THE OLYMPIC IDEAL: OLYMPICS 2004

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If there is a god for contemporary theatrical design, then surely he or she smiled upon the XXVIII Olympiad, held last August in Athens, the cradle of the international competition. The ill omens did not come to pass: silencing critics, Olympic Stadium and other key venues were finished (if on a down-to-the-wire schedule), and while there was controversy during some of the competition, the specter of terrorism did not rear its ugly head. Athens truly put on its game face for the Opening and Closing Ceremonies, where it treated an audience of 80,000 in the stands (and four billion watching at home) to twin evenings of spectacle and pageantry celebrating Greek art, history, and culture.

Design Dream Team

An array of talent, from Los Angeles to Australia, contributed to the stylized beauty of the ceremonies. But the genesis was in the home country. More than two years ago the Athens 2004 Organizing Committee (ATHOC) tapped Dimitris Papaioannou to be the artistic director of the games. He led an eight-person team in conceptualizing ceremonies that linked antiquity to the present day. For the Opening Ceremonies, held August 13, the focus was on Apollonian splendor, with a sea and sky theme that encompassed and unified elements as diverse as the multifaceted "Allegory," with its journey through Greek myth and civilization, a performance by avant-garde pop performer Bjork, and the revelation of DNA as the common thread that binds all. In contrast, the emphasis on the Closing Ceremonies (held August 29) was on earthly celebration, with an appearance by Eros (who figured in the Opening Ceremonies) and the cultivation of 45,000 prop stalks of wheat "planted" in the DNA spiral motif highlighted two weeks earlier.

To realize this ambitious program, ATHOC looked outside Greece and in late 2002 chose Jack Morton Public Events, part of New York-based Jack Morton Worldwide, for creative assistance and refinement. This Olympiad was the first with ceremonies produced by a non-indigenous company. David Zolkwer, president of Jack Morton Public Events, spent his first year in Athens helping to transform ideas into a script; his team, initially just four, swelled to 400 as fantasy became reality.

"The ceremonies are like the opening sequences in James Bond movies," says Zolkwer. "You know you have to provide certain elements, like the lighting and extinguishing of the flame, but you have to twist them each time, while adding something original and stimulating." Indeed, personnel drawn from the Bond and *Lara Croft: Tomb Raider* sagas were brought in for some of the effects-heavy showpieces, like the reveal of the Cycladic head and its dramatic break into eight airborne pieces, during the Allegory segment. "Sequences like these we approached as a piece of film, where you have 40 cameras running and everything has to happen the first-and-only time because you're going to blow up the set."

As much as it could, however, Jack Morton relied on local talent. Athina Tsangari produced and directed the Opening Ceremonies projections, highlighted by the superlative collage of faces and bodies that played across the 18 floating rock fragments positioned above the water as Allegory proceeded. Sophia Kokossalaki, a Greek couture designer, set up shop in an abandoned airport to develop the striking costumes, from headwear to footgear all simulated to resemble period artwork, for the classical parade sequence. Eleftheria Deko, a theatre, dance, and music lighting designer with experience at open-air venues, handled illumination. "I'll never forget when Dimitris first took me to the stadium and said 'Look at what a big theatre I brought you,'" she laughs.

Contributions like theirs were augmented by design and vendor talent that have seen past competition. Jack Morton re-employed its teammates from the Olympics-like 2002 Manchester Commonwealth Games, London-based Creative Technology for video projection equipment, and London-based PRG Europe (formerly VLPS Europe), for lighting supply, along with Procon of Hamburg, Germany. PRG and Sydney, Australia-based audio supplier Norwest Productions, a veteran of the Sydney Olympics, worked in collaboration with Athens A/V firm Enttech SA. Lighting designer Bob Dickinson, teamed with local designer Deko, is a medalist from the Atlanta and Salt Lake City Olympics. Other firms that made the finals included UK-based Stage One Creative Services, which handled the cable net aerial flying system that got Allegory off the ground, and the water below the sculptures; Tarm Laser of Germany for lasers on the Cycladic head and a DNA spiral projected on a water curtain during Allegory; Groupe F of France for pyrotechnics designed by Christophe Berthonneau; FCT Adelaide of Australia for the Olympic Rings of Fire for the Opening Ceremonies; and, also for the first night, UK-based Severn-Lamb, which engineered and fabricated the rolling parade platforms.

