

THEATRE

Someone in a Tree



The new
Broadway
musical
Redwood
conjures up
the sights and
sounds of a
California forest

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It's

a Broadway season filled with unconventional musicals, including the futuristic robot love story *Maybe Happy Ending*, the Cuban musical celebration *Buena Vista Social Club*; *Operation Mincemeat*, which farcically portrays a key British intelligence operation in World War II; and *Dead*

Outlaw, a bizarre historical anecdote about the disposal of a Western gunman's corpse. For once, the old formulas are in abeyance.

Joining them is *Redwood*, now at the Nederlander Theatre, which is unusual in its conception and design. It stars Idina Menzel as Jesse, a New York gallerist who flees her career and marriage as the first anniversary of her son's death draws near. Hitting the road, haunted by memories she can't erase, she comes to the end of the line (and her rope) in a patch of California redwood forest. Strangely drawn to the place, she hides out there, ultimately convincing a pair of eco-botanists—the middle-aged Finn, who has parenting problems of his own, and the highly skeptical Becca, who sees Jesse as an airheaded spiritual tourist—to take her on as an informal assistant. Spending time on a platform high in the air next to Stella, a majestic tree that captures her imagination, Jesse begins to experience a kind of healing. Still, she is plagued by unfinished business: Her wife, Mel, is waiting back home, wondering if they have a future. And a reckoning awaits with the spirit of her son Spencer, whose death she cannot accept.

Redwood had an unusual creative development path.

The idea began with Menzel, who was captivated by the career of Julia Butterfly Hill, famed for occupying a redwood tree as a protest against clear-cutting practices. Menzel brought the project to director Tina Landau, who, writing the book, molded it into the saga of Jesse. Landau engaged the composer Kate Diaz, who at the young age of 28, is making her Broadway debut. (Diaz and Landau collaborated on the lyrics.) Produced last season at La Jolla Playhouse in Southern California, it was well-received enough to mandate a Broadway transfer.

To realize the story, Landau, who also directed, assembled a team of designers willing to push technical boundaries. Jason Ardizzone-West's scenery includes an expanse of video screens that, extending beyond one's line of vision, sets the stage for the remarkably enveloping imagery of Hana S. Kim. Because of its widescreen concept, the production requires a lighting design, by Scott Zielinski, of pinpoint accuracy. And Jonathan Deans' sound design takes a forward step in spatialization and clarity.

In some ways, *Redwood* may seem like a simple production, being a one-set musical with a cast of five. In other ways, it is one of the more complex, technically challenging productions on Broadway right now. As is usually true, the appearance of simplicity isn't easy to achieve.

Scenery/video

"Tina's vision for this was pretty abstract," Ardizzone-West says. "When we first started talking about it, she described it as a kind of art installation. She wanted the overall pro-

Photos: Courtesy of Jason Ardizzone-West



Left: Stella, the tree at center stage, is a dimensional piece of scenery built on the rear of a video screen. "The tree is on one side of a revolve on the show deck," Ardizzone-West says. Above: The screens extend beyond one's line of vision, setting the stage for Kim's enveloping imagery.

duction design to lean into an abstract, psychological space.” In other words, the director was looking for a space that could at any moment reflect Jesse’s state of mind. Using this as a starting point, Ardizzone-West says, “The physical design was inspired by a couple of things. One is the Jewish mystical creation story Becca tells about *tikkun olam*.” As Becca says in the show, “In the beginning of creation, God put his light into vessels to send to the earth, but the light was too powerful and so the vessels broke, and shards of light were scattered everywhere. Like the stars. So, then God made humans and gave us the purpose of gathering up those sparks of light. That’s our job: to repair what’s broken.”

Therefore, the designer says, “My job was to create an empty vessel whose purpose is to gather light and foster healing. Combined with that was the idea of heartwood, the strongest part of a tree at the center. [This concept is discussed at some length in the show.] The physical set is a series of curved layers that emanate from the center of the space. The concentric rings of scenic elements include video screens, embedded LED ‘roots,’ and the rows of the audience at the *Nederlander*. They’re all organized around the center point, which is Stella. There are also radial elements within the raked stage, and, hanging over the audience, are abstract branching root systems that symbolically hold up the trees and bind us.”

The arrangement of the screens is purposely uneven, he notes. “I wanted to bring some asymmetry into it. We thought of the space not as a series of screens but more like a sculpture by, say, Richard Serra.” Again, this is meant as an expression of the natural world: “If you’ve ever looked at a cross-section of a cut tree, there’s this beautiful circular pattern but it’s not perfect and it’s certainly not symmetrical.”

