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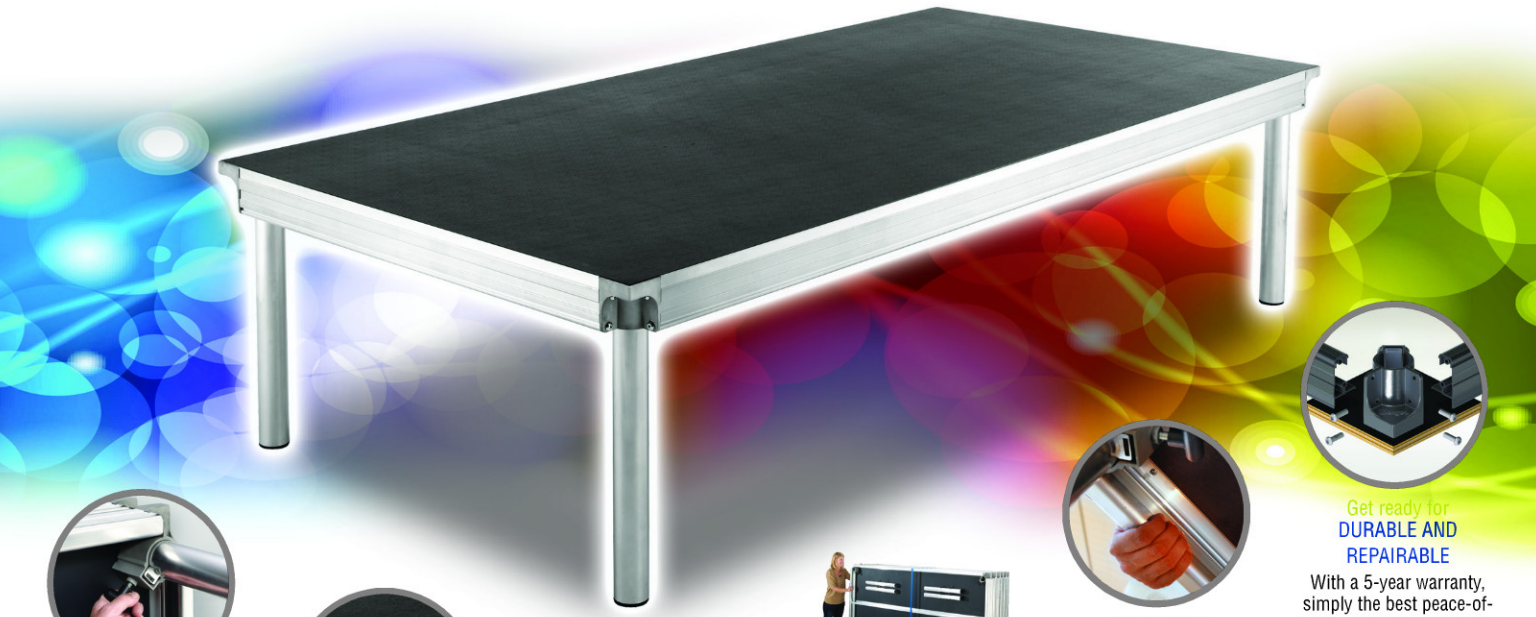

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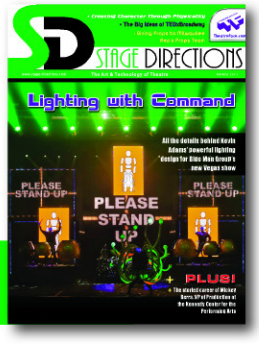

ON OUR COVER: A moment from the Blue Man Group's new show at the Monte Carlo Casino and Resort in Las Vegas
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Another Op'nin Another Show

Surely it's not all about the opening night cheese?

This month's Video Editor's Note can be seen at bit.ly/sdmarched

I don't know if it's part of my DNA, or simply because I've been involved in theatre so long—but I love the hard deadline of an opening night. Ready or not—the doors to the theatre will open, and an audience will come walking in.

Just maybe not on time. At one of the colleges I went to there was always the classic story told to freshman about how you had to get the work done on time—because one time, it didn't. The audience waited in the lobby of the theatre for 45 minutes past curtain time as the crew screwed together and painted the last bits of the set, the TD swearing at everyone louder and louder as it got later and later. Eventually the doors opened though, and the show did go on. The TD didn't stay on too long after that, though.

But most of the time the doors open on time, the show goes on, everyone has a great time at the party—and then the production team moves on to a new show, and the actors show up to a much quieter theatre the second night.

Unless you work for Cirque du Soleil. Cirque's "fixation" period means the show isn't actually done on opening night. There's still a few more months—months!—where the wrinkles get worked out, acts get tweaked and cues get changed. I've spoken to more than a few theatre techs who had to adjust to this new way of working, where the work of getting a show ready kept going after a lifetime of training had told them it shouldn't. Still, in the end, they liked the process. They liked the attention to perfection and the chance to make everything as great as it could be. And eventually the show settled into a calm, comfortable routine, with a lot less nervous energy from both performers and crew, as it should after opening night.

Except, of course, when it doesn't. Whether it's flu season or an agent in the audience, or your parents, or your girlfriend, there are times even after opening when the stakes get raised just a little bit higher. I've watched actors lose their voice mid-show and seen the entire crew leap into a state of frenzy getting the understudy ready. On the flip side, I've watched everyone walk on eggshells around an actor, not wanting to bother them as they sipped tea and communicated only in nods and hand gestures until they went onstage and performed flawlessly, only to collapse into a blanket as soon as they got offstage, sweating and shaking.

But it's opening night! Despite whatever may happen after, or whatever came before, it's a defining moment, a clear demarcation of when things changed. We don't get a lot of those in life, especially ones so carefully marked. And maybe that's why I like them so much. They're clear in their promise that after this one moment, things will never be exactly the same, and you will have made something as best you could. There's power in that.

There's also cheese cubes, usually, at the party. And that's cool, too.

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In the Greenroom

Philadelphia Theatre Company Reaches Agreement with Striking Stagehands

The Philadelphia Theatre Company and their striking stagehands—which had voted in 2012 to be represented by IATSE Local 8, and went on strike Jan. 20 after contract negotiations broke down—reached an agreement and signed their first labor contract Feb. 1. Contract negotiations broke down over such issues as the preservation of stagehand jobs and staffing levels that existed prior to unionization (no retaliation firings); the necessity of recording working conditions prior to organizing in the contract so they don't deteriorate; a wage increase; and health benefits. IATSE Local 8 Business Agent Mike Barnes characterized the contract as "a good deal," and in a statement the union praised the contract for its "strong language that protects the jobs, maintains and improves conditions that now include overtime … [and] also contains health and retirement contributions for every worker and increases the wages of the workers each year of the agreement." PTC's producing artistic director Sara Garonzik said "I'm just glad we're all back at work making great theatre. This is all we ever wanted to do."

The three-year contract should head off labor dispute for its duration and will allow the theatre to plan and budget for labor longer than the year-to-year contract they had been utilizing previously, and may have larger implications for the non-profit theatre world. "We're the first theatre of our size, certainly in our region but possibly in the country, to have an agreement with IATSE," said Garonzik. "So I would imagine that everyone will be looking at this rather closely going forward."

Rose Brand Announces Scholarship Finalists

A few years ago George Jacobstein, president of Rose Brand, gathered his lieutenants and set them brainstorming about how they can give back to the business they love, specifically providing a leg up to the theater production stars of the future. The result is the Rose Brand Scholarship contest, and the 10 finalists for the $5,000 award were announced at the end of January [see sidebar]. The winner will be announced at the USITT Expo in March.

"George is really a proponent of education and supporter of schools," says Lou Peters, director of marketing at Rose Brand. "Many don't know that before he came to work for Rose Brand in 1975 he was a teacher in the New York City public school system." In addition to the $5,000 prize (which must be applied to tuition and fees at the educational institute), the college or university the honoree is currently attending will receive a $2,500 credit to purchase goods or services from Rose Brand.

Kyra Bishop, an undergrad at Webster University in St. Louis, is a finalist in the Rose Brand Scholarship contest.

"I'm really honored to be selected as a finalist," said Kyra Bishop, who is in the theatre department at Webster University in St. Louis. "As an undergraduate student I didn't think I had that much of a chance but my professors encouraged me to apply. I love that it benefits not only the students, but also the school." Bishop submitted production photos with samples of drafting, paint elevations, model photos, research images and sketches from two productions she designed, *The Sound of Music* (Roxy Regional Theatre in her hometown of Clarksville, Tenn.) and *A Midsummer Night's Dream* (her most recent production at Webster).

Once Rose Brand's people select the finalists, the heavy guns are brought in. Respected professional judges included scenic designer & Tony Award winner, Donyale Werle; the president of Scenic Art Studios, Joe Forbes; Walt Disney Imagineering designer, Pete Happe; scenic & production designer & Primetime Emmy winner, Joe Celli; and the owner of Tait Tower, Adam Davis. "Many are long time client's of Rose Brand," Peters says.

The professional judges will be looking at the designer's work. What will they be looking for? Joe Celli, who worked in regional theatre before becoming a freelance art director in L.A., will watch for how the finalists design works with the narrative of the piece. "Good design complements a project, it needs to serve the story," Celli says. For Joe Forbes, the "Bottom line is that you're creating a space for the actors to work in to tell their story. Good scenic design gives them places to go and things to do, and it helps the director tell the story. Everything after that is gravy."

If you missed out this year, don't fret, it will be back next year. "Long term, I think we would hope to see the scholarship winner to go work professional and do phenomenal things," Peters adds. "It's exciting to see tremendous promise at such a young age, and it validates our high hopes for what the future will bring."

Rose Brand's Top Ten

The ten finalists are:

Marni Balint
Graduate Student at
The Ohio State University

Kyra Bishop
Junior Undergradate Student at
Webster University

Sarah Brandner
Graduate Student at **University of Minnesota – Twin Cities**

Matheus Fiuza
Junior Undergraduate Student at
Rowan University

Matthew Imhoff
Graduate Student at **Michigan State**

Natalie Khuen
Graduate Student at **University of California, San Diego**

Jared LeClaire
Senior Undergraduate Student
University of West Georgia

Jamie Lew
Junior Undergraduate student at
University of Southern California

James Ogden
Graduate Student at
University of Texas

Josafath Reynosa
Graduate Student at
University of Tennessee

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2 Okay, these days, there probably aren't any publically-funded theaters that would call themselves "rich." We're using the term for effect.

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theatre buzz

Stages St. Louis Launches American Musical Creative Division

The Regional Arts Commission has awarded Stages St. Louis with a $43,000 grant to fund the creation of the American Musical Creative (AMC) division. The program will work to "establish St. Louis as a hub for the creation of new American musical theatre productions." The grant will support the addition of staff and scheduling onsite visits to regional theatres, universities and national orgs that specialize in developing new musicals. Stephen Bourneuf, Stages' new associate artistic director, will head up this new division at Stages St. Louis.

changing roles

Harvey Sweet Retires as ETC Rigging Senior Product Manager


Harvey Sweet

Harvey Sweet has retired from ETC after four years as ETC Rigging's senior product manager. Sweet was a fundamental part of ESTA's E1.6 – 1 Rigging Task Group, logging more than 1200 hours over seven years as the task group leader as they developed the motorized-rigging standard. Sweet is also the published author of three theatre-technology textbooks and holds a Ph.D. in Scene Design Criticism and a Masters in Theatre Technology and Design, both from the University of Wisconsin-Madison.

industry news

PLASA, Event Safety Alliance Work Together to Increase Safety

The Event Safety Alliance, the emerging voice of event production best practices, and PLASA have formally announced their mutual endorsement in the ongoing efforts to raise awareness and use of industry best practices and technical standards throughout live entertainment production. Event Safety Alliance Executive Director Jim Digby comments, "The *Event Safety Guide* would not be complete were it not for the ability to cross reference and include the ongoing and painstaking technical standards work of PLASA."

In a phone conversation with *Stage Directions*, Digby stressed the importance of getting input from the theatre community as they built their guide. *SD* will be working with Digby and the ESA in the future to solicit input from the theatre community and inform them of the guidelines.

Clarification

In our "The Riggers Behind the Rigging" article in the February issue, we wrote "some jurisdictions mandate that theatres have to provide harnesses and equipment for their riggers." This is not an entirely accurate statement. OSHA regulations require that all employers are responsible for providing all Personal Protective Equipment (PPE) to all employees who require it to do their work safely. This includes fall arrest equipment for riggers. The employer is also responsible for maintaining the PPE in an appropriate manner. Should a technician wish to wear their own personal PPE they must first get approval from their employer.

Apollo MultiSpot HP LS1012

The latest addition to Apollo's Multiform line of LED luminaires is the MultiSpot HP LS1012. The LS1012 offers improved efficiency with higher light output and fanless, silent cooling as a result. It uses 3-in-1 MulTriCell LEDs to mix color at the light source to generate a consistent beam of colored light. The LS1012 LED is designed to be a versatile lighting fixture with a space saving shape. It fits neatly within most box trusses, to become a quiet, bright truss warmer in addition to uplighting walls and tents. **www.internetapollo.com**

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The DPA d:facto II is a new vocal mic that comes with a wired handle, but is also designed with an adapter system that allows it to be used with many professional wireless systems such as Sony, Lectrosonics, Shure, Wisycom and Sennheiser. The d:facto II provides is designed to be superbly linear in frequency and phase , both on- and off-axis. It can handle sounds up to 160dB. It has a three-stage pop protection grid built into the microphone to remove unwanted noise. **www.dpamicrophones.com**

Mehron Dancer Makeup Kit

Mehron's new Dancer Makeup Kit contains all the professional makeup and tools dancers need for their performance, from foundation to lips to eyes. The makeup is designed spotlight dancers' faces and their expressions while preventing them from being washed out under harsh lighting. Each Mehron Dancer Makeup Kit contains: 5-Color Celebre PRO-HD Foundation Palette; L.I.P Cream in Big Apple; Waterproof Mascara; Black E.Y.E Liner Pencil; CHEEK Cream in Geranium; Glosstone in Pearl Frosted; Black E.Y.E Powder; Glitter Dust in Holographic Silver; Barrier Spray; Precious Gems in Diamond; Celebre PRO-HD Loos Mineral Finishing Powder in Translucent; Powder Puff; and a #320 Stageline Brush. **www.mehron.com**

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The PreSonus StudioLive 32.4.2AI is a 32-channel performance and recording digital mixer. It uses PreSonus' new Active Integration, dual-core computing engine to pack more than 64 times the processing power and 10,000 times more RAM than the previous top-of-the-line StudioLive 24.4.2. This extra processing and communications power also allows wireless control of the mixer without requiring an external computer. The mixer has 32 Class A XMAXTM mic preamps with individually switched phantom power, 32 line inputs, 14 aux mixes, 4 subgroups with variable output delay, Fat Channel dynamics processing and parametric EQ, a 48x34 FireWire S800 audio interface, and much more. **www.presonus.com**

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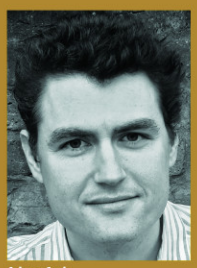
CAT SOUNDS


JOAN MARCUS

Scarlett Johansson in the 2013 Broadway revival of *Cat on a Hot Tin Roof*

Adam Cork gets existential in his sound design for the Broadway revival of *Cat on a Hot Tin Roof*

The latest Broadway incarnation of Tennessee Williams' *Cat On A Hot Tin Roof* has generated a big buzz thanks to star Scarlett Johansson as Maggie, and the well-rounded cast includes Ben Walker (*Bloody Bloody Andrew Jackson*) as Brick, veteran Irish actor Ciarán Hinds as Big Daddy and Broadway veteran Debra Monk as Big Mama. Christopher Oram's elegant scenic design features Brick and Maggie's bed as its central prop, and the semi-circular, open bedroom set includes four sets of large doors with curtains but no walls to allow us to witness background action and furtive character movements transpiring in a nearby hallway and a balustrade. This set-up gave sound designer Adam Cork some interesting ideas on how to proceed with his contributions to the play, and he recently took some out from a new show to discuss his work on *Cat On A Hot Tin Roof* with *Stage Directions*.


