so-called "show" cauldron) would have to be at Maracã Stadium where ceremonies were scheduled, and the second one (the "real", permanent one) at a site to be selected in the city proper.

The contract between Howe and Rio 2016 stipulated that Howe would not only supply the main design ("In Cloud Light IV") but also provide the actual cauldron for the permanent, outdoor location. The contract was valued at US\$3.2 million. Again, like Vancouver, the outdoor cauldron would be sited in a port area. It would be situated near the water's edge in Rio's Santa Teresa section, in an esplanade bounded by the Nossa Senhora da Candelária church on one side, between the Barão de Drumond Park on another, and beside the French-Brazilian Cultural Center.

The fact that the "Cloud IV" design was (1) already used at the 2016 Night Electrical Parades in the Disneyland parks; and (2) that it was also seen on the numerous

YouTube videos on Howe's work, gave rise to comments that "... It feels too 'off the shelf' for my liking."

It was unusual that in this day and age, as ceremonies become points of national pride and a collective demonstration of a host nation's creative might, an already existing design from a non-native Brazilian designer, was chosen. Indeed, it was an "off the rack" selection. To ensure that an actual flame would be incorporated in his basic "solar" sculpture, Howe designed two goblets (or chalices) of fire to hold the "sacred" flame from Ancient Olympia. These would be positioned in front of the kinetic sculptures, and light from both would bounce off the many orbs and discs attached to the pieces. A large sphere would be paired with the "show" sculpture at Maracã while a smaller goblet (or chalice), would appear at the outdoor installation. The chalice design was most fitting, since the outdoor cauldron would be photographed against a major Rio church.



Before it was unveiled in Rio, a similar iteration of the cauldron was already seen at the Disney Nighttime Electrical Parade in Anaheim and Hong Kong parks. This was also in 2016.

## One or Two RFPs (Request for Proposals) Put Out to Bid?

The "show" cauldron was put out for bid. An RFP (Request for Proposals) was sent to stage prop and production companies. In February 2016, Show-Canada, a metal fabrication shop based in Laval, Québec, was selected to execute the "show" cauldron. Show-Canada had previous Olympic experience in creating a number of props for ceremonies of previous Olympic Games:

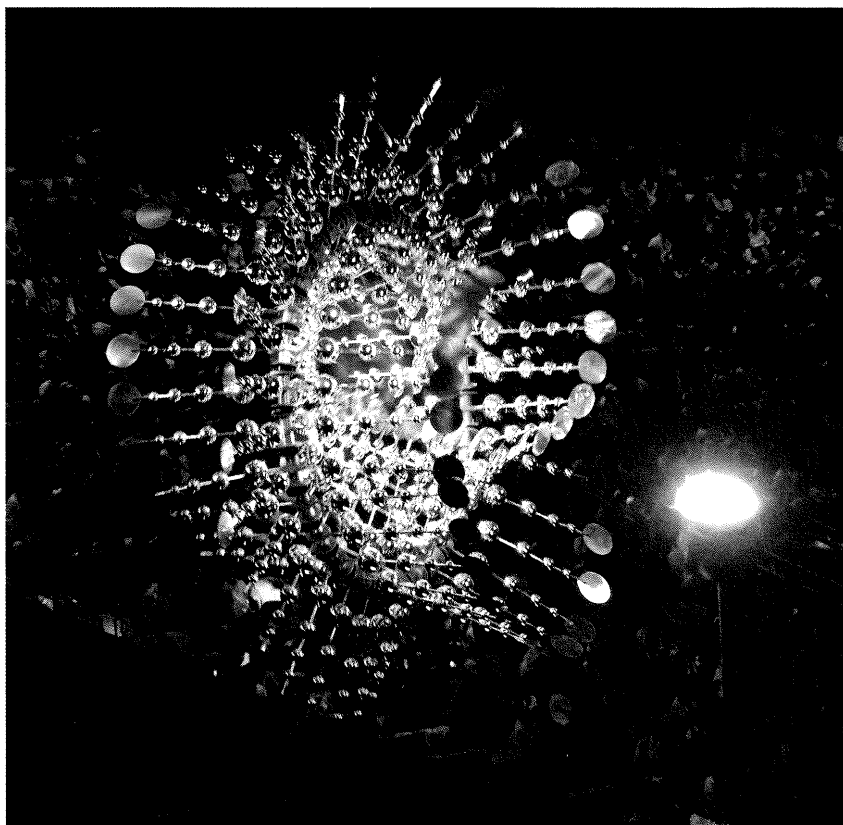
- Vancouver 2010. This included the four-spoked totem poles which became the "show" cauldron (and malfunctioned on Opening Ceremonies night).
- London 2012. The entire Opening Ceremony stage platform and "Glastonbury Hill" set which was built in Canada and then shipped entirely to London.
- Sochi 2014. Show-Canada produced the "floating islands", the MIR "icebreaker"/ship prop, and the columns in the "War and Peace" ballroom, among others.