In a way, the show’s themes seem to dictate a holistic design: “We think of the *Nederlander* as one space rather than the stage and audience as separate entities. The world of the play embraces the room, with video panels that extend past the box seats. Overhead and under the balcony is a system of radial branching structures. They’re single-pixel units that sort of replace the *Nederlander*’s house lighting. But it’s also an extension of the design. People seated in the mezzanine have a similar element about them as well.” These units consist of Environmental Lights Pixel EcoFlex Four-in-One LED Neon. “Jason came up with the language of the overhead lighting structure,” says projection designer Hana S. Kim, adding that it “was a cue to tie everything together.” (Kim won Tony and Drama Desk Awards last season for her work on the musical *The Outsiders*.)

Stella, the tree at center stage, is a dimensional piece of scenery built on the rear side of a video screen. “The tree is on one side of a revolve on the show deck,” Ardizzone-West says. “When it rotates, it moves upstage to down-

stage, revealing a realistic, textured piece of a redwood that suddenly appears in this otherwise empty space.”

Because so many scenes feature actors rappelling up and down Stella, and several scenes take place on a platform high in the air, Ardizzone-West and his team collaborated closely with the aerial dance company BANDALOOP. “We worked with them on figuring out exactly where the rigging points should be and how they relate to the set,” he says. “There are all sorts of secret handholds built into Stella’s textured side; they’re just sculptural folds of the bark system and are specifically located to support the performers. The design of Stella was a deep interdepartmental collaboration.” Another key colleague, Ardizzone-West notes, was Jonathan Deans, whose sound design “is part of creating the sensation of being at the base or canopy of Stella, what it is like to be the middle of the forest or a haunting memory.”

The designer adds, “For a relatively simple scenic element, Stella is extremely complicated. She’s made of steel, LED screens, cable, wood, mesh, and carved material with automation in her base. She’s sprayed with a hard coat and then sanded and over with layers of paint. It took a lot of sculpting to bring her to life.”

Adding another level of complexity, he says, is “the platform that Idina uses, which engages with the face of Stella. It moves up and down, guided via two tracks hidden in the folds of the bark sculpture. We call them pin-cers; they’re rotating claws that extend and retract out of the platform, guiding it as it moves up and down; it also locks into the tree,” keeping it secure when occupied. “It can disengage as well,” he says, “so the tree can rotate out from behind the platform, which can also float in the empty space.” The scenery was built by PRG, which was deeply involved in all aspects of the production’s design and tech.

Ardizzone-West, who didn’t visit a real redwood forest until after his work on the musical was completed, testifies to its uncanny power. “I was overwhelmed by it. I put away my camera and stopped trying to analyze it as a designer. There’s no way to convey what it feels like unless you go there.” He adds, “Our goal with the design of *Redwood* wasn’t so much to try to recreate a naturalistic redwood forest onstage, but rather to convey what is happening in Jesse’s brain as she struggles with guilt and loss, ultimately finding a path to healing through her connection to the trees.”

Video designer Hana S. Kim says, “Tina had the idea that the storytelling should be done through video because she wanted to show Jesse’s point of view, which is changing all the time. That’s a little tricky to do with physical scenery. She was also looking for a language that was more ephemeral, something only video can do.” With so much imagery to be generated, one might not know where to begin. However, Kim says, “We had a very informative



The designers agree that director Tina Landau was looking for a space that could at any moment reflect Jesse's state of mind.

design workshop in the fall of 2023. La Jolla Playhouse gave us a space where we could figure out timings and discover which perspective was the most effective." Even so, she notes, the work was tentative: "We were doing this before we had the final draft. But Tina was very involved in all the design elements."

The video design has two major aspects. In the early scenes, when Jessie is driving cross-country, the images, depicting various locations and highways alternating with flashes from her past, are fragmented, sometimes coming and going in seconds. These memory moments are often finely layered. Mel, Jesse's wife, is a professional photographer and we see a larger vista on which Mel's black-and-white shots of New York life suddenly appear. "Tina wanted something sharp and jagged," Kim says. "We played with a few different options until we found what was right." Indeed, this is the rare production in which video imagery is keyed to the music in the same way lighting often is. Kim adds that the production is partially run on time code: In some sequences, all the design elements are linked, while at other times, the cueing is less regimented, giving the performers more freedom.