Adam Cork

***Stage Directions*: How did Christopher Oram's set design affect your sound design?**

Adam Cork: I think what's particularly exciting about Christopher's set—and gave me in my capacity as a sound designer an opportunity to do something that I hadn't really done before—is he put these four sets of doors around the side and the back of the stage, which hang there in the air. I've done what would normally be considered a fairly naturalistic job on the ambient sound design, so when doors open you will get a sudden burst of sound from the next room. With a normal set with walls, that would pass unnoticed in some ways because what you would be seeing would tie up with what you're hearing in an instinctively, intuitively correct way. In this show, it adds to the odd stylization, and I think it helps with the whole pressure of society outside on the lawn watching fireworks and listening to the music as Big Daddy is talking to Brick about whether he's possibly gay or not, which in 1955 was obviously a pretty shocking thing for people to be talking about onstage. It makes you feel like these characters are floating in an eternal space rather than a literal one, and it makes those social pressures seem almost petty, I think.

There's a lot of ambient sound and music in this production.

Quite a bit of that is asked for by Tennessee Williams, and we are doing a bit of a hybridized version of Act Three, which is mainly Elia Kazan's version of Act Three, which the original production went out with, but there are elements of the author's preferred version, which had changed during rehearsals for the first production. In that, there were quite a few songs asked for. You've got "Pick A Bale Of Cotton" at the end of Act Two, which I think is in most versions, and in the Elia Kazan Act Three you've got "I Just Can't Stay Here By Myself" and at the end, "Gimme A Cool Drink Of Water," which is based on "The Ballad Of John Henry." I believe most productions use Tennessee Williams' preferred Act Three, which doesn't ask for "Gimme a Cool Drink of Water" or indeed "I Just Can't Stay Here by Myself." The Kazan Act Three which we are using is much more specific about stipulating specific pieces of sung music, and of course asks for a storm, which makes no appearance in the far-more-performed Williams' preferred Act Three.

In the spirit of Williams' other work, which has very specific sound directions, and with which I think *Cat On A Hot Tin Roof* shares a kind of apprehensive lurid nausea—the familiarity of everyday people and their everyday words and actions, which almost seems to extend to the house and furniture as well—it almost feels like he's in step with Jean-Paul Sartre and the European Existentialists writing around the same time. I haven't read anything to suggest that that was deliberate on his part, but there is a horror in existence which Tennessee Williams expresses through sound in many of his works, including *Suddenly Last Summer* and *A Streetcar Named Desire*, which I felt could carry through to *Cat On A Hot Tin Roof* and to contribute something potentially new.

The thunderstorm is quite loud in this production. It's not just in the background. It's emphasizing what's going on onstage even more. Were you worried about overwhelming the actors when you set the levels for that sequence?

We always wanted it to approach from a distance and get right into the foreground with the wind billowing in and making the curtains flap around and engulfing the actors before moving away. There are a few lines that are drowned out like, "I hope the storm doesn't damage my

"There is a horror in existence which Tennessee Williams expresses through sound in many of his works."

car!" [*laughs*] It does drown out the actors for a moment, but I think what's in the text indicates that that should be the case.

Are any of the actors miked?

The stage is miked. The actors aren't miked. There are a couple of specific moments which are for amplification and effects, where I've put a radio mic through a scene on one actor literally for a few lines.

Where is it located?

It depends on the actor. It might be in a piece of costume or hidden in a wig or on a lapel. The four domestic servants are wearing radio mics which help us when they sing offstage. But there's generally no radio miking of the dialogue during normal scenes. There's just ambient stage miking, which is the norm.

Is any of this run through the sound system?

There is some sound that comes into a line of delay speakers which hang underneath the mezzanine for the people at the back of the orchestra, just to bring the stage back there. That's not to do with helping the actors with their voices, because they all have pretty good voices, but it has to do with assisting little quirks of the building and helping it to sound in the back of the room more like it does in the front where it's all open. It's what I call acoustic correction rather than amplification, which is far too strong a word.

Kind of like subtle reinforcement.

Reinforcement is a pretty strong word as well. Subtle enhancements or acoustic correction, which I think is the best way to describe it.

How many different sound cues are there in this show?

I always number my cues initially leaving gaps of 10 between because things come on later and you always run out of cues if you number consecutively. I think the last cue number is 300, but that doesn't mean there as many as that. I'd be surprised if there were less than 120 in the show. It's quite a lot.

Which console do you mix this show on?

It's a Yamaha DM2000. It's got around 96 inputs, and we pretty much ended up using all of them because I'm using a lot of channels from QLab, which is the playback software. I put a lot of mics on the stage as well because the set is so complicated, and in terms of the different playing areas you've got that wonderful magnolia, which is the floor piece that needed coverage, and you've got the balustrade in the back. Obviously when people are on the balustrade looking upstage and talking, they need a bit of help with certain stage miking there. There's a little enhancement going on there. It's not going to the proscenium arch speakers, but it's going to select speaker groups within the house and delayed back to the stage.

Did you record the sound of the kids playing and the singing?

Some of it was recorded and playback, and some of it is sung live. There are two songs towards the end which are sung live. One of them is onstage—the four household servants are standing in the doorways in the back singing "I Can't Stay Here By Myself," just when Maggie announces to Big Daddy that she's pregnant. She's lying of course, but it's a great moment for him and gives him the release he needs. Then the same quartet is singing at the very end, when Brick and Maggie are heading towards the bed together, "Give Me A Cool Drink Of Water Before I Die". The last image is of them sitting on the bed, and we don't know what's going to happen next. The quartet is offstage at that point.


JOAN MARCUS

Benjamin Walker and Scarlett Johansson

I didn't even notice the quartet singing that first song.

That's good. Because I spent ages thinking, oh my God, they're singing and talking at the same time, and you really need to be focused on what the talking people are doing. The song needs to influence the mood at that point rather than be in the foreground.

What types of mics are you using on the quartet?

They're wearing radio mics, those four. We used Sennheiser 5212s with DPA 4061s.

Didn't you contribute some music to this play?

I did original arrangements of all the "found" music, and the transitions are all by me, though "Jesus Loves Me" was woven into the very opening piece of music. And I wrote another of the offstage band pieces, which I called "Tornado." It has a circling melody which is designed to match the turbulent swirling movements of the family around the central bed. The four musicians were prerecorded, not playing live. The lineup included Hideaki Aomori (Alto Sax, Clarinet, Bass Clarinet), Alden C. Banta III (Baritone Sax, Clarinet, Bass Clarinet), Thad C. DeBrock (Guitar, Ukulele) and Allen S. Sadigursky (Tenor Sax, Clarinet, Bass Clarinet).

You've done sound design and composing for *Frost/Nixon*, *Enron* and *Red* and now this. Is it easier or more difficult for you do both on the same show?

In terms of the fact that I can do it all myself, I save some time there, but there is also an awful lot of work that goes with being the sound designer, which isn't just to do with the sound score. It's great to be in control of every aspect of both music and sound on a show because it means I can just make a note to myself and do it. Having said that, I've had some wonderful collaborations with amazing sound designers over the years, and sometimes it's a pleasure to sit back and only think about the music and let somebody brilliant take care of all the other stuff. And on this show I had the pleasure of working with a brilliant associate designer, Christopher Cronin, who has been an indispensable collaborator on all the plays I've worked on in New York.

What is something new that you learned working on this production of *Cat On A Hot Tin Roof*?

That Tennessee Williams is not only just as great a playwright as I ever thought he was, but possibly a greater one. I think this play is almost like his *King Lear*. It's so specific in terms of its vividly drawn characters, and yet it seems to be about something totally cosmic at the same time. I don't know how he managed it. There were a great many previews for this show—in London you might get a week or two at the most of working on a show before it opens to the press—but I got a chance to see the show a lot in NYC, and every time I saw it I spotted something new.

What I love about Tennessee Williams is that he relies on the naturalistic sounds that almost at the flick of a switch become a part of the psychology of the characters, and I think there's great scope for that in this play and others of his. You've got the sound of the crickets and the children playing outside, which can suddenly become enhanced—amplified in the sense that it's attempting to amplify a fact of the psychological condition that the characters are experiencing—like Maggie's stress of having not been given any sexual attention by her husband for God knows how long when she's desperate to have kids. It's called *Cat On A Hot Tin Roof*—the idea is that nobody in the play, and she embodies everyone in that sense, is comfortable in their own skin. Everyone is experiencing a form of agitation because of internal pressures and life forces and death forces. The sound of children outside, people singing and the sounds of nature outside bang into their heads with great tension at times. I think Tennessee Williams' sound directions give the sound designer permission to really go to town on that sort of thing. SD

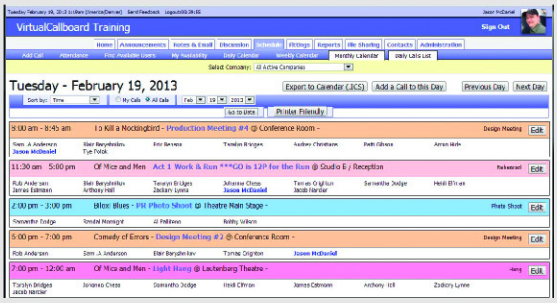
LiveScribe pens link an audio recording to notes, letting stage managers find the exact moment in a recording to confirm discussion details.

The Data Crunchers of Theatre

Good stage managers don't just collect information, they manage it

An organized stage manager… Isn't that redundant? Organizational skills are a prerequisite to becoming a good stage manager. But why are stage managers known for organization above all other managers?

In a business sense, stage managers are the ultimate transactional leaders, the perfect project managers. They are not asked to transform a company, but they are expected to replicate a project flawlessly, even with substitute team members. Daily. And if you are in rehearsal, the source material for that flawless replication changes hourly. Who else but a stage manager would be expected to know the exact layout of a cluttered desk or a formal dining table as it progresses by the minute?



A screenshot from Virtual Callboard, showing all scheduled calls for a day.

We stage managers were practicing Quality Control long before the term had a name. And that level of exactness and precision can only be achieved if you track every single component of a scene shift or cue sequence. The stage manager needs to see both the forest *and* the trees.

The Trees

Contrary to popular belief, you are not born organized. It is a skill that even the best stage manager can improve through practice. I view organizational skills as crafting a very fine net that allows you to capture all the information you need. You need to be aware of what information you are trying to capture and how to prioritize that information if you cannot get it all on the first pass. Want to improve your attention to detail in recording blocking? Try this exercise:

1. Pick a popular song.

2. Download the lyrics and format them as if they were a song in a musical.

3. Find the music video of the song and record the blocking after watching it *just three times*.

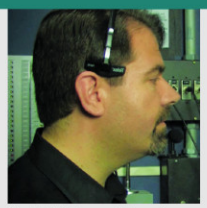
4. Examine your notes. Did you prioritize the blocking based on entrances/exits? Did you record the blocking that the lighting designer needs most? Where are your memory gaps?

When I teach students to call cues off of music, we first focus on Dance 8s, both for those students who cannot yet read music (a critical skill for every stage manager!) but also for those many, many shows in which the sound designer shows up at a dress rehearsal with a brand new piece of music and no score. The best way to learn Dance 8s is to visually map out what you are hearing. I also find I am much more confident calling music that I already know because I can see the entire map of the audio cue. I am not trying to anticipate a chord as much as I can read all of the sounds that precede it. So listen to a brand new song and try to write out everything that you hear. After just three to four times on repeat, you will hear the music differently as you have added another of your senses to the data recording.

You can also use new technologies to help you improve data collection and analysis of theatre. One of my favorite tools is a smart pen. LiveScribe produces a range of pens that record the audio of a meeting or event not just to a timeline like a regular recorder, but also to the text that you write in your notes. Want to review the discussion about projector lenses from the last production meeting? Just tap on your projector note and the pen's speaker instantly jumps to that moment of the audio track. Plus you can upload your notes to a server so that your team can also review the audio by timeline or by clicking on your transcribed text. ASMs love this tool as they just need to write the major points of the meeting and then capture the specifics later when there is more time to process the information. And if I need to serve as both meeting moderator and note-taker, the smart pen allows me to just jot down the outline of the meeting while I stay focused on discussion.

There are also new tablet apps such as AudioNote that join the audio of the room to your text.

Since we are the central communications hub for a production, stage managers should constantly be experimenting with new ways to use


David J. McGraw calling a show

"We stage managers can be a lot smarter about how we use all of the wonderful information we collect."

technology to become even more organized. Ten years ago, I experimented with posting all rehearsal notes on a major production to a password-protected website. We then hyperlinked each note so that I could write "See Note #31" from Day 2 of rehearsals and the reader could instantly jump to that specific note. Today we can bypass those links by easily running "find word" searches within mega-pdf files or using tags to group notes by topic.

There are dozens of project management systems available, but the theatre-specific system that I love most is the VirtualCallboard by EmptySpace Technology, LLC. Your cast and production team can update their phone, e-mail and conflicts so that your contact sheets and schedules always rely on the most current information. It is ideal for theatre companies working on multiple shows simultaneously that don't want to fill inboxes with repeated messages. And, if you have a passive aggressive streak, you can even check to see who has read your announcements or reports.

Probably our greatest competitor in the game of being the most organized theatre position is the Props Master/Mistress. My favorite props management tools is StageBitz. Not only does it tackle the Herculean job of creating a comprehensive and searchable inventory of everything in props storage, but it also allows the creative team to collaborate on the construction and shopping of new props. And who founded this dream come true for props? A stage manager.