Show-Canada had also been commissioned to design and build the cyclorama which served as a backdrop against the "favelas" set. The cyclorama would hide the cauldron-sculpture in Maracãna until it was ready to make its appearance. To let the cauldron to appear at the appointed time, the central panel of the cyclorama screen rose and lowered like a gate. This action was cleverly concealed in the bottom parts of the "favelas" set.

According to J.B. Aubry, the project manager of Show-Canada assigned to the cauldron, the sun/kinetic sculpture had a 'wing span' of 12m. It was made of a mix of steel, aluminum, brass, fiberglass and pvc; and a lot of "chrome" paint. It consisted of 30 bushings with four arms per bushing for a total of 120 arms and four spheres per arms with a disc at the extremity. All of these had to fit into two regular cargo ship containers and be shipped to Rio by mid-July 2016 at the latest. There were also two small motors which would create the endless 'rotation' motion of the sculpture in case there was no wind.

Because the "show" cauldron was to hang from the Maracãna's lightweight roof, it had to be reasonably lightweight, yet large enough to appear impressive against the wide expanse of the stadium. Nonetheless, by the time the "show" cauldron was re-assembled in Rio and hung, it still weighed more than six tons, 2826 kg to be exact.

A pair of special tracks was also added over the cauldron area to let the "sun" sculpture move forward at the right time. The sphere of fire, which weighed another 136 kgs, would eventually hang from the "sun" sculpture. (And there was still a third backstage motor at Maracãna and its job was to hoist the ball of fire once Vanderlei de Lima had lit this globe. It was ready to rise in alignment with the Howe "sun" sculpture.)



The "permanent" cauldron destined for the Candelária area, the one already in fabrication in Germany when the contract was signed, was almost ready for completion and shipping. It measured 3.2 metres in diameter, consisted of 28 "spokes" or "tentacles" (the rotating arms), was fabricated of rough, sanded stainless steel, but only weighed about one ton (2000 kg, compared to the nearly six tons of the "show" model.) It was to be mounted on a pedestal five meters high, and a chalice/goblet of fire added to one side.

A third contract was put out to bid to local Brazilian gas companies. This was to hook up the chalice of fire for the cauldron at Candelária Park to a fuel source. The bowl used at Maracãna had a simple, siphon tube underneath the bowl through which the gas was supplied for the few hours needed to burn for the ceremonies. Because Maracãna Stadium would not be used again until the football finals and Closing Ceremony on 23-25<sup>th</sup> August, the "show" cauldron did not have to be refueled each time and burn for seventeen days.

### Two Cauldrons Not the same

The two cauldrons used for Rio 2016 are not exact copies of each other. First, unlike the "show" cauldron at Maracãna which needed two motors to set the cauldron in motion (for visual purposes), the outdoor cauldron does not have any motor(s). It depends solely on the wind to propel it. Second, visually, the outdoor cauldron's tentacles with the big discs at its tips, do not

The "show cauldron" version with the goblet/sphere of fire.

Photo: Philip Barker

Daytime close-up of the outdoor cauldron. Note that there are only two kinds of spokes – the smaller one with the ascending-sized balls or the arms with only the big discs at its tips, and nothing else. The “sun” sculpture rests on an earth-bound spindle. Both the outdoor “sun” sculpture and its companion goblet are smaller than the show model used at Maracaña.