Kim's video works so well with the other design elements, especially lighting, that they often seem to blend. "That's how I like to work," she says. "I consider it to be

almost like a shape-shifting medium; it can be many different things at once."

The forest, when revealed, has a stunning effect on the audience; if anything, this moment is topped when Jesse climbs to the top of Stella and sees herself surrounded by a vista of treetops. Talking about creating these wide-screen images, with their remarkable color and depth, Kim notes, "There is zero AI involved in those sequences, which is kind of funny because I suspect people think there is. The images feel very realistic; we were going for something subjective, but, for the book scenes, they couldn't be too surreal. We tried straight-up photographic images, and they didn't work. We needed to sculpt the space in a custom way, with lighting inside of the video scenery."

In preparation, Kim says, "We made a few trips to a redwood forest to collect textures and research images, which we used to create images in a virtual environment." This approach, she says, "gave us more flexibility to light things in certain ways inside the virtual world, also to have a custom movement that felt right for us." Among the programs she chose to work in was Speed Tree, "which lets you build vegetation from scratch. We used it to build trees based on our research images. The general composing of each scene was done in Unreal. The more traditional 3D programs were a little too slow for us because we were basi-

cally trying to sculpt the forest while in tech.”

The set includes over 1,000 LED panels, forming 13 screens, with the largest measuring 30' wide by 21' high. Kim worked closely with PRG on sourcing screens, ultimately selecting 2.6mm-resolution products from the Chinese manufacturer Recience. “Recience’s exceptional viewing angles stood out to us,” she says. “We needed panels that displayed vibrant colors and high resolution, especially since our screens extended into the house. The resin coating on the Recience panels ensured a great viewing experience from challenging angles, avoiding the typical color degradation.”

In addition, nine Panasonic 4K laser projectors project images onto the stage floor: six PT-RZ21Ks, two PT-RQ25Ks, and one PT-RQ35K. “We were mixing the projection on the floor with the upright LED walls and even after color calibration, they still felt quite different,” Kim says. “So, we made a strategic decision not to treat them like one surface. Instead, we tried to make content that has a relationship to each other, but not necessarily the same content flow between two surfaces.”

Images are delivered by four Disguise VX4 media servers. Additional image processing is via ten Brompton Technologies Tessera SX40s plus two Tessera XD data distribution units. Video gear was supplied by PRG.

Interestingly, Kim notes, the design went through a sea change when moving from La Jolla to Broadway. Originally, all the images were projected; only for

Broadway were the LED screens prescribed, with projectors retained for the stage deck. “There were certain things that worked better with projection, because of the way the light bounced off the scenic material, which, in this case, was fabric,” she says. Then again, she adds, the projections “cast shadows all over the place. But many things didn’t work at all on the LED wall, so we had to rebuild almost everything for Broadway.”

In both productions, Kim adds, she strove to build subtle surprises into the images. “They couldn’t be stagnant or too literal. Every time we come back to the forest, it isn’t just a repeat. There are subtle changes in movements and light. A forest is an ever-changing environment that breathes and grows.” It is, she adds, another character in the play.

Lighting

Of course, the presence of the video screens affected Scott Zielinski’s lighting design. “One of my biggest jobs was figuring out how to keep light off the screens. The ultimate goal was to find how to make everyone look great and keep the light off everything else. This became much easier on Broadway because video screens are much more forgiving about that.” Still, he says, he aimed to sculpt the actors, sculpt the space, and put some shafts of light in the air and forest, without damaging what is happening with the video.

“The trickiest part,” the designer notes, “is the full-stage forest scenes with multiple characters onstage. (See photo on pages 32-33.) This was really true in La Jolla because we only had two followspots. Tina did rewrites between La Jolla and Broadway, adding more scenes with three people in them. She said, rightfully, ‘We need to figure out a way that they don’t look like torsos floating in space; we need the rest of their bodies, too.’ I had to do it while causing the least amount of damage to the video screens and the floor. I think I found a really good balance with that. As that lighting begins to creep up, we start to get that atmosphere featuring shafts of lights in the forest haze, which adds depth and dimension to what you’re seeing.”

The solution, he notes, is carefully focused sidelight. “Most of it is cut off the screens, although we’re dealing with the projections on the floor. Some light hits the screens, most notably some spill when I’m lighting Stella in the middle of the space. But you don’t see it. Video walls are so much more forgiving than front projection.”

When Jesse is airborne, Zielinski says, “She is almost always in a followspot. Also, there’s a single downlight that is cut to the platform, so it doesn’t pass the shadow of the platform onto the projections on the floor.”