The Forest

It is not enough to just collect data, whether those facts are ground-plan points or line notes or items for the night's rehearsal report. To be truly organized you must also analyze all of the data to look for the most critical information or trends to see where the show might be headed.

Giving an actor 95 line notes after the first stumble-through will do more harm than good. But what if you viewed all of the notes for a particular actor and selected the most important ones? Could you choose the top 20 notes to give today and save the rest to check against the next time you worked a scene? We stage managers can be a lot smarter about how we use all of the wonderful information we collect.

The last key to organization for a stage manager is decidedly low-tech: the SM kit. The rows and rows of office supplies must all be hyper-organized and sorted so that it looks more like a futuristic armory than a toolkit. And it is not enough to bring a kit with everything that you need for your job, but you also need to bring everything you *might* need. The stage manager anticipates needs by thoroughly studying the current situation and imagining all of the variations. I must confess to taking great pleasure in producing just the right object before my director finishes describing it. Meanwhile our casts believe that we carry a theatrical Bag of Holding.

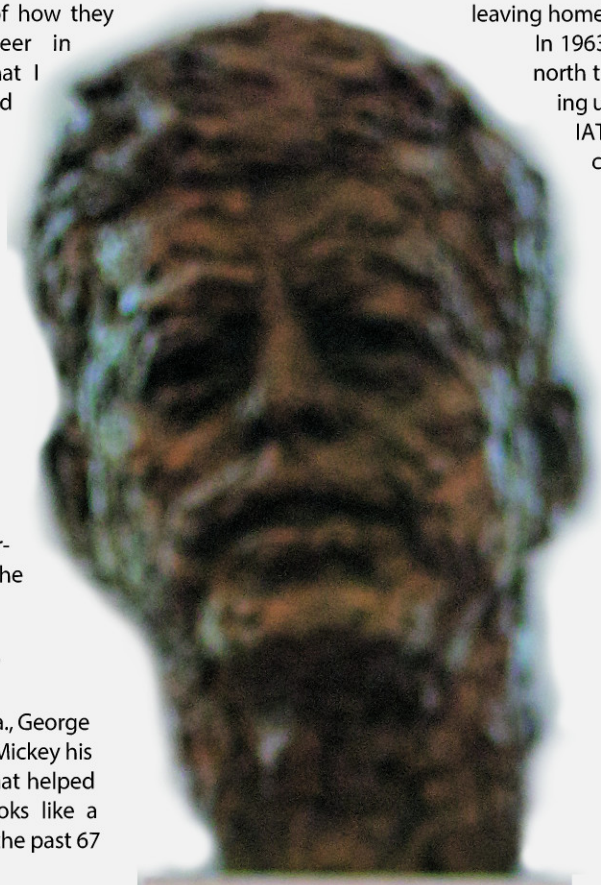
Organization is a skill that is not limited to stage managers, but we adopt this responsibility as part of how we can lead our teams and maintain the quality of our productions. We serve as part reference librarian, part warehouse manager and part efficiency expert. Now please excuse me while I plan my next trip to the Container Store. SD

David J. McGraw leads the Stage Management program at the University of Iowa. He also owns SM-Sim, LLC, which produces the Stage Manager Simulator and the training film Standby Cue 101: An Introduction to Calling Live Performances.

From Midway to the MARBLE PALACE

The storied career of Mickey Berra, the vice president of production at the John F. Kennedy Center for the Performing Arts

Everyone has their own unique and interesting story of how they began their career in show business. One that I was recently introduced to was the story of Mickey Berra, the vice president of production at the John F. Kennedy Center for the Performing Arts in Washington, D.C. Berra started in this business early in life, learning about production in a carnival, and worked his way up to running the production department of one of the premier performing arts center in the world.



Getting Started Under the Big Top

Born in Petersburg, Va., George Michael Berra has been Mickey his whole life. "The nurse that helped deliver me said 'He looks like a Mickey,' and it stuck for the past 67 years," jokes Berra.

Raised on the carnival circuit in Petersburg Berra worked on almost every aspect of the fairs, from loading and unloading trucks to building set pieces. He enjoyed every minute of it, evidenced by the fact he never finished school, he was having too much fun at the carnival. "I ran off with the carnival without even leaving home!" he jokes.

In 1963 Berra ran away to the theatre, commuting 120 miles north to Washington, D.C. with his brother Tommy, and picking up freelance work in D.C.'s fledgling theatre district with IATSE Local 22. Berra's uncle Charlie had begun to make a career for himself in D.C. building sets for movies filming in the district. Charlie realized that he needed help and brought Berra on board. His first theatrical gig was as a stagehand at the National Theatre later in 1963.

"It was like going from the midway to Broadway," Berra says with a laugh. Berra still called Petersburg home, but like all stagehands, he had to go where the work was, making the move to D.C. permanent in 1967. He worked with his brother Tommy to open up Ford's Theatre in 1968. Eventually Tommy became head of operations there, but theatre was still not Berra's only source of income. He picked up work on a number of camera crews.

"Back then, it wasn't like today; it was just a three man crew, the camera man, the talent and little old me, the grip," says Berra. "I remember once visiting the White House

Mickey Berra working in his office at the Kennedy Center (1978).

JUSTIN LANG

Mickey Berra, next to the John F. Kennedy bust in the Performing Arts Grand Foyer outside of the Opera House at the John F. Kennedy Center for the Performing Arts.

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for an interview with President Johnson. I was the grip on the crew with my back to the wall waiting for President Johnson to finish in the Oval Office. Through the crack in the door, I could overhear President Johnson finishing his phone call using some colorful language. It was nerve-racking considering we were next. It was heart stopping."

Moving to the "Marble Palace"

In 1971, there was a new national culture center opening in Washington, D.C. And it wasn't going to be just some theatre—It was to be the living memorial to one of the greatest supporters of the arts, and late president, John F. Kennedy.

"They only wanted the best of the best at this new place over near Georgetown. So the local [IATSE Local 22], asked me to come on as a stagehand," says Berra. On September 8, 1971, the John F. Kennedy Center for the Performing Arts opened up with just one of the three main stages ready, the Opera House. "The place was a maze! This section or that section of the building wasn't complete. Random doors were locked and no one had the key. It was a nightmare trying to get around this new place, the Marble Palace."

In 1973, Mickey came on full time at the Kennedy Center as the assistant carpenter in the Opera House. Through the years, he worked his way up the ladder, moving from stagehand to head carpenter. "I am so indebted to the former head carpenter of the Opera House, Bobby Tillett Sr.," says Berra. "He raised us to a degree. He was a great mentor."

How does a carney move up the ranks in what was quickly becoming one of the most recognized arts center in the world? "Work! My knowledge and experience came from working all of these shows. If I didn't know what to do, I wasn't afraid to ask. That is how I grew and became better at what I did," says Berra. "I hung out with all of the various stagehands that came through the Kennedy Center with the tours. I would pick things up and listen to what they said."

Mickey Berra lends his face for a new make-up artist to practice.

It helped that everyone was willing to help, adds Berra. "It's like a family around here, sometimes literally, but we all treat each other with respect and grow together."

In 1996, Lawrence J. Wilker, president of the Kennedy Center, and James D. Wolfensohn, the chairman, approached Mickey with a single question.

"They asked me, 'Why doesn't the rest of this place run as smoothly as the Opera House?'" explains Berra, warming to the

story. "I pointed to the ceiling. 'See that right there, that's the problem. You have to knock down that ceiling,' meaning they had to open the lines of communication." Three days later, the two returned to Mickey with one more thing, "We want you to knock that ceiling down."

After 30 years, Mickey retired from Local 22 and became the director of production at the Kennedy Center. Eventually he was promoted into his current position, VP of production.

Loving the Work

The Kennedy Center is one of the busiest PAC's in the world. There are more than 2,800 events held every year on its nine stages and in its myriad of event rooms and plazas. But it's also more than just a PAC. The Kennedy Center is also a memorial of President Kennedy, with visiting exhibits and more in its Hall of Nations, Hall of States and almost every other public space the Center has to offer. And Berra is in charge of every single production aspect in the entire 1.5 million square-foot facility. From the latest Broadway tour in the Opera House to the visiting museum exhibit in the Hall of Nations, Berra manages it all.

"I live and play in the greatest sandbox in the world. I get to play with all these great people from around the world," says Berra. And his responsibilities are not limited to day-to-day operations of the Kennedy Center. In 2012 alone, he visited five continents preparing international tours and exhibits to travel and present at the Kennedy Center.

"I juggle three balls here at the Kennedy Center: Time, Space and Money," says Berra. "We put shows in and out quicker than any place around the world. I have the greatest family here as I grew up with them and hired almost every single one of them. We know what everyone is capable of doing and we pride ourselves on our abilities."

Quick turnarounds are the norm for the Kennedy Center. Loading out 26 trucks in a night while loading in a new show from another set of trucks so they can open the doors for the first performance the following night happens on a regular basis.

Being the boss, Berra knows how to get answers. "When a truck shows up, anyone can ask me any question, and I'll be able to answer it. Because I know where to go to get that answer." Even with 28 stagehands on staff throughout the various houses in the Kennedy Center, 12 production managers, multiple coordinators and his expanded team, Berra knows every single person that works in the Kennedy Center. If he doesn't have the answer, he knows who will. "It's a way of life, it's not a job. I love what I do," he adds.

Advancements in Technology

As technology changes, so has the Kennedy Center. "When I first started, one of my jobs was pushing something on to the stage with a stick. They told me, 'Don't let them see your hands!'" jokes Berra.

Through out his career, Berra has seen the Center move beyond sticks and embrace technology. One of the first notable changes came in 1986 with the out-of-town tryouts of *Les Misérables* at the Center. "Many of the stagehands were used to hand cranks and manual turntables. *Les Mis* was the first show where stage automation came into play not just at the Kennedy Center, but in our industry," says Berra, adding that the technology *Les Mis* used was somewhat confusing. "The automation system used targets and presets. Looking at that control panel, I thought we were firing missiles!" he jokes.

The advancements in technology continued when *The Phantom*

Craftsman Hot Knife Complete with Case

Mickey Berra holds his pet Sabrina, a lion cub, while playing with his dog Alvin during his early carnival days.

Mickey Berra playing with Tony, his brother's pet tiger, during his early days working with the carnival.

of the Opera opened at the Kennedy Center during the 1990-1991 season. "Every theatre that the tour of *The Phantom of the Opera* went to has been left in better condition than when the tour came in due to all of the advanced steel and engineering required to make that chandelier fall on cue, safely, every night," says Berra.

The Kennedy Center continues that tradition, constantly researching and investing in new technologies to raise the bar theatrically and make things safer. Recently, the Kennedy Center invested in more than 200 LED Fresnel fixtures to add greater color options to the various houses. "It's about saving time, money productivity efficiency and safety. With LEDs, there is no more changing lamps or replacing gel. So our stagehands can now focus on something else."

Luckiest man in Show Business

Throughout his career in Washington, Berra has watched the resident at 1600 Pennsylvania Ave. change nine times. His role at the Kennedy Center has allowed him the great opportunity to meet every one of the Presidents, along with countless celebrities and politicians during his 40 years at the Center.

"I am the luckiest man in show business! If I'd known life was this good, I would have gotten older quicker," he quips. But the Kennedy Center isn't all he does. In 1996, Berra worked as the Staging Director for the Opening and Closing Ceremonies of the Atlanta Summer Olympics. "It was something to offer guidance to Muhammad Ali when he was lighting the Olympic flame! It was a great honor to be apart of such an event."

Berra credits his success to his brother Tommy and his uncle Charlie for affording him the early opportunities in his career. When asked about advice for future stagehands Berra says this: "Stay in school. No one can follow this wonderful path that I led. Today's technology and practices requires a knowledge that can't be learned on the job." SD

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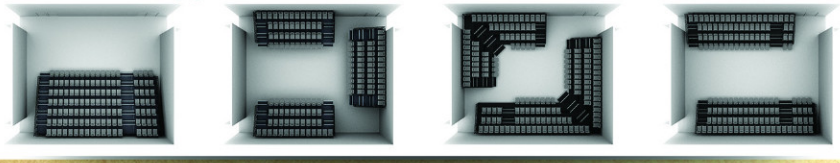

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LARA DALBEY

One Team, Many Props

The props staff at Milwaukee Rep. (l-r) Front: Anna Warren (crafts artisan), Margaret Hasek-Guy (soft props artisan), Jim Guy (properties director), Lisa Griebel (props intern). Back row: Jill Lyons (props painter and graphic artist), Sarah Kirkham (crafts artisan), Erik Lindquist (props carpenter).

Milwaukee Repertory Theatre's props shop helps the city's theatre look better, one prop at a time

"We'll close the door to keep out the weeping," Jim Guy says, perhaps only half-jokingly, as we begin our interview. It's the middle of "tech month" at the Milwaukee Repertory Theatre, where three shows will open before the end of the month. The rest of the season is no cakewalk either; they typically open two to three shows per month over nine months. But Guy, the properties director, has a secret weapon: a great props team.

"They make me look really good," he confesses.

Jim Guy became the properties director at the Milwaukee Rep in 1998, making this his 15th season. The props painter and graphics artist, Jill Lyons, is in her 18th season, which predates Jim. Erik Lindquist, the props carpenter, has 13 seasons under his belt, while Margaret Hasek-Guy, the soft props artisan (and Jim's wife), has 12. The newest members of the shop are the two crafts artisans, Sarah Kirkham and Anna Warren, each in their fifth seasons. Warren recently took on the position of assistant props director as well. Rounding out the team is their current intern, Lisa Griebel.

Get Specific

Warren talks about the various specialties of the props team. "When we get the list of projects in the morning, we know that upholstery goes to Margaret, molding and casting goes to me. When we're busy, like if there's a lot of upholstery, Sarah or I can jump in and do some, but for the most part we're pretty specific in our skills, which is different from other theatres I've worked."

Guy says it is rare to meet a challenge his team cannot do. "My hiring policy is to find people who are better at what they do than I am." Working with the same group of people for years means he knows everyone's capabilities, and can skip the learning curve in discovering a new employee's talents. Even designers who regularly return to the Rep know that the props shop can reliably execute certain kinds of projects and challenges.

The challenges are not always readily apparent. For a recent production of *Mountain Top*—set in the motel room where Dr. Martin Luther King Jr. spent his last night—they needed a room full of cheap 1950s motel furniture. That is not the kind of thing people would have held on to. "We built every stick of furniture in that show," says Guy.

Constructing this furniture was an easy feat for Lindquist, a finish carpenter who has built facsimile Federal desks and Victorian secretaries for the Rep. Interestingly, it is only within the last season that the props shop has had to build furniture. Prior to that, the Milwaukee Rep had a unique arrangement where the scenery shop constructed all the furniture. The scenery shop is union, while the props shop is not, so altering this arrangement was no easy task. This setup preceded Guy's tenure as props director by several decades. Finally, in a recent round of contractual negotiations, the responsibility of furniture construction returned to the props shop. Though this has significantly added to Lindquist's workload, Guy feels they are in a much better position. "Now we handle all the props, just like every other prop shop."

