

PHANTOM ELECTRICIAN

Peter Donovan on
Broadway electrics wizardry

BY ANITA MARTIN MANDERFIELD AND JOSEPH HARNETT

MUCH LIKE THE Phantom is to the Paris Opera House, technical theatre professionals are the Majestic Theatre's invisible magicians, making the music and passion of Andrew Lloyd Webber surge to life. For a show that has lasted three decades, this takes not only hard work but also deftness and adaptability.

Ali Ewoldt as Christine Daaé and Peter Jöback, as the Phantom, drift through an underground lake realized by low-lying fog effects, rising canals, an automated gondola, and, of course, a strange duet — all overseen by house head electrician Peter Donovan.



Peter Donovan, the house head electrician for Broadway's Majestic Theatre, got his start in technical theatre assisting his father, then a Broadway house head electrician. "This was in the early '90s, when most shows had much larger crews. It was easier to work as a sub from time to time."

Donovan went on to study biology, but after college, he returned to backstage Broadway. "I like knowing how systems work — in the human body and other organisms — and that's essentially my job now: knowing how all these technical systems are interrelated and functioning properly."

In the 1990s and early 2000s, Donovan assisted his father's company with theatre renovations, including five Broadway theatres owned by the Shubert Organization. This afforded him a rare glimpse into the anatomy of world-class theatres — what lay *behind* behind-the-scenes. "It really gave me an opportunity to see all that went into renovated spaces for the newer productions, which were getting larger and more technical. Having that broader base of knowledge really helped."

Donovan now works for the Shubert Organization, which owns numerous theatres in Manhattan and across the country. Before coming this past May to the Majestic Theatre, home to *The Phantom of the Opera*, he worked three years at another Shubert theatre on Broadway, the Ambassador, on the revival of *Chicago*. As house head electrician, he is responsible for maintaining all the theatre's electrical equipment and ensuring that it can meet the needs of each production.

According to Donovan, *The Phantom of the Opera*, which this year celebrates the 30th anniversary of its 1988 Broadway premiere, was ahead

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of its time in terms of technical complexity. "*Phantom* was groundbreaking. Along with *Cats* and *Les Mis*, it was among the first of the modern techno-musicals."

Indeed, *Phantom* immediately calls to mind magnificent chandeliers, scores of candelabra glittering above a hazy underground lake, and menacing orchestral sweeps mingled with electric guitar. These effects require fog and smoke machines, motorized scenery, and a battalion of lighting, sound, and automation technicians to keep electrical systems functioning smoothly. "Backstage we have two people in audio dealing with the microphones on the actors, the audio equipment in the orchestra pit, and the sound reinforcement gear. We have two deck electricians who also work portable spotlights and special effects during the show. Above the stage there are four spot operators, who run beam projectors. There are two followspot operators in the front of house. You also have the two console operators and the pyro technicians who are part of the crew, but they are hired and work for the production, not the theatre owner," says Donovan.

Over the three decades of this classic show's run, the tech crew has adapted to many new tools, systems, and techniques — all the while maintaining an aesthetic continuity. "New technology is brought in regularly, and we will work with the designers to redesign certain aspects of the show, but we try to repair and update the original equipment as much as possible, so that the show is the same as when it first opened," Donovan explains. "The biggest shift that had to be made was making all the electrics equipment run from a DMX lighting console instead of analog, which was the standard in 1988. Some things, like the original strobes, no longer have parts available, so the designer had to adapt to the newest technology."

According to Donovan, stage electrics underwent a massive change around the time he broke into the field. "There was a paradigm shift that happened around the late 1990s, when what was fairly constant in the lighting world for 40 years or so before that dramatically changed. Things became more digitized and complex. Now, the only constant is change, as they say. That's certainly the case with electrical systems for lighting and sound."

As such, this field requires a culture of continuous education, largely provided through the International Alliance of Theatrical Stage Employees, the union representing theatre technicians. "When people are inducted into our Local One IATSE union, they are required to take OSHA [Occupational Safety and Health Administration] safety training," Donovan says. "IATSE is great at providing training with the shops and the manufacturers to keep workers up to date with the new technology. We also have Local One classes on basic electricity, basic

carpentry, stage carpentry, and safety. It's a very fluid industry and very integrated into other aspects of technical theatre, so staying ahead of changes is definitely in everyone's best interest and in the interest of productions coming in."

The state of New York has an open-shop status, meaning that, like young Donovan tagging along with his dad to work, you don't need a union card to step foot on the set, but you do have to be working toward one. Donovan's entire *Phantom* crew consists of Local One members, and there are clear membership benefits, he says — from financial to technical to safety. In fact, Donovan works on the IATSE Craft Advancement Program, which aims to ensure the continuity of industry best safety practices across the country. "We work with OSHA regarding the ETCP [Entertainment Technician Certifica-

tion Program] for safety and protocols. I'm very proud to be able to apply the skills I have learned to help other members hone their craft and be safe at work."

Keeping shared industry practices across the United States is particularly important for technicians on touring productions, as Donovan well knows. After helping to renovate Shubert theatres on Broadway, Donovan worked on tours for *Saturday Night Fever*, *Hairspray*, and *Movin' Out*. He points out that touring productions require additional preparedness and agility. "Every venue is different. Depending on when it was built, it may not have the power, equipment, or stage capacity you would expect from a more modern building, so you have to be able to adjust and adapt to each new situation and not let it get the best of you. There's only so much you can take with you."

Donovan keeps a standard kit of hand tools, including adjustable wrenches, screwdrivers, side-cutters, a clamp meter, and a lamp tester. Of course, it takes a lot of applied electrical theory to use these tools, such as "understanding electrical continuity, how reactive power differs from a resistive load, what it means that wattage equals volts times amps. All the three-phase alternating-current power in the [Majestic Theatre] building gets tied into the dimmers and other show equipment, so you need to know your formulas and your systems before you can answer: Is this a blown lamp or is this a dimmer that's a problem? You need to understand how a circuit works."

On a typical workday, the house head electrician arrives an hour before the half-hour preset to supervise checks of all electrical equipment — from microphones, sound rigs, and headsets to cue lights and dimmers. At half-hour, the crew launches pre-

set, then runs the show. If something breaks, Donovan says, "we evaluate or, I guess you could say, triage the situation." Next to the followspots, the crew keeps extra parts on site to perform repairs during the show. If the problem occurs above the stage, they add repair time to the following day's pre-show checks or make a separate call for a more involved repair. "We do our best to prevent things breaking by doing regular maintenance," he says.

In his career advice for the aspiring theatre technician, Donovan emphasizes keeping horizons open. "You may think you know your specialty of choice, but if you get too specific too quickly, you may get hamstrung. Take it all in."

Besides, he says, just like the body systems in living organisms, all aspects of technical theatre intersect. "A good stagehand knows all the disciplines, even if they specialize in one. This enables you to better communi-

cate with your fellow crew members and get what you need for your department. If you work in lighting, for example, you should also learn theory of design, even if you are not going to design. The basic theories have not changed, and it will make working with designers go smoother and better. Learn. Learn all the time."

Whether onstage, in the pit, or in the lighting booth, this integrated, collaborative spirit is fueled by a shared commitment to artistic product. "When everybody knows a little bit about everybody else's job, you can come together and have this thing work. ... Maybe it sounds a little corny, but there will be audience members for whom it's the first time they've seen a Broadway show, and this night may be the reason they get into the business. That's the most fulfilling part of this. You're collaborating to perhaps change someone's life, or at least show them something great." ▼