Also, he notes, “Above the stage are lighting trusses, which also contain the big projectors for the floor. But another system of catwalks gives the actors access when



The action moves in and out of Jesse’s memory as she struggles with the career and wife she has left behind.



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they go to the top of Stella, allowing them to get on and offstage. These systems have to be completely independent; otherwise, the lights and projectors will start shaking as people walk by them." Also, he says, "The platform downlight has to be attached to the underside of the catwalk the actors walk on. It is the only light that isn't independent of it. So, we had problems: We saw pretty serious movement, with a hard edge moving back and forth on the platform. It had to be stiffened much more, and the actors and crew have to keep their movements to a minimum. It's a wildly complex thing for a very simple effect."

Otherwise, Zielinski's positions are limited by the set's expansive reach. "Everything is overhead or front of house," he says. "There is no place to put a boom because the screens are carefully laid out to read as continuous, so there's no shot available from offstage. Because of that, there's no place to have a gap between screens for light to come through. Early on, I talked to Tina and Jason about whether she might want something like that because if we did, it would be a very narrow lane that would have to pass across the stage and exit without hit-

ting a screen. She decided she didn't need it." He adds, "There are no box booms because they're covered by video screens, except for their tops, which have lights. I also needed to keep the center of the front-of-house truss open because the followspots, which are in the booth, have to get pretty high" and he needs to keep their beams free from obstruction. He adds, "Kudos to my followspot operators; I think about the length of the shot from the booth at the back of the Nederlander to Idina's face, especially when singing 'Great Escape' on the platform and the tree spins out of the way, leaving her in the sky." The operators' precision, he notes, is remarkable: "The only thing that's lit is her face." The operators work with Robe BMFL followspots.

Amazingly, Zielinski says his rig only comes to 90 units. This is not just small for a musical; the play *English*, a one-set comic drama featured in last month's issue, used at least 100. He relies most heavily on PRG's Best Boy LEDs. (PRG supplied the lighting gear.) "They deal with gobos better than anything else that was available to us," the designer says. "With the other lights, we had breakups



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that suggested a forest; when we softened them, they looked like blobs. The Best Boys did what a good old-fashioned Leko would do, giving a bit of a soft edge,

which is what I needed."

Also featured is a set of Martin MAC Encore Performance CLDs. "They were hung to do a full-stage



Photo: Matthew Murphy and Evan Zimmerman for Murphy Made

sidelight system with breakup gobos, although I ended up not using them for that because we didn't need to have a full-stage wash. We also have about a dozen GLP X5s, which get used in the fear-of-heights sequence, when Jesse is having a panic attack." A set of conventional units

was installed to provide front light and diagonal light washes, then removed, when it became clear they weren't needed.

Lighting is controlled by an ETC Eos TI console. He notes, "Sometimes we're using time code, sometimes, we're using MIDI, and sometimes they're the good old-fashioned thing when a stage manager calls the cue." He also notes that this is his 48th collaboration with Landau; next up for them is the first Broadway revival of the musical *Floyd Collins*. Its original Off-Broadway staging in 1996 was their first project together.

Sound

We talk a lot about audio spatialization in the theatre these days and the market is filled with products to help achieve it. Still, *Redwood* sets a new standard in the careful placement of effects and in the separations of musical lines and voices, giving everything stunning clarity. Sound designer Jonathan Deans says. "It helped to be the sound designer for Cirque du Soleil, creating multi-channel experiences."

On another note, he says, "Often when I watch movies, I'll close my eyes to understand what they've done sonically." To be clear, however, he isn't trying to imitate the film experience. In *Redwood*, he says, the challenge is to take the "immersive visual content, the kind of music that Kate Diaz wrote, and the work of our five amazing performers, and apply an immersive surround system for the theatre. It's not a cinematic format; we can't use formats in the theatre because it doesn't work for theatres with balconies and overhangs. We have to create something unique for a production and the theatre's space."

The sound design maintains a remarkable consistency between the book scenes and musical numbers. Deans' goal was "to wrap the music around the audience but for them to focus on the actor's spoken word. It was a joy to be able to do that with Meyer Sound's immersive theatrical system products."

The loudspeaker rig, centered on Meyer Sound products, includes 16 LEOPARD compact linear line array loudspeakers and 18 LINA very compact linear line array loudspeakers. Across the auditorium, the design incorporates multiple generations of point-source units including two ULTRA-X40, 14 ULTRA-X20, and 16 ULTRA-X22 boxes and 56 UP-4slim ultracompact loudspeakers, supported by UPA-2Ps and UPJ-1Ps. Also supporting the system are four 1100-LFC, three 900-LFC, and two 750-LFC low-frequency control elements. Filling out the rig are 34 d&b audiotechnik E5s. The entire system is controlled by Meyer Sound's D-Mitri and Galaxy network platforms.