Guy is proud of his team and the quality of work they do. "When some people get to a certain point on a prop, they might look at it and think, 'That's good enough.' These people look at it and go, 'What else can I do to this to make it better?'" The diverse skills of the Rep's props team also allows them to dive in and figure out solutions to tricky prop challenges together. "They teach me new things all the time."

Points of Articulation

Jim Guy used to teach as well. At the University of Illinois at Urbana-Champaign, he began one of the country's few Props MFA training programs. He got the itch to dive back into professional theatre after a few years, though. "I left the University because I didn't want to be that professor we've all had, who is like, 'Don't you know who I used to be?' I would rather be a working professional who sometimes taught rather than a professor who used to work."

He still teaches the occasional workshop or lecture. "It's great to teach, because when you need to articulate what you do, you actually learn more yourself." He adds, "Sometimes you learn things from the kids. They may ask why you don't do something a different way, and you are like 'I guess I *can* do it that way.'"

Erik Lindquist at work on a couch frame.

Sarah Kirkham, props craft artisan

"There's not a show that happens in this town that doesn't have at least one piece from our stock on stage." —Jim Guy

Warren also began teaching this past year as a guest lecturer at the University of Wisconsin-Milwaukee. She led a class in a molding and casting project. It helped her discover how much information she had absorbed over her career. "I was talking to them about plaster, and I realized I had spent ten minutes just talking about plaster. I didn't know I knew that much about it."

Crafts are Warren's favorite part of the job. She spends her summers as a Masters Properties Craftsperson at the Santa Fe Opera . She also runs a blog called Fake 'n Bake (http://www.fake-n-bake.blogspot.com/) which details the construction of various fake food props she and her colleagues are challenged with.

Her love of crafts extends to selling items at Milwaukee Rep's Holiday Artisan Craft Fair. A few years back, various employees of the production department put together the fair as a way to show off and sell their personal work. Warren says it is not just the "crafty" departments that participate. "We found out our shopper does photography. We have a dialect coach who does jewelry." She enjoys seeing the talents of her colleagues on display as well as earning some extra money. She adds, "But then we just spend it all buying each other's things."

As for Guy's favorite part of the job, he admits, "If I could do just one thing, it's decorating sets." He is not particular to any period or style of show, since he enjoys the research aspect so much. For a recent production of *How the World Began*, he decorated the inside of a makeshift science classroom located in a FEMA trailer. He smiled as he recounted the fun he had. "I brought my 16-year-old son with me shopping so he can point to things and be like, 'We have that in our science classroom.'"

Blood, Guts and Sharing

Both Guy and Warren are excited that this year's USITT conference is coming to their city. Warren says, "Milwaukee is actually a pretty big theatre town. A lot of people don't know that."

Guy will occasionally build a single piece or provide an effect for a smaller company. He recently did a job together with Seán McArdle, one of Guy's former students and the blood effects designer for *Bengal Tiger at the Baghdad Zoo* on Broadway. Guy explains, "I did the weapons, he did the blood. It was for a tiny theatre. They were overreaching, but they pulled it off. It's great to be able to provide them something that I'm good at and that makes their production so much better."

"Jim is kind of the blood and guns guy," Warren points out. His schedule proves his demand as an expert in firearms for live performance. After both a Professional Development Workshop and a panel discussion at this year's USITT, he will travel to a number of colleges across the country to demonstrate the proper use of guns on stage. "I won't be able to talk once April comes around," he jokes.

He has developed his weapons safety program from discussions with law enforcement, fight choreographers and weapons manufacturers, as well as by incorporating rules from LORT theatres and AEA. He used to teach an entire class on firearms for the stage at the University of Illinois at Urbana-Champaign.

Despite his expert status, he admits that he does not particularly like guns. "They're a tool. For many shows, the use of a gun is a necessary dramatic moment. You need it. So you need to know how to use your tool safely. A table saw can be dangerous. But you need it to make props. You can't have a props shop without a table saw. You can't do some shows without a gun and a gunshot. So you need to learn how to use it safely."

As the largest professional-producing theatre in Milwaukee, their prop shop constantly fields requests from smaller companies to borrow items or for help with building. "There's not a show that happens in this town that doesn't have at least one piece from our stock on stage," says Guy, adding, "I don't understand these prop shops who hold on to everything like, 'it's mine.'" The Milwaukee Rep prop shop is happy to oblige, because it "ups the visual ante," as Guy puts it. "It makes the whole Milwaukee theatre community look good. All the props in the city look better because of us." SD

Out of CHARACTER (Makeup)

Actors talk about the challenge of interpreting iconic roles without the layers of makeup

MICHAEL LAMONT

Emily Yetter played Regan, the possessed girl at the heart of *The Exorcist*, sans special effects makeup in the Geffen Playhouse's production of the play.

The demonically possessed, scratched, lesioned face of twelve-year old Regan MacNeil in *The Exorcist*. The distorted, misformed body encasing the kind soul of John Merrick in *The Elephant Man*. These characters' appearances evoke a visceral reaction, one imprinted on us from the work onscreen of, respectively, Linda Blair in William Friedkin's 1973 horror classic and John Hurt in David Lynch's 1980 critically acclaimed film.

Imagine, then, just what a challenge an actor would be presented with if she, or he, had to create these roles *without* the use of makeup. That was precisely the challenge accepted by two of the Los Angeles stage community's brightest talents. Emily Yetter tackled the role of Regan in the Geffen Playhouse's reworking of *The Exorcist* last summer, while Babar Peerzada took on the persona of John Merrick in the Grimy Corps production of *The Elephant Man* at Theatre 68 last spring.

Evil Is Alluring

Now in her early twenties, Emily Yetter's love of acting started early. A native of Marblehead, Mass., Yetter was doing commercials in Boston by age 10, and studying Shakespeare by age 12. Yetter ultimately chose to make acting her life's profession, and enrolled at UCLA's School of Theatre, Film and Television. "The school turned my world upside down, in the sense that we were taught how to be human beings in the best sense," she says. "I learned how to read people there, and to come at a character with empathy and compassion. My acting education was truly a psychological study."

Yetter's cerebral training made her well suited to the complex emotional themes in *The Exorcist*, and she focused intently on getting into the show as soon as she heard that the Geffen would be doing a stage version and that it would be helmed by Broadway visionary John Doyle. Doyle was extremely impressed with Yetter's performance skills, plus her physical abilities (she competed nationally as a cheerleader), and gave her the part.

When it came to fleshing out her take on Regan, Yetter decided to start completely from scratch. "I had read the book by William Peter Blatty, but I hadn't ever seen the entire movie, just bits and pieces," she explains. "In preparing for the play initially, I decided to forget what parts I *had* seen. Linda Blair did such an amazing job with the role on film. But I had to start completely fresh, in terms of John's particular concept for the material onstage. I approached my part as actually a dual role, which was playing both Regan *and* the demon." Doyle's concept guided her. "I was onstage for the entire show—John's take was that evil is always present," she says. "Because of this, I was always at everyone else's rehearsal, and what was so helpful about that was, I was able to see how my character was affecting every other character's lives. The way John works is image-based—he's interested in creating symbolism, which was a completely new way to craft a character for me. He would give us a visual image, and we would enact and show that image. I must say, for this show, it was a relief to work this way, because we were plunged into a very dark world within the play, and at the end of rehearsal, I wasn't taking Regan home the way I would take home a character I used a more Method technique to build."

Yetter's skills at physical interpretation were her strongest tool in terms of crafting Regan's actual appearance; the only makeup she wore as the character was a standard stage palette. "As I was onstage the entire time, I would have had no opportunity to put on SFX makeup," explains Yetter. "So I'm not really sure how I would have approached Regan if I had been required to use the kind of prosthetics Linda Blair had to work with. And the lighting design totally worked in my favor—parts of it were green and shadowy, and gave the impression, I've been told, that I *did* look facially demonic at times."

In lieu of paint and prosthetics, Yetter used her body to create Regan's demonic personification. "I want to see how far I can stretch my body and mind—I'm not really a dancer or a gymnast, but I do a little of both," she says. "So in terms of physicalizing Regan, for example, in one scene I was lying on a table, and John said, 'What would it look like if the demon pulled you up by your belly button?' I thought about it, then concentrated my energy in my abs. I simultaneously pulled myself up by my core and relaxed the rest of my body, so that visually it looked as if a huge hand had yanked me, and had total control of me! That was fun!"

Another way Yetter captured the character was through sound. "Going back to the idea that my role was two roles—sometimes I'm Regan, sometimes I'm the demon, sometimes I'm a mix of both—was very challenging, but great. During the 'demon' sections, I had to make very heavy breathing noises, in and out, which I accomplished by heaving up and down through my stomach—that meant pulling my core up and down for 15-20 minutes! Then, during previews, John came up to me and said, 'Can you start saying all the lines the priests say?'—because there was a chorus of voices actually 'speaking' for the demon, and he decided I should join in. Well, that meant learning about 120 extra lines very quickly, plus saying them on top of the heavy breathing! It was a choice I loved, though."

In the end, Yetter's Regan earned both terror and sympathy from the audience through the actress's choices, which gave the illusion of evil more effectively than makeup could. "Evil can be alluring," she concludes. "I tried to make my character so authentic you couldn't look away from her, and that's how she scared you most."

The Illusion of Stillness

Babar Peerzada's fit, muscular frame appears worlds away from John

Merrick's fragile body, but Peerzada's early life made him uniquely qualified for the role. Peerzada grew up in Pakistan, then moved to London. "I was the only ethnic person I knew in London, and I felt an amazing sense of isolation," he recalls. Eventually he found a place in the arts there.

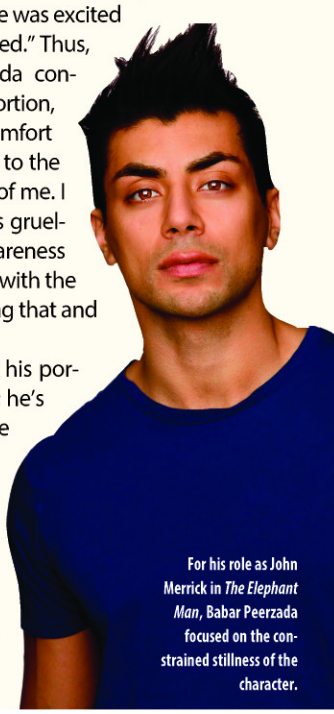
But when Peerzada's family moved back to Pakistan, his newfound desire to become involved in the arts was immediately quashed. "The culture was rigid, and anything creative I wanted to pursue had to be suppressed," he says. "I got expelled from high school. But then, miraculously, a math teacher I'd had found me a second chance. He helped me prepare for the SATs, and I was able to ultimately graduate *and* get into USC. So my mom and I came to the U.S."

At USC, Peerzada was free at last to start acting, most significantly with a part in *A View from the Bridge*. "It was so perfect—I could relate to the play's alienation, and really understand and interpret its themes."

Peerzada next began studying with renowned acting teachers Larry Moss and Nancy Banks; soon, he came across *The Elephant Man*. "I read the play, and I knew him. I knew his need for connection defined him, more than anything. But he had something in his life that I didn't have in mine—he never, ever felt sorry for himself. Every tragedy he experienced became a joy and a laugh. I finally got it, and it completed the process of changing my outlook about myself, as I got *him*. I had to play John Merrick."

Now the time came for Peerzada to hone his physical interpretation of Merrick. He had never seen a previous production of the play; nor had he seen director David Lynch's film, featuring John Hurt's legendary performance. "I chose not to refer to previous sources because I really wanted to focus solely on the material as my guide," he explains. "I consulted with Jon Lui on the physicality, knowing that the role is traditionally performed without makeup onstage (although John Hurt did wear prosthetics in the movie). So how should I show his physical self? Jon said to me, 'Stillness—the illusion of stillness. Your job is to find him through his beautiful inner motionless, so focus on maintaining that physically.' Which was hard to do! We'd get into a scene, and naturally, my adrenaline would start pumping. But physically, this was fantastic, because I was able to become gentle. I developed an awareness of the tightness, the effort it took for him to breathe. Even when he was excited and feeling extreme emotion, he was restricted." Thus, wearing only basic stage makeup, Peerzada conveyed Merrick's appearance through contortion, and shrugged off the extreme physical discomfort of holding this kind of posture. "I committed to the deformity," Peerzada says. "It became a part of me. I was feeling every inch of his pain, and it was grueling. But I welcomed it, because I had the awareness of the space of his body, and I could connect with the other actors and the audience by experiencing that and sharing that."

Peerzada received rapturous reviews for his portrayal, and great audience feedback as well; he's determined to perform the role again in the near future, a desire that's been motivated in part by his character's perseverence. "He taught me so much, I feel greedy about what else I can learn through this character," Peerzada enthuses. "The most important lesson, I think, is that your physical life and physical body can't stop the other parts of you."



For his role as John Merrick in *The Elephant Man*, Babar Peerzada focused on the constrained stillness of the character.

Melding Makeup and Character

Makeup artist Kate Griffiths, surrounded by zombies of her own making.

Emily Yetter and Babar Peerzada perfected the unique challenge of physicalizing their characters' appearances without makeup—conversely, how can makeup actually bring a role to fruition?

"I jump in fully when developing a character emotionally—stage makeup, to me, can be a useful tool," explains Nick Wyman, president of Actors' Equity Association and a veteran Broadway performer. "For instance, I did a production of *Twelfth Night* at the Guthrie, playing a European circus person. We, as the circus people in the show, were very much set apart from the other characters. We wore whiteface, and for me that was very helpful in shaping my character approach, because it created a sense of formality and worked as a great distancing facade."