Photo: Phillip Barker



have any other orbs on its arms. The smaller ones with balls ascending in size and the arms with big discs at their tips and nothing else.

### The 2016 Cauldron Set Unique Olympic Records

Since the 2016 cauldron is composed of two separate elements (Howe’s sculpture and the added goblet of fire), unlike other Olympic cauldrons, it is not one unified, generic, homogenous entity. If you took away the large sculpture part and was left with the cup, you would have the simplest and purest form of a cauldron. This replicated what the priestesses in Olympia use to transport the sacred flame from the Temple of Hera to the platform of Demeter at the stadium grounds – a small, unadorned cup or bowl.

That made Howe’s kinetic sun-sculpture merely decorative. Because of its “hanging” nature and weak disconnect with the flame cup, one could class the Rio 2016 cauldron as of the “Disco ball/hanging pendant-with-Harry’s-Goblet-of-Fire” category. However, Howe’s 2016 design established two unique records for Olympic cauldrons: one, it is the first Olympic (and Paralympic) Opening Ceremony cauldron to “hang” freely from above – like a pendant earring – without any side supports.

Lake Placid 1980 had opening and closing cauldrons which also “hung”. However, its Opening Ceremony cauldron, although ultimately raised to a high point, was guided on three sides by supports, the same way an elevator or “dumb-waiter” runs on side rails to guide it. The Lake Placid cauldron used for the Closing Ceremony

was a simple, pure bowl of fire hung from the ceiling of the Ice House arena (see photo below).

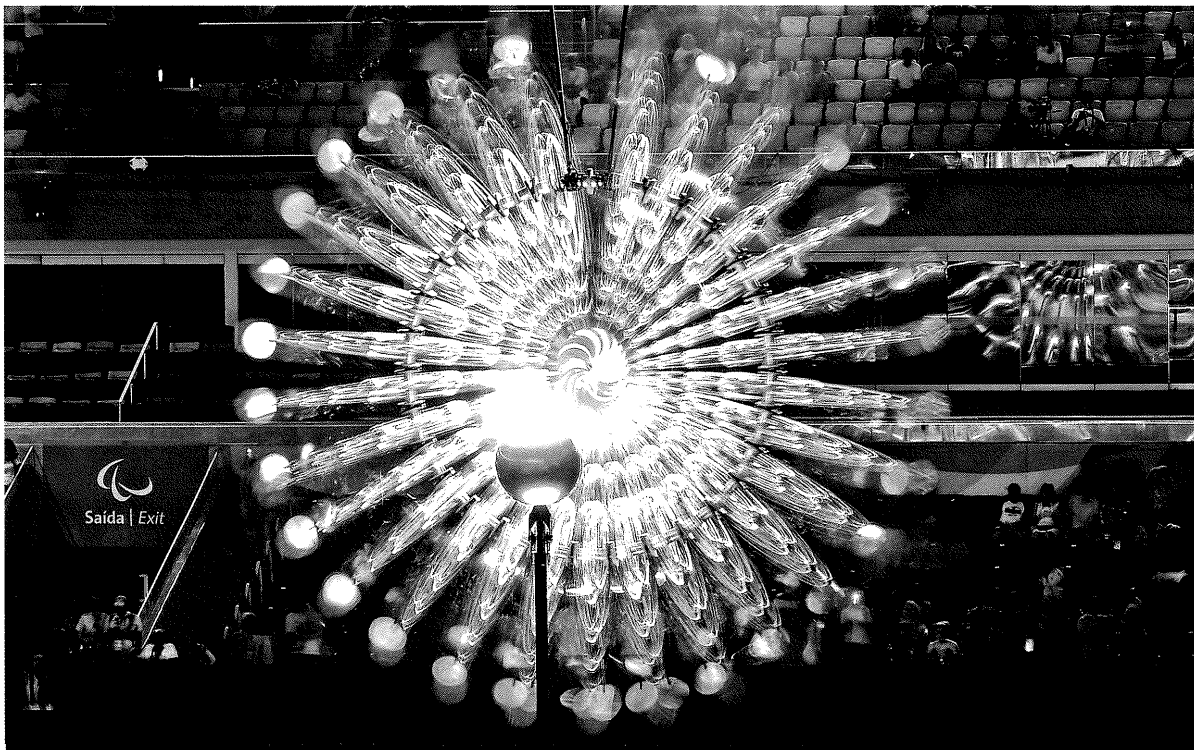
While Beijing 2008’s cauldron “hung” from the inner lip of Birds Nest stadium, it was actually clamped to that lip, and the flame burned above the stadium exterior heights, anchored from a lower position. The Rio 2016 sphere of fire at the Opening Ceremony was both pushed upward from a lower spindle and then hoisted mid-air by cables.