Design of Epic Proportions

The set pieces went into the computer once they were deemed technically (and, of course, budgetarily) feasible. "Everything was modeled in three dimensions or in a virtual environment, then tested, from the centaurs and the breakaway heads to the olive tree that was part of the Opening Ceremonies," Zolkwer says. "We built larger and larger polystyrene models, then squirted lights and projections at them, to see, for example, how different projection images from Creative Technology would work with the contours of different shapes of rock."

In August 2003, close to the Yorkshire headquarters of Stage One, a large portion of the Allegory segment was field-tested. Full-scale rocks were flown in the air as the impact of the technology was tested. It was here, Zolkwer says, that "a practical solution prompted a creative one. The rock pieces were so big and monochromatic that you lost all sense of scale watching them, unless you put in an object that people could identify with. So we put a red duvet over the head of a member of our team and stood him in the water area we had devised for the test. Once you recognized that a person was there you got a better sense of what we were doing." Thus came the idea for the javelin-hurling red centaur that propels the sequence forward.

What was learned in the field then took shape virtually. "We made all the rocks and heads in a 3D computer program and animated them, then put the real cameras in their real locations in the virtual environment to see what the show would look like from wherever you were sitting," Zolkwer says. "And we took that computer program and used that information to program the rocks in the stadium, which saved us a huge amount of time. It was a productive-obsessive attention to detail. Whenever someone says a show of this kind was simple and perfect, it usually means a lot of time was spent and it was very expensive. At the one extreme, it was an artist with a paintbrush adding fine strokes; on the other, it was a civil engineering project, digging the pit in the center of the performance space that stored the sculptures and the olive tree, putting a water tank under the stadium, and all that."

The impressive breakaway elements of Allegory — the Cycladic head, the Kouros figure, and the classical statue, with a combined weight of more than 20 tons — were the engineering handiwork of Stage One and once realized were something like Russian nesting dolls, on a gigantic scale. The head, sculpted at Stage One in January, was 18m high, 9m wide, and 5m deep. It was made in eight individual pieces that were locked together; each individual piece had two suspension points within its structure to allow the sculpture (as a whole or each piece on its own) to be suspended as part of the sequence. The electro-hydraulic mechanism that joined the pieces together was operated by radio control. The head housed the similarly composed and manipulated Kouros figure (which, at 9m high and 4m wide and deep, was no slouch, either), which in turn contained the classical sculpture, half as tall, wide, and deep again.

Technical rehearsals began at the stadium in July. Prior to that, show elements were tried out at a mock-up stadium 25 kilometers away. There, the program continued to take shape. Despite its epic scope, it used only a quarter of the number of performers that the Sydney Opening Ceremonies did. "This was probably the most technically advanced one-off show ever staged, but it wasn't a show about the numbers of lights and the tons of steel," Zolkwer says. "What we were doing was taking a multi-sport stadium and turning it into an intimate theatre, with all its mechanics buried underground or high up in the air."

Tempting Fate

The fates were with the design team as they assembled in Greece for rehearsals. The soaring heat, dust, and mid-afternoon thunderstorms that rumble through Athens in summer were anticipated but never proved a factor. Time, however, was an issue, particularly as the construction process seemed never-ending. The attention-grabbing roof erected over the reconditioned stadium, built in 1981 for the European Football Championships, was an 11th-hour element. Designed by Santiago Calatrava of Spain, the 17,000-ton roof has two stylishly bowed steel arches that cross over the sides of the stadium. The arches, stylized after the parabolic arc of a shot put, hold thousands of translucent, heat-shielding glass plates over 72,000 seats. After much controversy over its utility and multi-million-dollar cost, it was finished in June, allowing the designers access.

"We were confirmed on April Fools Day for a job on Friday the 13th," laughs Norwest Productions owner Christopher Kennedy, who said his firm knew a year in advance that it would be supplying the Sydney Games, not four months before showtime as in Athens. Kennedy says it wasn't a problem, however. "The delays in construction had an impact on us, but at the same time we never expected it to be any different so we weren't caught out," affirms Zolkwer.