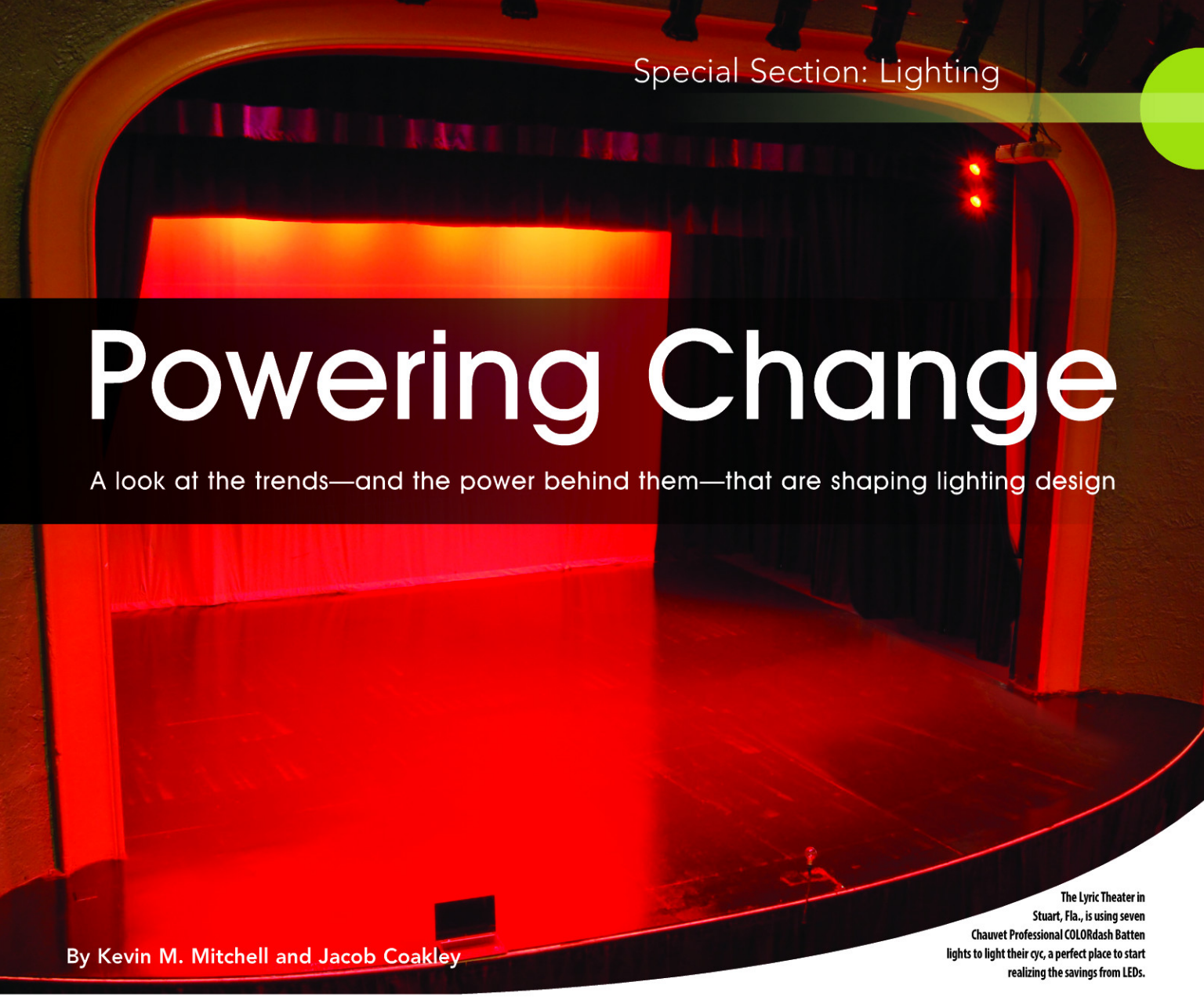
Wyman finds that settling on a significant aspect of certain character's looks from the beginning of rehearsals can be immensely crucial. "When I played Lenny in *Of Mice And Men*, it was decided I'd get a buzz cut, and that, to me as an actor developing that character, was totally liberating," he recalls. "As a kid, I had a buzz cut—having one again as Lenny allowed me to tap into those feelings of being childlike, which is the key to Lenny's personality."

It's equally essential that an actor collaborate with a makeup designer who's fully invested in helping convey their character choices. "I need to understand the whole background of the character," says Kate Griffiths, a SFX and theatrical makeup artist who's worked extensively at the Edinburgh Fringe and throughout theatres across the UK. "I need to know how that character has got to that stage in his/her life; I need to understand the character's emotions and how they need their emotions to be perceived by the audience. Also, the actor needs to feel comfortable in their makeup so that they are able to take on the role, as if it were part of their own body."

Griffiths pays particular attention to making an actor's physical transformation as vivid as possible. "I worked on a production in a local theatre of *Our Country's Good* where a convict, held captive onboard a ship bound for Australia, had suffered a severe flogging to his back," she says. "I needed to show the period in which the play was set—the late 1700s—the character's criminal background, his rough life, his months onboard a ship, and then the results of the whip injuries to his back, which needed to be done before the show started and covered under his clothes. I built the injuries to his back with a prosthetic skin and filled it with blood powder. As the flogging was offstage, his shirt came off, and a water spray activated the blood—it then ran down through the prosthetics for the bloody look onstage. But it went well—the actor was comfortable with his makeup, so he was then able to perform really well." Which, as Griffith sums up, is the most rewarding part of her work: "The satisfaction of creating a new character is immense!"

Powering Change

A look at the trends—and the power behind them—that are shaping lighting design



The Lyric Theater in Stuart, Fla., is using seven Chauvet Professional COLORdash Batten lights to light their cyc, a perfect place to start realizing the savings from LEDs.

By Kevin M. Mitchell and Jacob Coakley

When we surveyed a cadre of lighting companies about the latest trends in lighting, none of us were surprised by the preponderance of LEDs in the list. But this disruptive technology is making other changes in the landscape of theatrical lighting. Read on to find out how to ride the waves that LEDs have wrought.

ALPS/Advanced Lighting & Production Services

Steven Way of Advanced Lighting & Production Services agrees with the "disruptive" assessment of LEDs. "New versions of LED cyc lights, wash fixtures and now profile/spot fixtures continue to enter the theatre lighting world and are replacing older technologies. This has caused another area of impact—the need to control the power and data, in place of simply controlling the dimming. These new LED fixtures often have all the 'dimming' and other features processed inside the fixture so delivering switchable/controllable power and data directly to where the fixture is positioned has become increasingly important."

He advises that before investing in any technology, consider that "you will also need resources including personnel with the proper knowledge for both operation and maintenance of this equipment," he points out. "Remember that lighting and effects can change, but the need to control them will always be there. In addition, the need for distributing data to many areas within your theatre continues to grow." Bottom line, investing in the infrastructure, including control, data and electrical distribution is always a good idea for your budget dollars—whether you're eyeing LEDs or any other new fixture.

And he adds that if you're eyeing a particularly pricey piece of equipment, rent the model you are considering before you buy to make sure it suits the space and needs. Used gear is a "great way to fulfill your lighting needs within budget," he adds. "And purchasing from a local lighting rental/supply company has advantages."

Apollo Design

Jeff Mateer

It's not just customers who are getting into LEDs. Apollo Design, long known for its gobos, gels and lighting accessories, now sells LED fixtures. They rep a company named MultiForm, and their latest fixture is the 36-watt 1012 unit. It's small enough to fit into a 12x12 box truss or uplight a column. "People just ate these things up," says Jeff Mateer, sales director at Apollo.

Apollo is also taking advantage of LEDs to push their gobo business to new heights. Their PrintScenic printed gobos utilize all the advantages of LEDs—lower temperature, lower amount of infrared, lower amount of UV coming off a lamp—to make an inexpensive, high-quality gobo perfect for LED fixtures. "The gobo slot is a much-friendly environment on LED fixtures," says Mateer. This means they can print custom gobos on a plastic substrate for roughly one-fifth the cost of a traditional glass

gobo. And thanks to some "souped up" printer technology, they get true black on the printed gobos.

"The problem with normal printers is that when they put down their dot matrix there's always white gaps in between. The process we use actually fills in those gaps," says Mateer. "So when you look at black on our PrintScenic gobos, it is true black. It isn't dark grey like other printing processes."

And because the gobo is less expensive, it means you can pay off that expensive LED profile quickly. A traditional full-color glass gobo can be $500 bucks, a PrintScenic can be $100. "If you want to charge a customer the same and pocket the difference, you can pay for your light," says Mateer. "I won't recommend one way or the other, but if you're doing weddings every weekend, and you use a PrintScenic gobo every weekend, eventually it crosses over and you're profitable."

Barbizon Lighting Company

Tobin Neis, Marketing Director at Barbizon Lighting Company, is happy with the current state of LED fixtures—"We no longer have to be a prisoner to technology; the technology is now working the same way we're used to working with legacy fixtures."—but that doesn't mean that he doesn't see issues in utilizing them to their full extent. "Energy utilities are offering incentives to move to LED fixtures, but there's still energy wasted, and education is needed because people don't entirely understand that with a lot of LED fixtures out there, even if you've got the master down to zero, they're still pulling power." Fans are running, display and control units still crank away —all of this takes power. He's educating his customers about the need to fully cut power to LED fixtures when they're not in use. "Some newer dimming systems now have relay modules, and we suggest they do that or look into dedicated relay panels so they can turn off the fixture," says Neis. "Some places just use breakers. It's not as elegant a control method, but it works too."

Another reason to turn off power to your LED fixtures? Although your LED might be guaranteed for 50,000 hours, the power supply is generally also designed for that length of time. Fixture warranties sometimes only last a few years, and if the power supply is constantly on during that time, well, you might not get the full life out of the unit and end up having to have it serviced.

Production quality solid-state lighting fixtures are also pretty expensive, which makes justifying a higher-priced fixture that much more difficult. Luckily, Neis and Barbizon have tools and leads on how to subsidize the cost of LED fixtures. "We have tools to help our customers calculate the savings of LED fixtures, show the return on investment, and help them with the paperwork for incentives for power utilities. We've had great success helping our customers in that way," says Neis. "Most people don't realize there's these piles of money around to help them offset capital expenditure costs."

The Black Tank Miro Cube UV fixture, available through Rosco.

Black Tank

Black Tank burst onto the scene a couple years ago offering an incredibly powerful, compact LED fixture. They impressed people in the industry so much that none

other than Rosco Labs, the 100-year-old theatre supply company, partnered with them last fall to distribute and market their products, letting the self-professed "dweebs" at Black Tank get their geek on and focus on R&D. What are they focusing on lately? UV LEDs.

"One of the big places where LEDs are making a breakthrough is UV LEDs," says Rob Kodadek, president of Black Tank. Traditional UV fixtures output a significant amount of heat, require a ton of maintenance and have poor bulb life. "The exact opposites of the benefits of LEDs. LEDs don't use a lot of power, the fixtures don't get hot, require almost no maintenance and they have really great bulb life." Their Miro Cube UV fixture has interchangeable lensing that allows the fixtures' beam angles to be modified from an 8° to 60° and "has enough control where you can spread the beam 60° wide by only 10° deep to slice a wall, scenery or use it as a UV cyc light."

Black Tank's Miro Cube fixtures—whether the UV, color mixing (RGBW) or the tunable white WNC, are all remarkably small (only 4 inches cubed) and lightweight, thanks to the some patent-pending heat sink technology of which Kodadek is justifiably proud.

"In order to get the longest life out of your LED chips, you have to take the heat off the LEDs as quickly and efficiently as you possibly can," says Kodadek. Black Tank's patent-pending heat sink technology works efficiently enough to dissipate 50 watts, the same amount of heat that a fixture 4 or 5 times the size would produce, which means they can get more power out of smaller, lighter weight fixtures. Their small size allows them to be used in portable applications, hung from track, used as cyc lighting or hidden in set pieces.

Bulbtronics


Lee Vestrich

Despite their near ubiquity, LEDs aren't the entire market for lighting yet. Lee Vestrich, senior VP of Bulbtronics, one of the industry's biggest lamp, LED and lighting-product-related suppliers, still sees brisk sales of lamps—both for incandescent and other sources. "We're still seeing very robust sales on HPL lamps for Source Four fixtures," says Vestrich. "And because some of the patents have changed on that fixture there are additional products that are using it." Plus, do not underestimate the number of Source Fours that are out in the field. "That lamp looks like it will go on for a really long time."

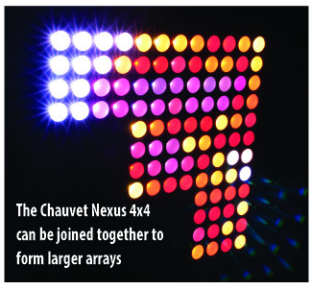
The market is also steady for the higher-power sources required for moving lights. "We don't think LED will be able to replace that level of product for a while," adds Vestrich. "The compact source they're currently using is extremely efficient at producing the amount of light needed for those fixtures."

But that's not to say they're not working with LEDs. Bulbtronics is the parent company of Energy Lighting, which manufactures the FlexAray LED fixture. The FlexAray is a Fresnel-style fixture that is available in RGBAW, variable white or static whites (3200K, 4400K and 5600K) models, and all come with extra features—like interlocking parts that allow them to be ganged together to offer more light in a cluster, to create a strip light or simply for visual effect. One feature Vestrich likes is the FlexAray's proprietary reflector. "It enhances the light's warmer tones, so you get really nice skin tones," says Vestrich.

Chauvet Lighting

Ford Sellers, senior product manager at Chauvet, recognizes the continued push in LEDs towards smaller, brighter and more efficient light sources, and sees the benefits both in single fixtures that have multiple small emitters as in Chauvet Professional's Ovation series, and in higher-power fixtures using chip-on-board (COB) technologies. Sellers feels that COB is especially suited to the development of fixtures designed to be connect together in large arrays.

"For instance, Chauvet Professional's Nexus 4x4 can easily form large arrays for a greater visual impact," says Sellers. "The combination of COB emitters in the Nexus 4x4 with a clever reflector design work for superior colors, which is looking like the new trend in the industry."


The Chauvet Nexus 4x4 can be joined together to form larger arrays

As manufacturers design LED fixtures with more possibilities, that also means more information needed to control them. (The Nexux 4x4 he mentions can use up to 53 DMX channels.) And Sellers thinks we're going to need different ways to deliver the information—like further implementation of Ethernet-based protocols—to allow large amounts of information to travel to and from the fixtures. "At the same time, the user interfaces will also need to develop, so that a lighting designer and board-op can focus on content and visual creation, rather than spending weeks laying out complicated DMX mapping. This is where control systems like Kling-Net and the Pixels module of ShowXpress come in. They offer an intuitive, easy-to-visualize interface for the designer and programmer."

While Sellers agrees that the easiest transition path to using LEDs is to start by replacing a theatre's accent or color washing units—"one can fade directly between colors, without having to 'cross over other colors,' and the audience won't be listening to the 'schnik-schnick-schnick' of scrollers"—he sees video making a bigger impact in theatre. "LED video walls have been used in concerts for quite a while, but are also becoming more present in the theatre," says Sellers. "Recent advances in LED video wall technology have made these walls easier to use, and much more affordable."

Dove Systems

Like so many others, Dove is convinced that the LED revolution is over and conventionals lost. "They started as just fill or border lights, then they were also short-throw fresnels, and it kept progressing from there. Since LEDs are low voltage and low current the fixtures can have dimmer built in. That way LED light can dim and change color with only DMX control."