Deans notes, "We use D-Mitri with Spacemap Go [Meyer's spatial sound design and mixing tool] because we wanted to access all the surround speakers at any time and, at times, sway the sound gently like the wind in a forest. It helps create a character for the production's visual

and sonic soundscape.”

Of course, with the widescreen set, speaker positions were at a premium. “In La Jolla, we had muslin screens, and I could put the sound system behind them,” Deans says. “In New York, I had to negotiate where speakers could go, often creating inches for things to fit.” He adds, “For me, the auditorium is four different spaces: the front section before the overhang, underneath the overhang, upstairs in the mezzanine, and the rear mezzanine. I had to look at each one and make sure everything was working. It was very time-consuming, with a lot of running up and downstairs because each area affected the other.”

Interestingly, the system often intentionally bounces sound onto screens, taking advantage of reflections to provide a sense of distance or to tone down direct energy. “Two speakers, located overhead upstage, reflect off the LED screens,” Deans notes. “The idea is to get the depth that we need sonically. We can feel the sound coming from the images. Certain surfaces are not your friend but then you play with them, reflecting off them, and you learn to use them to your benefit. You can’t fight it, so you work with it making the reflective qualities

sound gear.

The band is located upstage left, behind the screens. “They are actually onstage,” Deans notes. “We built a drum booth and then curtained off and carpeted the whole area to create the location for them. I wanted to keep them close to the stage. I didn’t want them in the basement, and they couldn’t go into the pit because of the elevators used in the show.” This arrangement, he adds, allows Julie McBride, the musical director, to have direct contact with everyone in the nine-person ensemble. This, he notes, is important: When musicians are separated from each other and placed in different areas of the theatre, the music “can become very fractured and soulless. It’s very important for a band to stay together and interact with each other.”

Musing, he adds, “Before the pandemic it would have been much harder to do this design because the speakers wouldn’t have been available. It’s the Ultra-X Series that gives us the chance to do the sound in an immersive way.” Then again, nearly everything about this production is innovative. “There’s been an understanding of unity from the beginning to all departments,” he says. “But especially sound and music, to work as one cohesive idea and support for each other. It’s the first production I know of that has been done in a legitimate Broadway theatre that has fully immersive screens with an immersive score, with leading actors of this caliber. It’s super cool.”

Production management for *Redwood* was supplied by Aurora Productions. Other key personnel includes Julia Jones (production stage manager); Mary MacLeod (stage manager); Angela Dogani (assistant stage manager); Sean Sanford (associate scenic designer); Benedict Conran (associate video design/Unreal artist); Joel Shier (associate lighting designer); Cheyenne Doczi (video programmer); Angus Goodearl (lighting programmer); Brian Hsieh (sound programmer/associate sound designer); Ashton McWhirter (audio engineer/A1); Jamie Tippet (audio engineer/A2); Jared LeClaire (additional technical consultant); Kelon Cen (3D animation artist); Andrea Carver and Nhan Le (Unreal technical artists); Katerina Vitaly, Jacqueline Reed, and Heekyung Kim (animators); Max Reed (production carpenter); Bill Breidenbach (head carpenter); Winter Ramos (assistant carpenter); James Fedigan and Patrick Johnston (production electricians); Adam Cavanaugh (head electrician); Mike Tracey (production sound); Thomas Ford (associate production sound); Chelsea Zalikowski (production video); Jada Hutchinson (video technician/deck video); Charlie Kavanah (production props supervisor); Laura Valenti and Mehula Singh (studio assistants); Emma Antenen (assistant scenic designer); Kirk Fitzgerald (assistant lighting designer); Maggie Schlusser (assistant sound designer); Mary Flynn (assistant production props); and Jesus Hurtado (design fellow).

Having opened to strong business, *Redwood* continues its open-ended run. 🎧



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The actors sport DPA 4466 microphones with Point Source units as backups. The wireless system consists of Shure Axient gear, chosen in part, Deans says, for “nice small packs.” Orchestra mics include gear for AKG, Audio-Technica, Audix, Neumann, and Sennheiser. The comms system is by Clear-Com. The sound is mixed using a DiGiCo Quantum 7T console. PRG supplied the