The second distinction of the Rio 2016 cauldron: the permanent one at the Candelária church area was also the first summer cauldron not physically in line of

Right, the hanging indoor Lake Placid 1980 Closing Ceremony cauldron.

Photo: Final Report, XIII Olympic Winter Games, Lake Placid N.Y., February 13-24, 1980





This was the Paralympic iteration – with a catapult-like armature for the goblet (raised à la Athens 2004) but the kinetic sculpture still hanging by itself. Because the world had already seen it at the Olympics, there was no need to hide the cauldron for the Paralympic Opening Ceremony.

Photo: picture-alliance

sight of the track-and-field competition or even close to the Athletics Stadium. Every Summer Games since Amsterdam 1928 have placed the cauldron as an on-site witness to the athletics venue and competition.

When the Paralympic Games opened on 7<sup>th</sup> September 2016, it was the same Howe sculpture that hung at Maracanã, but it was the manner of elevation for the goblet of fire which differed from the Olympic Opening Ceremony. The Olympic goblet was hoisted by cables and a hydraulic device, but the Paralympic fire-goblet was put on a lever and fulcrum device. It rose into the air in the manner of Athens 2004's cauldron. Still, the cup had no physical or symbiotic connection to the sculpture; it was still a disconnected piece, separate from the sculpture.

When all was said and done, despite the somewhat uncertain nature of the cauldron (was it really a cauldron? or half a cauldron?), Howe's design(s) drew many praises as mesmerizing, hypnotic even, pieces of art.

### Whereabouts of the 2016 Cauldron?

As the 2016 Games came to a close, two other things were uncertain. Where are the "show" sculpture and cauldron? Their whereabouts remain a mystery. Show-Canada revealed that only the motors were returned to them, and not the "sun" sculpture. This made sense since Rio 2016 had contracted and paid them for it. Or did they? With a whole slew of unpaid invoices, did the Rio OCOG fulfill its payment terms to Howe?

As this article went to press, there are disturbing reports that Maracanã Stadium, less than a year after the 2016

Olympic Games, has fallen into such disrepair that the Brazilian Football Association has bypassed the use of this iconic temple in the qualifying matches for Brazil to gain a spot in the Russia 2018 World Cup. Important matches have instead been set for the newer Corinthians Football Stadium in São Paulo. (And there is also the case of the roof of the new velodrome being partially burned due to an errant lantern with a flame.) Is it a case of decaying Olympic venues à la Athens 2004 again?

I checked with the Olympic Museum in Lausanne. They do not have the "show" cauldron of Rio 2016. Perhaps, like the stripped-down mechanism of the London 2012 cauldron designed by Thomas Heatherwick, which ended up on display at the Museum of London, Rio 2016's two separate "show" sculpture and cauldron-bowl may still appear as one entity at some Brazilian museum. Perhaps the futuristic Museu do Amanhã (Museum of Tomorrow) in the Rio waterfront? Or perhaps in São Paulo or Brasília?

But until such a time, one 2016 cauldron-and-cup's fire lays in storage somewhere in the bowels of Maracanã or at some non-descript Rio warehouse. ■

### Sources

- [www.show-canada.com/folio](http://www.show-canada.com/folio)
- Websites of Anthony Howe and Huttinger
- [www.gamesbids.com/forums](http://www.gamesbids.com/forums)

*Thanks to J. Mark Snow for obtaining information on the London 2012 cauldron from the museum of London.*

This article was compiled using information from Mr. Howe's participation in an online forum on [www.gamesbids.com](http://www.gamesbids.com) and material on Youtube. The author attempted to contact Mr. Howe in May 2017 to confirm/elaborate on some facts but no reply was received up to press time.