But there are still some issues that need to be resolved with LEDs. He points out that unlike incandescent lamps, they dim out abruptly and they are not quite as bright as halogen lamps—"Yet. And I would have said there will never be followspot LEDs but just this week a manufacturer called me to design a power supply for a new followspot product using LEDs."

For the theatre forging a path to an upgraded rig, Gary Dove of Dove Systems recommends taking a closer look at your current system and finding ways to maximize without spending unnecessary extras.

"A clever way to do that is to hang four-channel truss-mount dimmers, like a DM406 Dove Shoebox, where a load circuit fixture would plug in," he says. "Then remove the old hard wired dimmer or rewire it for on/off or non-dim. You would only need the circuit breaker feeding the load circuit, usually 20 amps. In this way the theatre can quadruple their dimmers without needing any electrical contracting work. Also, they can do control patching with many of the DMX controllers on the market like a Dove IQ512M."

He points out that the new lamps that are 575 watts are as bright as older 1000-watt ones, so they can help power requirement for theatres. "Also some fluorescent fixtures with proper color temperature can be used in stage applications now. Fluorescent lamps use half the power of incandescent but LEDs are more like one tenth the power."

GAM Products

One of the benefits of LEDs is, of course, their low power draw in certain circumstances. This helps you save money on your electric bill, but it also means that you can put lights in difficult to reach places because they can be powered longer by smaller batteries for a long time.

"LEDs have allowed us to make the GAM Stik-Up more portable than ever, operating with four AA batteries built into the unit," says Joe Tawil, president of GAM Products, Inc. It can also—if you choose—be run by using the AC power supply that comes with it. The LED Stik-Up also has a built-in dimmer—something that wouldn't have been feasible with an incandescent source. "That would require far more weight and space and it would make it not a Stik-Up any more, now you can tuck it into nooks and crannies and not worry about a power cord."

The LED Stik-Up from GAM Products

While Tawil is happy to reap the benefits of LEDs—"Washing a background with LED color wash fixtures is fabulous and convenient"—he's also clear on their drawbacks. "The continuing desire to make a better 'white light' is what people are working on," he says, "but the other problem is the lack of standards that would make LEDs interchangeable. These are not lamps as we traditionally think of them, they're really electronic circuit boards and it seems no two are the same so replacing a 'lamp' becomes very problematic. Now's the time that industry should be working on standardization that allows interchangeability before it becomes a very expensive nightmare. Without standardization LEDs will never be economical as they claim to be because you'll only be able to get your replacement lamp assembly from the original fixture manufacturer at whatever cost they choose or maybe not at all."

Pathway Connectivity Solutions

From Robert Bell's chair, he sees that as LEDs continue to gain dominance, dimming will fall to the wayside. "LEDs have proven themselves and are bright enough. Theatres are going to be built with non-dim relay panels," he says.

For theatres looking to upgrade but can't do it all at once, he advises to start at the back of the stage and move to the front. "The first thing you do is find the most power-hungry, energy-eating piece of equipment and get rid of it," he says. "Get rid of that big 1500-watt thing that sucks power, eats gels and takes a lot of maintenance to keep it up. Then replace it with an LED light that is much more efficient and actually more versatile."

Then start moving toward the audience. Replace the top lights, then side fills, and finally even the front lights with LED solutions.

LEDs have different power needs that offer advantages, especially ones with power pass-throughs. "They are great

Robert Bell of Pathway Connectivity Solutions and the Cognito lighting console.

and quiet efficient, though if there are too many on one circuit there might be neutral line harmonic concerns," he says. And those harmonics could cause an outage.

Theatres need to look into the crystal ball that is Remote Device Management (RDM) for the next big thing. "Having devices talk to the control desk is becoming much more interesting, especially in a world where people aren't allowed to climb on a ladder," he adds, alluding to increasing safety measures in schools. "It's been talked about for a decade, but now it's really becoming useful in theatre applications. What a difference to sit at your laptop and make changes rather than getting on a ladder. It's exciting."

RC4 Wireless

You may think LEDs are everywhere, but Jim Smith at RC4 Wireless really wants to put them everywhere. "There's a group of thinking people that are becoming more interested in what they can do with LEDs in other places than just hanging off a pipe," says Smith.

Thanks to the low-voltage of LEDs, even if the prop isn't wireless, it draws less power, generates less heat, and is safer to use onstage—there's less danger of a loose wire hurting an actor, or a hot fixture causing a fire or burning someone. This means designers can use a lot more specials. "If you want a light to cast a specific pattern on a set, or integrate a light in a set piece behind a translucent panel that will light up a performer from below—you can do that much easier and more safely. In the world of LEDs you have this much, much larger library of sources and temperatures, they can be arranged in banks, stripes, or odd-shaped arrays. You can stick them all in a basketball and have a round lamp, or play with a convex shape—this is all something that the creative-thinking designer can play with."

And creative is what Smith is all about. "Imagination and suggestion and shadow and the not-seen are key parts of lighting techniques that make true theatre that's not just TV," Smith says. "There are tricks you can do with LEDs and batteries that couldn't be pulled off on TV but they help a lot in a theatre effect."

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Blue Men on the

A look at LD Kevin Adams' use of technology in his creative process designing for the Blue Man Group

By Michael S. Eddy

The latest incarnation of the Blue Man Group has taken up residence at Las Vegas' Monte Carlo Resort and Casino and as one reviewer noted, "supplies fresh motivation to those who have already seen Blue Man to go again, while staying remarkably true to the original creative vision." Among the creative team responsible for designing the new show was Tony Award-winning Lighting Designer Kevin Adams, who was working for the first time with the group. Adams brought a new palette to the Blue Men yet stayed mindful of maintaining what is quintessentially their look.

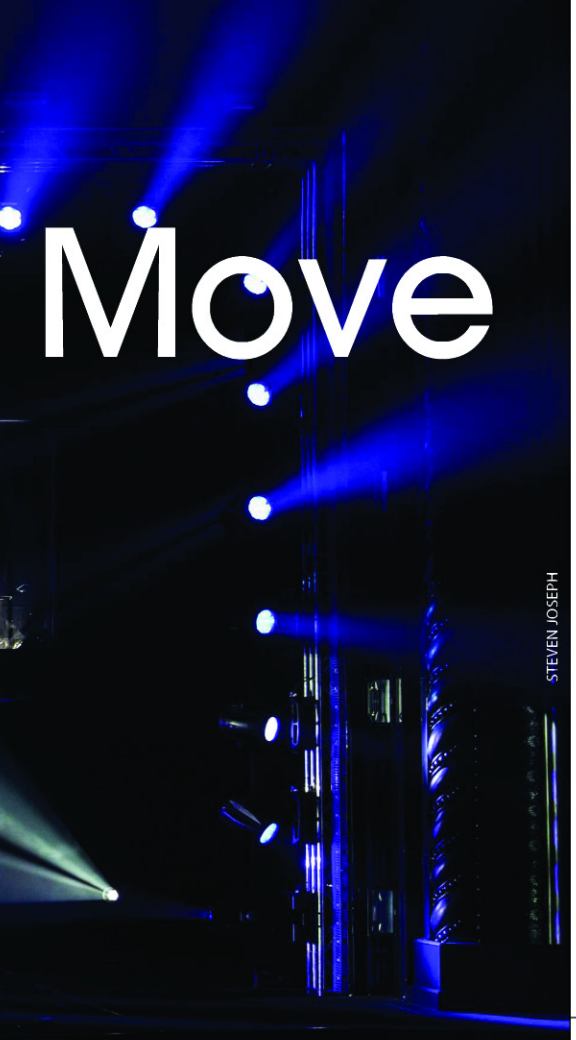
While some of the best loved Blue Man moments are included, there are plenty of new inventive, humorous and thought-provoking pieces original to this production, such as a look at robots and a tour, as only the Blue Man Group could lead, inside the neural network of the human brain. "I had never worked with the Blue Man Group, in fact I had not seen them live," admits Adams. "When they first called I did go and see their show at Astor Place in NYC. I have to say, working with them has been great. They're able to balance forward-thinking, experimental narrative theatre-making while being aware of this very strong company brand at the same time. I just love that. They are very responsive to trying things; to new ideas."

ONLINE BONUS
For more pictures and plots from the Blue Man Group show, visit **www.bit.ly/BMGDocs**

Adams, along with Associate LD Joel Silver, started by meeting up with the show's director Marcus Miller at the San Francisco stop of the group's national tour. This gave them the opportunity to see and discuss the existing elements that would be incorporated into the Monte Carlo production. Adams notes, "Marcus had a really good understanding of the show and what my needs would be and was really helpful. He gave me lots of direction of what I would need the lighting to do in certain pieces. We also discussed the idea of the lighting exploding out into the house itself."

Kevin Adams

Perhaps fitting for the Blue Man Group, whose work looks at the interaction of technology and people, Adams and Silver ended up creating the plot in a rather unique way. "After Kevin and I saw the show, we sat down in the lobby of the hotel and started laying out a light plot," describes Silver. "I pulled out my laptop and we started drawing things in 3D as he started playing around with ideas. In fact, the light plot we laid out in the hotel lobby is the core of the plot that we ended up using in Las Vegas. On other projects in the past, our process was that Kevin would start with a hand-drawn rough and then give it to me to put into CAD. On this one, since we started the process together in San Francisco, I then took that and turned it into a 2D drawing. Since he and I were in different places during a lot of the pre-production, we set Kevin up with Skype. We logged into Skype and we could talk about the plot in real-



STEVEN JOSEPH

A moment from the new Blue Man Group show at the Monte Carlo Resort and Casino in Las Vegas

time by sharing screens. It turned into a really great process and a great tool because we were looking at the plot together; working and making changes at the same time. It was like having him sitting there with his pencil. We could have a conversation about things and over Skype; I was his pencil."

Adams agrees that it worked well and found that he very much liked the screen sharing working process. "Since I could see his monitor, I could say 'let's add this' or 'try moving that over there' and I would watch him draft or I could walk a away for a few minutes and then come back and he would say 'how's this look.' I hand draft because I love seeing it all laid out on a plot that is on the table and I can walk away, walk by it, think about it, and look at it all laid out there on the paper. I haven't done that in a little while but I love working that way. This was a little like that because as Joel was working I could walk away, walk back, and think about it as I watched him draft the plot."

Silver thinks it's their familiarity with each other's work styles that made the screen sharing possible. "We've now done a few other shows this way as well, and I think it works because

we have a vocabulary between us. When you take the designer's rough that's in their shorthand and then translate it, there's a lot of back and forth; this way we do that back and forth directly in real-time." He adds, "Of course Skype has now removed that functionality as a free option so we found a new service that does it called join.me."

Plotting

Though Adams had over a year of pre-production time on Blue Man, a front of house plot was actually a rather pressing need early in the process because the Monte Carlo space was being renovated for the show. Any additions to the front of house positions needed to be made during the renovations. "Kevin and I talked about basic positions and what he wanted out in the house very early on," recalls Silver. "He very much wanted to have the ability to light the house and create an environment, a blue cave, which immediately let the audience know they were stepping into a different reality. Also, he wanted to address how to achieve lighting the blue men when they come out into the aisles of the house but without lighting the audience members."

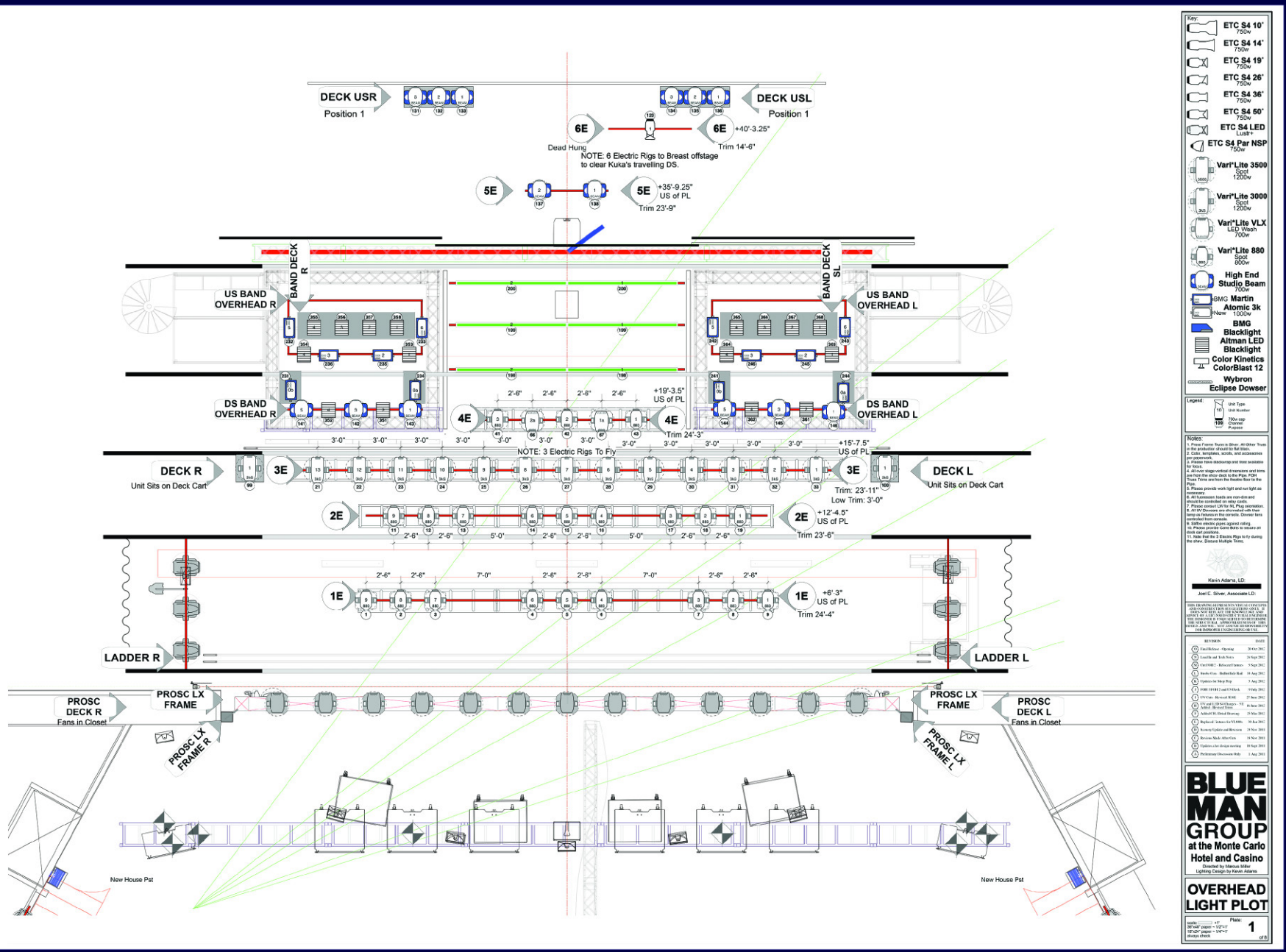
There was already a near box boom position in the house, but Adams also wanted to add a far box boom position. This position extended all the way down from the ceiling, almost to the floor of the orchestra, giving Adams a position further back. From here he could light the balcony, helping to create the cave feel, and it also created a hang position low enough to light the blue men in the aisles with a head high shot across the audience.