Stage One, however, was left in mid-air longer than desired. "Our biggest difficulty was the amount of time we had available on site for the install. This meant that our original scheme of supporting the cable net off the roof had to be reconsidered as the roof was running significantly late," says technical director Jim Tinsley. "As a result of this, in cooperation with Aktor, the main local contractor, we developed a scheme where the whole cable net was supported off pylons bolted to the side of the stadium bowl. This idea was first mooted in March and built and commissioned in June."

Delays cut into Stage One's programming time. "Normally programming on this scale would take about a month working day and night. The time wasn't available, so we decided to develop a virtual reality program to allow the programming to be undertaken offsite," says Tinsley, who adds that the firm designed

and manufactured all its own automation systems to keep the show under its complete control. “The artistic director simulated his ideas in a program called 3dmax, then the data from this animation was exported into Qmotion control computers and replayed in reality. Even with the validation checks this reduced the programming time to about ten days and allowed the creative team to modify and edit the moves during the day for them to be replayed at night.”

A long-time vendor helped Creative Technology clear its biggest Olympics hurdle. Says technical director Andrew Hawker, “Athina wanted to have really striking images that would stand out and look like they were coming out of the rocks. Then Athens Olympic Broad-casting (AOB) stipulated a brightness requirement of 600 lux. Projectors for images that size (8-9m tall) that could achieve that brightness didn't really exist. In the end, we put a High End Systems Catalyst head on the front of eight of Barco's powerful XLM H25 projectors. This meant that if you put the projector at right angles to the direction of the projection, and had the mirror set like that, it took the landscape format of the projector and twisted it through 90°. That gave us a portrait orientation, which fit the abstract shape of the rocks better and used more of the raster area, and kept the brightness up. With a Stage One device called the Interceptor (a trackball that gave DMX cues directly to the head) we were able to put an operator on each position, and if the rig swayed and moved a bit they could just move the beam into its proper position, which made everyone more comfortable.”

Despite the short schedule, Kennedy says Norwest found this Olympiad a little more comfortable than Sydney. “Athens was Mach 2, and we were able to improve on our last Olympics and use the expertise we had gained. For one thing, the venue was circular (more accommodating for signal distribution) and had two balconies; Sydney was oval-shaped, with four balconies, all of which had to be serviced.” Technical improvements over the last four years also helped simplify the task of giving Olympic Stadium its voice, and allowed Norwest to finish slightly ahead of schedule. “All that counts on a job like this is reliability, and the equipment turned out to be bulletproof. The two Yamaha PM1D consoles (a main FOH console plus backup) and the two Yamaha PM5D consoles (a main monitor console plus backup) worked flawlessly, as did the Emerging Technologies Pyramix Systems for replay.” The equipment was linked via MIDI, with a 4.5-kilometer Optocore fiber-optic system used for signal distribution. The 400 FOH and monitor speaker cabinets were sourced from EAW, Nexo, McCauley, and Tannoy, with amplifiers from LabGruppen and Camco.

Let The Games Begin

PRG Europe, supplying Vari-Lite products, and Procon, which came bearing Martin Professional MACs and followspots, were entrusted to supply the stadium with light. Peter Marshall, PRG Europe's production account director, met with Deko two years ago at PLASA to discuss her plans. Last summer, PRG, Deko, and Dickinson met in Athens to demo some products. “The stadium then was just a shell, a concrete seating area with no roof, nothing,” he recalls. But the LDs (assisted by Ted Wells) had concepts to accompany the planned production.

Deko and Dickinson met at LDI 96, at a panel discussion Dickinson participated in about the Atlanta games. “I wanted to work with someone who had Olympics lighting experience and a similar aesthetic,” she says. “I called him and invited him to Athens to meet the creative team. It turned out to be one of the most beautiful collaborations of my life.” Even without a roof over their heads for much of the job.

“We had to work without the Calatrava roof, so we didn't have the actual place to hang our lights for the longest time. We worked with 3D models to compensate, but it challenged my visualization ability,” she recalls. “The roof had its peculiarities; it was high in the middle and lowered downward at its edges, which created slightly weird angles. But we managed.”

The massive arches of the stadium roof were illuminated by a rig that contained 96 VL2416s and 126 VL5Arc wash luminaires. Aside from enhancing the Opening and Closing Ceremonies, these architectural fixtures also provided illumination for the nighttime events that took place in the stadium during the games.