Adams also knew early in the design process that he wanted to construct, as he describes, "a proscenium of light that would frame the whole stage. It pulls the show together and bridges the stage lighting with the lighting in the house." The idea was to tap into and create the feel of a rock spectacle that frames the show and suits the Blue Man Group's work. "The light proscenium really supports the spectacle and the technology of what they do," says Adams. "Using Philips Vari-Lite VLXs that can point in at the stage or out at the audience as well as three circuits of blue compact flourescent light bulbs and some strobes to frame the proscenium it becomes a piece that is great to facilitate all the different kinds of spectacle that their show requires. I think it's a pretty cool element in the show's design."

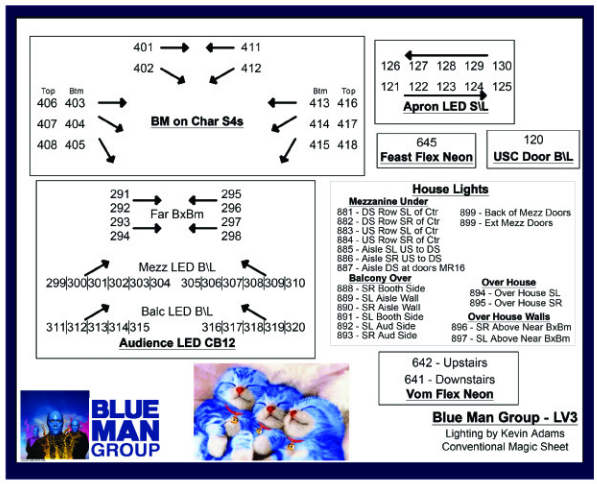
Adams developed the onstage overhead plot by first looking at the needs of one of the group's iconic pieces, a four-minute shadow/silhouette play referred to as the screen/cyc piece. Adams explains, "I redesigned the opening screen/cyc piece because even though they have done it a number of times over the years, they have never really been satisfied with how it actually worked. We did a lot of investigating of materials and lighting tests in NYC over the course of six months at the Blue Man's black box studio in the East Village. They had been using a big piece of RP screen; I just hate that stuff. We did testing looking through scrims—where you actually see the performers through the scrim as well as see the lighting unit that is making the shadow of them on the scrim. At the same time we tested some front light effects on the scrim. They were very responsive to the scrim and the cueing that I showed them so that is the direction we went for the final design."

Once the idea of the scrim was settled on, the overhead electric plot started from there, Silver notes. "The third electric is basically VL3000s, because we knew from previous experience that the strobe rate was fast enough for what Kevin was trying to do. Then we played around with the idea of groups of three movers. Kevin is very conscious of not only

BLUE MAN GROUP Overhead Lighting Plot



COURTESY OF KEVIN ADAMS



COURTESY OF KEVIN ADAMS

what the lights can do but how the lighting rig presents itself to the audience because it is exposed." Adams' final overhead plot also includes VL880s on the first, second and fourth electrics and two ladders that have VL3500s because shutters were needed from those positions.

The Blue Man Group owns an ESP Vision previz system, finding it an effective way to handle the complex teching of their productions. "I'd never done previz before," explains Adams, "but we spent three weeks in NYC and got the whole show cued. Since there was a lot of intermingling of systems where one element, often our console, triggers the other elements between video, sound and lighting it was really useful to have that time to work. There was a lot of preproduction work with this show but it really paid off when we got to Vegas. Our programmer on this show, Benny Kirkham, was amazing. I'd not worked with him before, but he had done Blue Man shows previously and he has a lot of Las Vegas experience, which I did not have, so he was a big help."

Finding Answers

Another important factor in realizing a complex production like Blue Man's Las Vegas spectacular is to make sure you have good communication with the shop. The new lighting package for the Monte Carlo show is provided by 4Wall in Las Vegas. During the last LDI, some of the 4Wall crew commented to the editor of *Stage Directions* and to this writer that the plots and paperwork for the show were impressive, full of information, and laid out really well. A compliment that Silver is very heartened to hear. "When I was in college, lighting designer Jeff Davis did a master class and he said, 'If the electrician calls with a question, you have to be able to point to the place in the paperwork where they can find the answer.' I try to hold all my drawings to that level of detail. It's nice to hear that the team at 4Wall appreciated the plots and paperwork because I worked hard to make sure that the answers were there, just as I know they worked hard to accurately provide what the paperwork reflected. 4Wall was really great to work with; they were very thorough going through the paperwork and very responsive to what we needed."

Brent Pritchett, a 4Wall system sales rep in their Vegas office, echoes the good feelings. "We truly enjoyed working with Blue Man Group on this project," he says. "The interesting challenge from our standpoint was taking in to account everything on the plot, then working with the electrical engineers to create a system infrastructure that would support the designer's vision." Pritchett points out that the theatre at the Monte Carlo was capable of only using conventional fixtures when the work began. "The transformation of the theatre into one that could support modern lighting technology is something we are very proud of. From fielding questions on system programming and training at night, to hosting robots in our shop for demonstrations during the day, working with the team at Blue Man was a great experience for us. I think the finished product speaks volumes about the work everyone put in."

Adams found similar collaboration working with everyone within the Blue Man Group creative team. They were very open to his bringing new looks to the show, including his affinity to using strong colors in his design. "I came to the show with a lot of color in mind and they let me just go," comments Adams. "In fact, it was only after we got through tech that they would tell me things like 'you know we've been fighting the color green for two decades. And you found a way to use it and we're so excited about that.' I had heard things from others, 'you can't light the blue men with this color or that,' but I light people who aren't blue with colors like green and red and they don't always have to look like they do in white light. So I came to this with the same sort of idea, it's okay to light blue people with colors and they don't have to look like they do in white light all the time either. I have a wide range of colors in the show. They were very open to what I could contribute. It was a really good dialogue of what we could and can do together. It's an ongoing conversation and I really enjoy working with them." SD

By Graham Douglass

All Together Now

Tony Award-winning lighting designer Natasha Katz talks about the watching, uncertainty and teamwork of design

JOAN MARCUS

Natasha Katz says the design team for the Brodway musical *Once* were in complete harmony for the show. Pictured, left to right: Steve Kazee, Anne L. Nathan (background), Cristin Milioti

Natasha Katz made her Broadway debut as a lighting designer for *Pack of Lies* in 1985. Since then she's lit more than 45 Broadway productions, been nominated for nine Tony Awards in lighting, and won the award three times, for her work on *Once, Aida* and *The Coast of Utopia (Part 3 – Salvage)*. Growing up in New York City, Katz knew from an early age that a life in the theatre was certain, but it wasn't until attending Oberlin College that Katz realized lighting design was a viable path. While still in college, Katz took advantage of internships and small jobs in New York City that would eventually propel her to a level of prestige and respect reserved only for a handful of artists in the theatre.

***Stage Directions*: You have 46 Broadway lighting design credits, I take it you still like your job?**

Natasha Katz: Oh my god, I definitely like my job! I love my job, and I honestly love it more and more everyday. I used to be the youngest person in the room, and I'm not anymore. At the beginning I asked, "Do I really know what I'm doing?" Now, at least I have that in my soul, which is that I feel like I know what I'm doing—a kind of confidence. It makes this all a different kind of pleasure because there's great pleasure in also not knowing and in being worried. I still have all of that, though. Every single project is new, so every project is filled with all sorts of uncertainty, but it's a different kind of uncertainty than what it would have been twenty years ago. It's the beauty of the creative process. The uncertainty is the chaos of everybody trying to figure out what the show is, the preparation and the relationships between all of these people. All of that is exciting and will continue to be exciting.

Has your approach changed over the years?

I would say that now, 99% of the time I can find an answer to a problem and solve it. I don't want that to sound cut-and-dry, because it's an artistic answer to a problem. I mean that experience has taught me how to artistically answer something. Then, there's the technical side of it—that is, technically I know how to answer things. While maybe 20 years ago I would have thought, "Oh my god. What happens if I don't have a light in the right place? Oh my god. What happens if it's in the wrong color? Oh my god. What if the director wants … oh my god …" That was frightening. Now, it feels different.

THOMAS SCHUMACHER

I don't think people can sit as long as they used to be able to sit. Their attention spans are different. — Natasha Katz

What kind of trends are you seeing in lighting design now?

I think we are in a period where people like projection a lot. I think scripts are written in a way now where they are more like movie scripts. Projection is an easier way to deal with a crosscut for sure. You can be in one place and can be in another place just by switching a projection versus switching a big piece of scenery to another big piece of scenery. These cross cuts are fast. I don't think people can sit as long as they used to be able to sit. Their attention spans are different.

It's interesting that *Once* got so many Tony Awards because it's not a fast-paced show in that way. It's just telling the audience, you can sit here for two and a half hours and relax into this.

***Once* is brilliant and beautiful, and the warmth and tone that you set on stage is spot-on. Tell me about designing it.**

First of all, thank you. *Once* is a throwback; there's little new technology in that show. There's something very human about how the show feels. The set is so incredible, too, which really helped the direction and me. The actors take you from one place to another, the direction takes you from one place to another, the movement, by Stephen Hoggett, takes you from one place to another and the music is such a part of it. It's really every single force coming together. I think that came from the honesty of everybody's heart. Maybe that's one of the reasons why the show has done so well and why people are going to see it.

Talk about the relationship that exists between the director, the set designer and the lighting designer—particularly the relationship between the lighting designer and the set designer.

Well, it's a magical relationship, for sure, when it works. Here's an example from *Once*: The lights from Dublin when Guy and Girl are looking down on the city. The lights are embedded into the floor and into some of the costumes. People come up to me all the time and say, "God, Natasha, what a great idea that was." I had nothing to do with that. That was absolutely 100% Bob Crowley's, the set designer's, idea. I might know how to make the idea happen, but that's completely his. So, it isn't easy sometimes to figure those things out.

When we started in a little black box with 20 lights, they were all old-fashioned lights. They were Fresnels, and the kind that look really nice on people's faces. We kept those all the way through—that warm idea.

When we started in a little black box with 20 lights, they were all old-fashioned lights. They were Fresnels and the kind that look really nice on people's faces. We kept those all the way through—that warm idea. At New York Theatre Workshop, when Bob Crowley built the set with the mirrors, I don't think any of us understood what was going to explode out of that. Maybe Bob did, but he never particularly verbalized it. That doesn't mean that it wasn't in his head, that he didn't want to give me my space to do it. So, when I talk about *Once*, it was a complete togetherness. I mean, every once in a while, there's an idea where I will say, "That's mine."

Give me an example of a "that's mine" idea in *Once*.

The rooms they are in are squared off by the lighting. That was my idea. I started that at New York Theatre Workshop. I thought, "Wouldn't it be nice if Guy's house was a lit square?" But I didn't think about taking that idea throughout the entire show. It was John Tiffany, the director, who said, "If you have the idea, Natasha, do it everywhere. Let's go for it." Then, the rest was born. So, the seed was mine, but John Tiffany embraced it.

You've attributed a lot of your education and training to learning by watching. Explain what that meant to you in your early years.

I watched everybody. I watched the director, and I watched the stage manager. I watched how people behaved in the theatre. What happens a lot today is that an intern feels that their job is to do something right away, but the "do something right away" part doesn't really work because they don't know anything yet. So, I understand that struggle because I've felt that way in my own life when I just wanted to do something. There's so much active participation when taking in what's going on in a theatre, though, and it never ever got boring to me. I'm sure that has something to do with why I've done 46 shows, because it's still the same for me. It never gets boring.

Graham Douglass is the host of "The Graham Show," a weekly web-based interview series spotlighting the theatre's best talent. www.TheGrahamShow.com.

By Thomas S. Freeman

Warming to LEDs

A review of the Chauvet Professional Ovation E-190WW

PROS
Great light output, very good color temp, interchangeable lens barrel, costs less than LED ellipsoidal with full color changing.

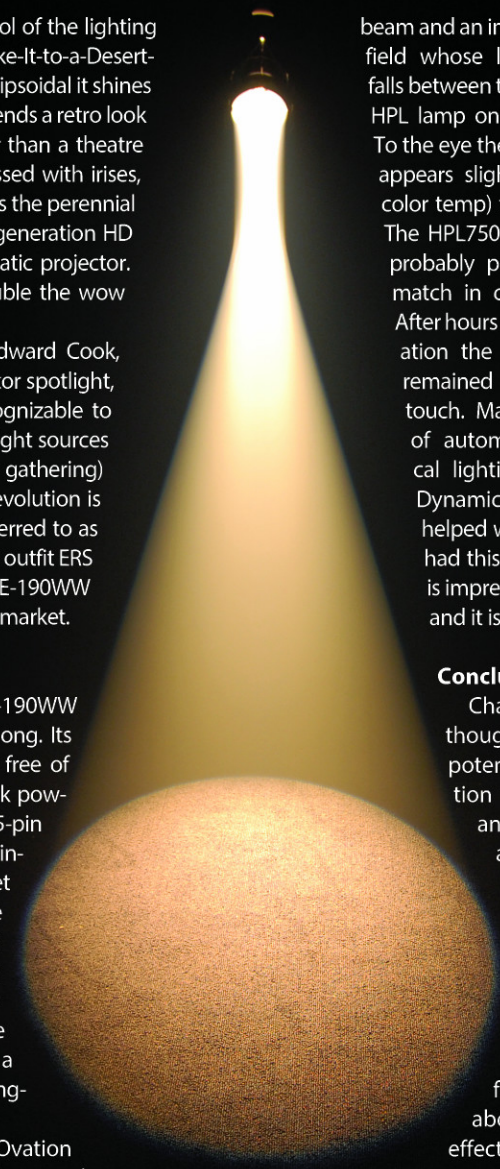
CONS
More expensive than incandescent fixture

WEBSITE
www.chauvetlighting.com

Price	$2,099

The leko luminaire is the indispensable tool of the lighting designer. It is everyone's Get-Out-of-Jail-Take-It-to-a-Desert-Island fixture. Often known as the profile or ellipsoidal it shines on Broadway, the high school auditorium or lends a retro look to a trendy retail store. Nothing looks cooler than a theatre grid packed with lekos at rakish angles. Dressed with irises, top hats, pattern holders or color changers it is the perennial building block of theatre installations. Later-generation HD lenses allow the leko to hold its own as a static projector. Throw a gobo rotator on the front and double the wow factor.

Created in 1933 By Joseph Levy and Edward Cook, (the LE and KO) the modern ellipsoidal reflector spotlight, to give it its official title, would still be recognizable to them. Innovation has always come through light sources that combine smaller size (to improve light gathering) with lower power consumption. The latest revolution is green, with LED light sources (commonly referred to as "engines") finally producing enough power to outfit ERS fixtures. Chauvet Professional's Ovation series E-190WW is an LED ERS fixture aimed firmly the theatre market.



Form Factor

The Chauvet Professional Ovation E-190WW weighs in at 20.4 pounds and is 26 inches long. Its construction feels very solid and is virtually free of light leaks. The rear control panel has Neutrik powerCON connectors and a choice of 3-pin or 5-pin through-puts for DMX. A compact LCD window allows the user to address the fixture, set manual dimming and go to strobe mode. The top of the lamp housing has an ingeniously integrated safety chain mounting hole. With a draw of about 1.8 amps this fixture will satisfy the greenest of users. Our testers did think the yoke could be improved by the addition of a few holes to allow height adjustment for hanging in tight spots.

Optically, the Chauvet Professional Ovation E-190WW fixture uses a 19-by-10-watt LED array that produces a powerful but soft output in the 2900 to 3200 Kelvin range. The engine does not offer color mixing. Its strobe effect and two dimming modes account for the three channels of DMX required to run the Ovation E-190WW from a conventional console. The fixture accepts the same size pattern holders, irises, drop-in accessories and top hats as the Source Four. Lens barrels can easily be interchanged using the familiar knurled screw knob. Chauvet Professional also offers the Ovation E-190WW as a standalone light engine, allowing the customer to utilize existing lens tubes.

Testing

The Ovation E-190WW fixture we received came with a 26-degree lens. We tested it side-by-side with an ETC Source 4 also outfitted with a 26-degree lens. The luminaire produced a crisp beam and an impressively flat field whose lumen output falls between the 575 and 750 HPL lamp on a Source Four. To the eye the Ovation E-190WW appears slightly warmer (lower color temp) than its ETC cousin. The HPL750 long life lamp will probably produce the closest match in color and intensity. After hours of continuous operation the Ovation E-190WW remained only warm to the touch. Mark Rudge, director of automated and theatrical lighting at Illumination Dynamics in Los Angeles helped with the testing and had this to say: "This fixture is impressive—great light output, very good color temp and it is quite compact and very well made."

Conclusion

Chauvet Professional has put a great deal of thought into this fixture, aiming it squarely at the potentially saturated Source 4 market. In addition to theatre, its long life LED source makes it an obvious choice for high atriums, churches and museums where access is difficult and costly. With a $2099 list price it costs quite a bit more than its incandescent cousin, but less than higher-end LED models with full color-changing capability. Given that the Ovation E-190WW can also use the more expensive 5- and 10-degree lenses, the price gap between incandescent and LED may be further narrowed. This fixture punches well above its weight and offers a clean and cost effective upgrade path for installers and rental companies. SD

Is It Rigged? Correctly?

The roots of the Entertainment Technician Certification Program, and why you might consider getting certified

In my travels on Facebook, I happened upon J.R. Clancy's Scary Rigging Photo of the Week page. The (anonymous, to protect the guilty) pictures there capture gasp-worthy rigging situations; rigging setups so obviously dangerous it's hard to believe they even happen—and yet they do. It cemented even more firmly in my mind the value of a good rigger. But how do you know who is a good rigger? Well, an obvious answer is someone who is been certified in rigging by an independent, accredited organization. I knew about the Entertainment Technician Certification Program (ETCP) in rigging—seeing those photos made me decide to look more into it. This, then, is the first of two articles on rigging certification.

Who Conducts the Certification?

The ETCP program's roots began in 2003 when the ESTA, now PLASA North America, board of directors made plans to create a certification program for entertainment technicians. Later that year they were joined by many other organizations like USITT, IATSE, IAMM, TEA and many others to help govern the program. This group formed the ETCP Certification Council, which is the governing body for the certification. The Council's vision statement on their website clearly states the goal of their organization: "To develop an ANSI-Accredited Personnel Certification Program to recognize those individuals who have demonstrated knowledge, skills and abilities in specific disciplines within the entertainment technology field. By providing a thorough, independent assessment of knowledge, skills and abilities for entertainment technology disciplines, the Program seeks to enhance safety, reduce workplace risk, improve performance, stimulate training, and give due recognition to the professional skills of entertainment technicians."

Since its creation ETCP has created 3 certifications: Rigger–Arena, Rigger–Theatre and Entertainment Electrician. There are currently more than 1,600 certified technicians and 19 people have attained all certifications. Those applying for certification must meet a set of criteria and then take a rigorous exam on the subject.

Should I Get Certified?

To answer that question, you need to look at who the rigging certification is intended for. According to the ETCP website "The intent of the rigging examinations is to evaluate and validate the knowledge and skill base of the upper third of riggers working in the entertainment industry." Getting certified is a clear sign to your current and future employers that your skills fall within the upper third of the entertainment industry.

The certification is also intended to demonstrate capability in positions that typically hold a lot of responsibility. TDs who are in charge of the rigging for a venue or supervise the rigging are dealing with health and safety, and often they are in charge of OSHA compliance. In a recent contract agreement to be phased in between IATSE, Live Nation and Global Spectrum "The new agreements call for IATSE to provide the venues with an ETCP Certified Rigger at any rigging call." More and more companies and organizations are acknowledging that ETCP certification is a good benchmark to judge if people are capable of meeting all of the health and safety requirements required in rigging situations and making sure the rigging is in compliance with OSHA and other laws. As more venues and organizations require certification it will become more important for a TD to become certified.

For those TDs in education, certification has the potential to help those departments recruit potential students and ensure those students are getting qualified and up-to-date instruction in rigging. In some schools and Universities it may help a TD with tenure and promotion, as Eric Rouse Suggests in the Spring 2011 ETCP News.

For freelance TDs, certification could open new opportunities, or become required. Shannon Johnson of Peerbolte Creative told ETCP News that their consulting firm puts ETCP Certification as a specification on any rigging project they consult on.

One final thing to consider in deciding if you should apply for certification is the cost. It costs as much as $600 to take the exam—and you'll have to pay for both exams individually if you want to get a Theatre and Arena certification. There is also a cost after certification for continuing education and recertification. The question often will come down to "Is my income enough to justify the ongoing cost of certification?"

ETCP certification is not for everyone but if you meet the criteria and fit necessary for your career, you should consider applying. Next month I will go more in-depth on how to find out if you qualify, prepare for the test, take the test and stay certified.

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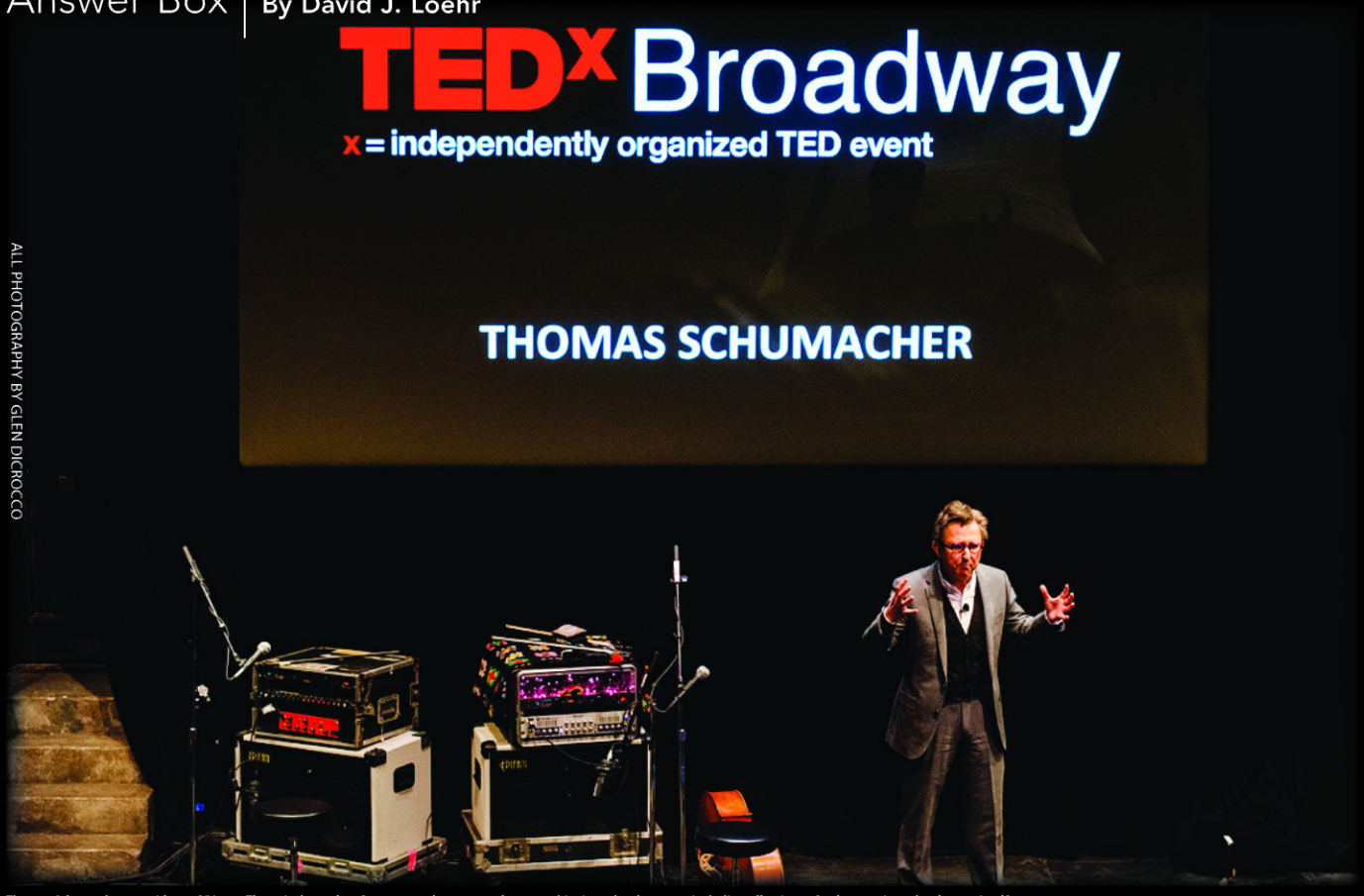
By David J. Loehr



ALL PHOTOGRAPHY BY GLEN DICROCCO

Thomas Schumacher, president of Disney Theatricals, spoke of ways to welcome new demographics into the theatre—including allowing refreshments into the theatre itself.

What Is the Best Broadway Can Be?

That question was the focus of the recent TEDxBroadway conference held Jan. 28 at New World Stages in New York City. Speakers included actor George Takei, producer Daryl Roth, magician Steve Cohen & ethnographer Ellen Isaacs. Many of the talks touched on ideas that can apply not only to Broadway but to theatre companies everywhere.

One thread throughout was the idea of building community, reaching out to & working with audiences. Randi Zuckerberg, founder of Zuckerberg Media, tossed out 10 ways Broadway could use technology—specifically free social media platforms—to engage, from crowdsourcing ideas to providing peeks behind the curtain. "The @ reply is the new autograph," she suggested, which was retweeted frequently in the minutes after.

The organizers of the TEDxBroadway conference (left to right): Jim McCarthy of Goldstar; Producer Ken Davenport and Damian Bazadona of Situation Interactive Marketing.

On the other hand, Adam Thurman, director of marketing and communications for the Court Theatre in Chicago, reminded us that, "You don't have to do that." He pointed out that theatres don't all have to be on every form of social media, they don't have to do what everyone else is doing, they need to focus on their communities and reach out to them where they live. "You can create marketing that is authentic, genuine, real." He spoke in terms of giving your audiences a gift, not a pitch.

Streaming video was another idea offered for building community. David Sabel, head of digital media for the National Theatre of Great Britain, spoke about how their program began and evolved to the point where the organization revised its mission statement specifically to include the creation of digital media. More to the point, the program has not hurt audience attendance—on the contrary, it seems to be bringing new audiences into shows that don't have a digital streamed component. The shows are filmed properly—these are not single camera shoots but fully produced broadcasts.

Another gift for your audiences: intimacy and focus. Steve Cohen, the "Millionaire's Magician," talked about how his Chamber Magic show has been running with almost no advertising but word of mouth. He performs for a small audience in a suite at the Waldorf-Astoria, specializing in close-up magic. Similarly, designer Christine Jones explained the idea behind and implementation of her Theatre For One project. She built a portable booth similar to a peep show booth that could hold two people: one performer, one spectator. It challenged performers' creativity and thrilled audiences.

The other major theme of the day was risk. Terry Teachout, critic for *The Wall Street Journal*, focused on the differences between safe productions & risky ones. Considering how many productions never recoup their costs, he noted that producers must be in it for love, so why not take a chance on something new? He looked at the recent *How To Succeed In Business…* with Daniel Radcliffe. It was successful, yes, but every choice was a safe one. "No one went home from this production and said, 'I just finished a hat where there never was a hat.'" He then held up *Once* as an example of risk. As an adaptation of a small film, with unknown stars, unknown composers, and a playwright largely unknown off of Broadway, every choice was a risk. But the gamble paid off. It's a Tony winner that's still running & bringing in new audiences every week.

All of these ideas can be applied to theatre companies around the country to varying degrees. Reach out, take chances, invite new artists and audiences into the building, see what magic might happen.

For more info, visit www.tedxbroadway.com. All of the talks will eventually be viewable online. SD

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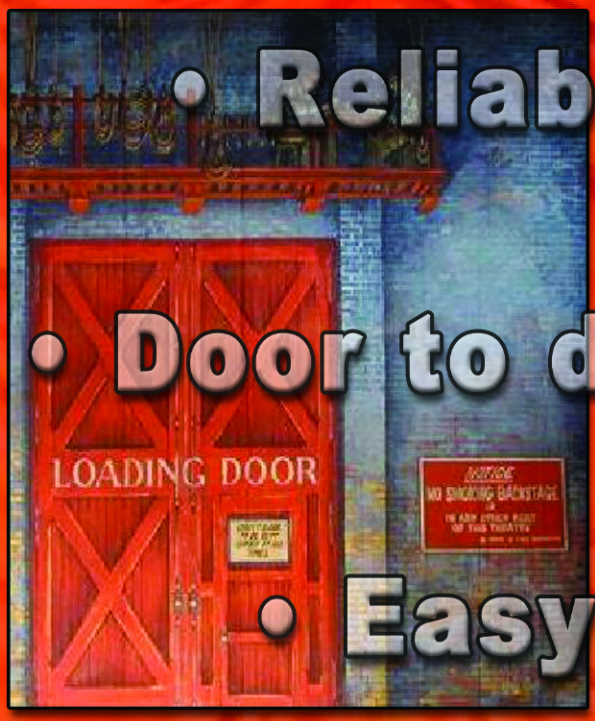

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