The lighting rig (about 2,000 instruments in total) included 650 Martin MAC 2000 wash luminaires, 120 VL5 washes, 164 VL7B spots, six 250,000W Parabolic Lightning Strikes, 220 VL2415 wash luminaires, and 220 VL3000 wash luminaires for the stadium show illumination (the latter supplied by Enttech, which also brought in 18 Robert Juliat Cyrano 2.5kW HMI followspots). PRG Los Angeles supplied two key personnel, moving lights LD Andy O'Reilly and project coordinator Jason Trowbridge.

O'Reilly and Trowbridge worked with programmers Mark “Sparky” Risk, Christian Hibbard, and Mark Butts on three Virtuoso VX consoles which were backed up by an additional three consoles. Two Virtuoso DX consoles were used for remote focusing. PRG Europe's Risk controlled all the VL7Bs, VL3000 spots, and some additional LED fixtures. PRG LA's Hibbard ran all the MAC 2000s while PRG Chicago's Butts ran the VL2415s and three Space Cannons.

The entire Ethernet DMX512 system and the mains distribution system were designed and coordinated by Trowbridge and assisted by production electrician Nick Jones (of Jack Morton Worldwide). The lighting gaffers were Greg Hamlin and Mark Carver who were joined by four lead technicians from PRG Europe, PRG Los Angeles, and Germany-based Procon. Twenty other technicians were thrown into the mix by PRG and Procon who also supplied the 26 followspot operators.

Once the lights were positioned, the biggest test the LDs faced was the reflecting surface of the water. “The lights followed the structure and architecture of the stadium, and provided even and consistent illumination. Where there was reflection, it showed up like a necklace pattern,” Deko says. Color was kept at a minimum for the Opening Ceremonies, where “the desire was to make each of the images look like a painting. There was, however, a little blue, in keeping with the theme of the blue sky and the blue sea.”

The blue sea was also center stage during the Opening Ceremonies as 1,600 LED spotlights were submerged beneath the water in the flooded pitch of the main stadium. Each light was DMX controlled and was equipped with a scratch-resistant lens that could carry the weight of a crowd. This effect — nicknamed the Galaxy Effect — was created by Torhout, Belgium-based System Technologies BVBA and sister company Innovative Designs. The result, as seen by the crowd in the stadium and viewers watching on TV, appeared as though hundreds of stars were twinkling below the water's surface.

The palette was less restrained for the Closing Ceremonies, which was in part a celebration of ethnic and gypsy culture. Says Deko, “It was like a feast. Like the costumes, the colors contained fuchsia, ambers, reds, pinks, and of course blues.”

Zolkwer says the feast had little prep time in the kitchen. “There were run-throughs but no dress rehearsal. We could not rehearse it in the stadium, which we had just 16 hours to turn into a theatre again after the last sporting event ended. [The Beijing segment, from *Hero* director Zhang Yimou, was produced by its organizing committee and integrated into the event.] The Closing Ceremonies, are, however, more forgiving, given that they are more of a party. What I'll remember most about them is everyone on their hands and knees planting the wheat.”

You reap what you sow, and backed by rave reviews the Opening and Closing Ceremonies brought home the gold for Jack Morton and its multifaceted team. “There's a correlation between the risks one takes and the rewards at the end of it,” Zolkwer says. “You have to slightly exceed your grasp and stack all the odds in your favor.” He says many of the historically accurate costumes and props created for the show will eventually find their way into museums and galleries. Left behind in Greece, however, is something special: A generation of local artisans and technicians fully trained in up-to-the-minute design craft, provided by international friends and colleagues who wanted to return the Olympics to their place of origin in high style. “This is our legacy to Athens,” says Zolkwer. The gods are pleased.

Robert Cashill is a former editor of Lighting Dimensions *magazine*.

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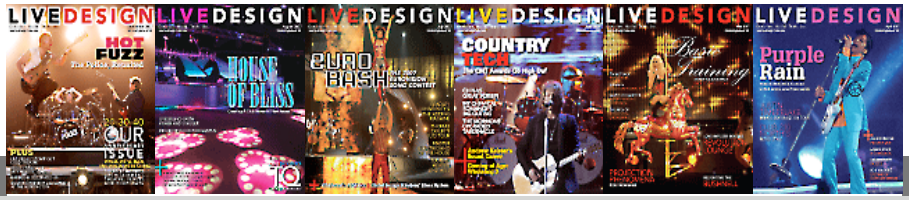

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